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Editor's Note

The "Micro-nization" of Economics

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The "science" of economics is becoming "micro-nized." By that term, I mean that many economists are becoming compartmentalized into specific sub-sectors of economics, but are simultaneously neglecting the whole of economics itself. It is not unlike a forest ranger becoming an expert on one tree and forgetting that that tree is part of a forest. This may be our fault as economists or it may be forced upon us by outside forces.

We as economists, may bring about our own micro-nization by becoming experts in only one area of economics--quite often the area that is seems most fashionable at the time. Examples of this are many. In the 1960's and 1970's, every new economist seemed to be a monetarist--often trying to be more of a monetarist than Milton Friedman himself. Later, in the late 1970's and the early 1980's each new economist seemed to be falling into new areas: the natural rate of unemployment or, later, the area of rational expectations. There is nothing illegitimate with being a monetarist, a rational expectations personage, or whatever. What is at question is that many new economists seem to be only fluent in those specific fields. I am reminded, for example, of an incident when a new doctoral economist was expounding to me about a new analytical discovery of his. I replied that I thought David Ricardo had covered that analysis rather well. His reply was, "Who is David Ricardo?" It is fine to be trained in one specific area, but it is not fine to be trained only in one specific area of analysis and lose the historic development of economics--David Ricardo and many others! This is our fault as economists. Too often we are looking only at our trees, not our forest.

Outsiders, of course, also contribute to our "micro-nization." I am constantly asked by laymen whether I am a "Neo-Keynesian," a "Monetarist," a "Keynesian," or whatever. My reply is usually, "I am an economist." If I think that Keynes is more applicable to a specific problem, I will use Keynes. If I think Friedman is more relevant to the specific problem, I will use Friedman. If we are near full employment, I may apply "crowding out." If we are far below full employment, I may not apply "crowding out." As an economist, I believe that I have or should have the expertise to choose a policy or analysis that is most relevant for the conditions of the time. Thus, just as we should not "micro-nize" ourselves, we should not allow the public to "micro-nize" us by forcing us to say that we are "monetarists," or whatever, instead of allowing us to be "economists."

Instead of "micro-nizing," we, as economists, should be "macro-nizing"--that is, reaching out to explore new areas. For example, are our sociological and psychological assumptions the assumptions that modern sociologists and psychologists have--and why or why not? As economists, we should not invade and occupy the areas of sociology and psychology, but we should keep aware of what current progress is made in those areas. After all, economics in general and the rational expectations hypothesis specifically depends upon how families (sociology) and individuals (psychology) react. To assume that economists have revealed truth in the areas of sociology, psychology, et al, from the assumptions of past economists may be a self-inflicted delusion. If this is so, perhaps we are not merely becoming "micro-nized." Perhaps we are also becoming deluded. There is more in heaven and on earth than one mind or one analysis can comprehend, let alone explain or quantify. Thus, it may be time to look at the forest as well as the trees of our economic science.

Invited Essay

Unfortunately, the year 1986 does not have an invited essay. Three distinguished economists who are retired or are retiring were asked (Kenneth Cochrane, North Texas State University; Paul Brinker, University of Oklahoma; and John R. Hodges, University of Missouri-Kansas City). However, due to previous and various commitments, each could not contribute the invited essay. The Editorial Board was asked by me to come up with alternative names, but it could not on such short notice.

A very prominent economist has been suggested by Kathie Gilbert for 1987. That name has been submitted to the Editorial Board. They have registered no objections.

I regret that there is no invited essay this year. It was not for lack of trying. The invited essay is a valuable addition to the Journal and one that should and will be continued.

Since I have your attention, I will wish all of you a successful 1986-87 academic year, and look forward to seeing you at the Dallas meetings.

WHAT IS AN ECONOMIST? A LOOK AT THE PROFESSION: PAST AND PRESENT

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University of Missouri-Rolla

Charles R. Britton
University of Arkansas

As the lead article by Donald McCloskey in The Journal of Economic Literature, entitled "The Retoric of Economics" correctly points out the economics profession is changing. As the profession has advanced it has altered its methodology into what is described as the scientific method which "is an amalgam of logical positivism, behaviorism, operationalism, and the hypothetic-deductive model of science". (p. 484) As the methodology changed there has been a changed view of just exactly "what is an economist?" by both the profession itself and the lay population.

The majority of the public knows what most professionals do. Indeed, in the cases of medicine, law, accountancy and others, not only is the profession institutionally defined but legally defined as well and one must meet certain criteria in order to practice in that endeavor. In contrast , there seems to be no clear consensus among the lay population as to what exactly an economist is and does. For that matter, there seems to be no clear consensus within the international community of economists as to what constitute the minimum institutional qualifications of a professional economist. In the U.S.A. strict, but generally non-legal, educational requirements prevail in determining who becomes a professional academic economist. The professionalization of economics as a discipline has largely been accomplished by institutionalizing the academic requirements for employment and standardizing economics curricula for the attainment of degrees, particularly advanced degrees.

Economists have taken several steps to distinguish themselves from non-professionals who might comment on economic phenomena. For instance, the techniques used in economic inquiry have become increasingly narrow over the last five decades. The emphasis on mathematical and quantitative methodology in some graduate schools has reached the point that economic theory and, for that matter, economic phenomena may have become secondary to these particular techniques and tools of analysis. Further indications of this pattern can be traced to the earlier reaction of Frank Knight to an inscription on the front of the Social Science Research Building at the University of Chicago. The inscription is an approxi- mation of Lord Kelvin's statement "When you cannot express it in numbers your knowledge is of a meagre and unsatis- factory kind." Knight's remark upon viewing it was "Yes, and when you can express it in numbers your knowledge is of a meagre and unsatisfactory kind." (McCloskey, p. 484)

The redirection of economics has two major drawbacks. First, presenting ourselves as a "hard" science results in expectations on the part of the public of a level of performance that has not been forthcoming over the long-run one aspect of our profession is our ability to predict the future, but our record is spotty at best. Unfortunately, during the good times (the 1960's) our confidence grew and our claims to precise scientific reliability became stronger. When our forecasts became abysmal so did our reputations as professionals. A promise of perfection renders an adequate, but im-perfect, performance unacceptable. There is now a tendency for all our pronouncements, regardless of quality, to be eyed dubiously by former seekers of economic advice. Over- selling our profession has resulted in a new challenge: we will have to persuade everyone anew that we have something to offer. Ludwig von Mises stated concerning predictions of our economic future that they were "beyond the power of any mortal man" (Human Action, 1949, p. 867) He may prove correct. Robert Solow apparently agrees since in a paper presented at the 1984 meeting of the AEA stated his suspicion that "the attempt to construct economics as an axiomatically based hard science is doomed to fail." He also asserts that most "econometric models that attempt to analyze and predict behavior of modern economics are doomed to failure because..."

Solow further suggested: ...we need a different approach. The function of the economist in this approach is still to make models and test them as best one can, but the models are more likely to be partial in scope and limited in applicability. (AER Vol. 75, no. 2, p. 328) This sounds suspiciously like Richard T. Ely criticism of the profession at the founding of the AEA. The future of the profession appears unpredictable which is probably just what it should be.

A PROPOSAL FOR REVISION IN THE PRESENTATION OF THE LAW OF DIMINISHING RETURNS

Charles M. Becker

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A Modified Diminishing Returns Table

(1) MX	(2) AX	(3) TX	(4) Y_1	(5) Y_2	(6) Y_1	(7) Y_2	(8) TX	(9) AX	(10) MX
	.17	12	72	1	72	1	12	12	12
-.03	.36	13	36	1	72	2	26	13	14
.25	.42	10	24	1	72	3	30	10	4
.50	.39	7	18	1	72	4	28	7	- 2

The above table constitutes a five column expansion of a standard five column diminishing returns table with columns 6 through 10 of the table corresponding to the columns of a standard table. More specifically, column 5 of the expanded table is formed by holding the previously variable factor (Y_2) fixed. Assuming linear homogeneity of both factor Y_1 and Y_2 column 4 constitutes the number of units of Y_1 worked by each unit of Y_2 under each of the four given input combinations. Column 3 thus constitutes the total output (TX) of each homogenous unit of Y_2 working a varying number of Y_1. Columns 2 and 1 are found using the formula TX/Y_1 and $\Delta TX/\Delta Y_1$ respectively.

An objection raised to the law of diminishing returns as it is conventionally presented concerns the question of where to locate the break off point between the ranges of increasing returns and diminishing returns. A conventional five column table offers little real assistance to the serious student in this regard. In this table this problem is more easily addressed. It has long been a generally accepted tenent of diminishing returns theory that a firm should only structure its operations so as to operate withing the range of diminishing returns, since this is the only efficient range. The inherent inefficiency of decreasing returns is easily demonstrated by reviewing the negative coefficients in the marginal output column (the range of decreasing returns to Y_2) located in the lower right sector of the table. The modified diminishing returns has this advantage: it shows additional negative marginal output coefficients in its upper left sector. From this the instructor can rigorously prove the inefficiency of the range of increasing returns to the variable factor labor. The break off point is made conceptually clear (the point where MX becomes negative in column 1 which would correspond to the point where AX reaches its highest level in column 9).

Another objection is the direct challenge to the assumption of linear homogeneity. The expanded table enjoys an advantage. The condition necessary for linear homogeneity is as follows:

$$\text{lambda } X = f \text{ lambda } (Y_1, Y_2)$$

This, of course, assumes a simple two factor model.

In the range of increasing returns to factor Y_2 added units of Y_2 produce the following equation:

$$\text{lambda } X > f\ (Y_1, \text{lambda } Y_2)$$

rather than the equation associated with linear homogeneity. This seeming denial of linear homogeneity is resolved by demonstrating that the law of diminishing returns is also a law of variable proportions, for when the ratio of Y_2/Y_1 is increased the ratio of Y_1/ Y_2 is simultaneously decreased. Thus, in the case of this example, the equation lambda $X > f\ (Y_1, \text{lambda } Y_2)$ associated with columns 6 through 10 is offset by the equation:

$$-\text{lambda } X < f\ (-\text{lambda } Y_1, Y_2)$$

It can be intuitively demonstrated that the necessary condition for linear homogeneity in a two factor model (lambda $X = f$ lambda (Y_1, Y_2)) holds and thus intuitively that the necessary condition for linear homogeneity in an n factor model holds as well.

Another objection which deals with the presumed all-encompassing nature of a conventional table's factor headings, is also easily disposed of by the modified table. By changing these headings to Y_1 and Y_2 one is able to do away with the presumption that the factors include every imaginable quality of factor input. The Y_1 and Y_2 designations can refer to specific homogeneous subcategories of land and labor and thus can support the all-essential assumption of linear homogeneity.

The final criticism traditionally raised in connection with the conventional diminishing returns format is that the law of diminishing returns is inherently limited to short run applications. The modified table embodies fixed factors of production, thus relegating it to the status of a short run case. This final objection can be dealt with by redefining the law of diminishing returns as follows:

> CASE I (the short run definition of the law): As successive units of <u>variable</u> factor of production are added to units of <u>fixed</u> factor of production, the output per unit of <u>variable factor</u> input will first increase but after some point will decrease.
>
> CASE II (the long run definition of the law): As successive units of <u>relatively variable</u> factor of production are added to units of <u>relatively fixed</u> factor of production, the output per unit of <u>relatively variable</u> factor input will first increase, but after some point will decrease.

INSTITUTION BUILDING: MULTILATERAL DEVELOPMENT BANKS AND STATE-OWNED ENTERPRISES

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In 1984, sixty-seven of the 500 largest industrial corporations outside the U.S. were owned by the state, including four of the top ten. Public enterprises differ widely among countries in terms of their statutory organization, mandate, employment practices, industry, and market structure but as a group they tend to be large (both in terms of sales and assets), very capital intensive, and, in the 1970s, relatively faster growing than private firms in the same industry. In less developed countries public enterprises play a preeminent role, responsible for an average of 27% of investment and nearly 10% of GDP.

Public enterprises can be considered a macroeconomic policy tool and as such may be used by the government to produce an output mix that consists not only of typical goods and services such as steel, electricity or transporation, but also such social or macroeconomic objectives as full-employment, population resettlement, or increased foreign exchange. While examples of very successful public enterprises do exist, a more common image of a state-owned enterprise is that of a large, inefficient organization selling its output at below-cost prices and, consequently, accumulating large losses which then must be covered by transfers from the central government. These transfers may take the form of subsidized credits or outright grants, but their availability, it is argued, reduces incentives for cost minimizing behavior on the part of public enterprise managers.

One objective commonly assigned to public enterprise in developing countries is the mobilization of resources.

State-owned enterprises have been attractive borrowers in international financial markets because their debt is usually guaranteed by the government. In addition, they are often the preferred recipients of foreign aid. While many international development agencies would like to lend to private firms who must submit to the discipline of the market, in practice they will do so only with a government guarantee. Governments, however, are sometimes reluctant to provide such guarantees for loans going directly to the private sector. Public enterprises offer a practical alternative. Loans to such firms are willingly guaranteed by the central government, but from the lender's perspective, such loans can be much more carefully monitored and controlled than can those to a ministry or one of its agencies.

This special relation between international lending institutions, public enterprise, and the central government is the focus of this paper. More specifically, it argues that multilateral development bank (MDB) lending can play an important role in improving the efficiency and managerial accountability of SOEs in less developed countries. Data is drawn from an examination of the relationship between the Inter-American Development Bank (IDB) and the state-owned electric company of Paraguay, ANDE. The period under consideration is 1950-1980.

AN ECONOMIC INTERPRETATION OF THE DRAFT PASTORAL LETTERS ON CATHOLIC SOCIAL TEACHING AND THE U.S. ECONOMY

Audie Brewton

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In November, 1984, the National Conference of Catholic Bishops released a Pastoral letter concerning the U.S. economy and much dialogue has ensued elaborating the subtleties of the statement. This paper is intended to provide a historical backdrop for a richer understanding of the intent of the document.

The Pastoral letter should not be viewed as an ahistorical, current event but as a continuation of a very old tradition. This methodological perspective finds its basis in the sociology of knowledge where an attempt is made to relate ideas to the historical process and to identify the preconceptions which underlie the ideas.

Properly, we should begin with the Aristotelian and Augustinean foundation underlying the method of Scholasticism and trace through to the writings of John Crell in the seventeenth century. The power and influence of the Catholic church, the authority, was due to its autonomy in spiritual matters and its advocacy of the importance of knowledge. The dominate form of economic organization was feudalism. As a result society was organized into classes and this social-functional arrangement was given continuity with the idea of universal community. Then, redistribution was effected by charity. The Church devoted a substantial portion of her wealth to this purpose and the faithful did also, as a means of grace.

The early sixteenth century in European history marks the dividing line between the old, decaying feudal order and the rising "competitive" capitalist system, concomitant with the development of the nation-state as the authority. Among the more important changes occurring was the accretion of a working class that was steadily being relieved of any control over the production process and displaced to a setting in which the exchange of its labor services for money was its only means of survival.

With this legacy and because the dominate form of production overshadows other aspects of our society, we do not easily see those who are not participating or are inadequately rewarded. The Bishops are asking the state and its constituents to reconsider its neglected redistributive role. They believe the economy "should enable persons to find self-realization in their labor." They are reiterating this idea, earlier stated in the encyclical, _Mater et Magistra_. Here, Pope John XXIII explicitly addresses the imperfections of the industrial revolution. As economic systems change and capital and resources are reallocated some are unable to adapt immediately and must be sheltered.

In summary, the Pastoral letter is an exercise in social responsibility and addresses the imbalances in a market economy where all adjustments are not instantaneous. The letter is not advocating another form of economic organization. It is asking for a modification to the existing order and applauds the U.S. for the impressive strides it has made in providing material necessities. Again with an eye to the past, we could say the Bishops are pointing out the omission of the practice of Sympathy as discussed at length by Adam Smith in his _Theory of Moral Sentiments_. We should not ignore this moral element while expositing the virtues of self-interest.

ALTERNATIVE METHODS OF ESTIMATING LOST WAGES

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Americans have been going to court in record numbers. A significant number of the cases filed each year involve claims for lost earnings due to injury, accident, or wrongful death. This question of compensation opens opportunities for economists to use their skills for scientifically estimating lost earnings. The "expert witness" can make a significant contribution in these cases. Economists have increasingly been involved in this type of endeavor because their expertise has greatly reduced the element of conjecture in making estimates of lost future earnings.

The procedure for estimating the value of lost wages, has been highly developed and refined. However, the economist must make several assumptions in arriving at the actual estimate. The reasonableness of these assumptions will determine the accuracy of the estimate.

The starting point for an earnings estimate is the earnings at the time of the injury or death. This can then be adjusted by possible additions such as fringe benefits or possible subtractions related to state and Federal taxes and normal unreimbursed employee costs.

Wages will tend to inflate over time due to specific individual factors such as seniority, experience, and promotions. Societal factors such as increased productivity, collective bargaining, and inflation will also push wages higher. Each case must be carefully examined to determine which of these apply.

The procedure for making the estimate depends upon whether the economist uses actual market rates of wage changes and interest rates or "real" rates which have been adjusted for inflation. In each case, the worklife of the individual must be estimated, and wages at the time of injury and death must be determined along with the appropriate rate of wage change and interest rates.

Both of these approaches have a following and have been used extensively. The real rate approach was recommended by the Supreme Court in the Pfeifer decision and mandated by the Fifth Circuit Court in its Culver II decision. In either approach, the final figure must be reduced by any possible future earnings such as part-time employment. This could occur if the plaintiff is not totally and permanently disabled.

Several issues arise in implementing the procedures for estimating the present value of future earnings. Among them are the proper interest or discount rate, the appropriate rate of wage increase, and the rate of inflation.

The proper discount rate is a matter of dispute because rates fluctuate over time and there are a myriad of rates in the market. Generally, the rate is computed from yields on risk-free investments and either short-term securities or a mixture of short, medium-term, and long-term securities will be used.

A second major issue is the growth rate of wages. Specific data is sometimes available for specific groups, but often it is necessary to use past averages for broad groups.

The third major issue is inflation: Should the wage increase include inflation or should it be deflated? Both approaches have advantages and disadvantages.

There are four basic approaches for estimating the present value of future lost earnings. They are:

(1) market rate approach - use the actual interest rate and the actual wage rate increase over recent years to estimate present value.

(2) real rate approach - use the actual rate of inflation to reduce the actual interest rate and actual rate of wage increase to "real" rates (example: actual rate of interest of 10% less a 7% rate of inflation is a real rate of 3%).

(3) projected scale approach - used where an actual pay scale structure exists. The individual is moved up the scale at a normal rate of advancement to determine future wages. This is then discounted by the appropriate rate.

(4) cancellation approach - assumes that inflation and wage increases will cancel out, therefore future wages are determined by multiplying current wage by expected worklife. The cancellation approach has been subjected to serious criticism because the rates of change never exactly equal.

A clairvoyent economist who could accurately forecast wage increases, inflation rates, and interest rates for each specific year in the future would of course have the best estimate. In the absence of this ability, the economist must choose an approach that results in less than perfection. Perhaps the best approach is to utilize several methods and present a range of estimates. The jury will then become the judge of the ultimate value.

FORECASTING PERFORMANCE OF CORN AND SOYBEAN FUTURES PRICES: AN APPLICATION OF SEEMINGLY UNRELATED REGRESSIONS

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Futures prices for commodities with continuous inventories have generally been considered unbiased point estimates of the subsequent spot prices. A debate over the performance of corn and soybeans futures prices with regard to the presence of any risk premium or price movement bias has persisted. Using single equation models several studies have examined patterns in the signs of forecast errors during periods of rising or falling prices over the term of the contract. This single equation analysis indicates that futures prices underestimate subsequent spot prices in periods of rising prices and overestimates spot prices in periods of falling prices.

Interdependence between the corn and soybean markets suggests that forecast errors emanating from the use of single equation futures price estimates of these markets should be highly correlated. This hypothesis is tested within the seemingly unrelated regression (SUR) framework. Single equation models are also estimated for both commodities and compared with SUR estimates. Absolute errors are smaller in all cases for the SUR estimates.

The analysis of the residuals from the seemingly unrelated regressions shows no pattern in signs associated with the movement in prices over the life of the contract. The presence of an intercept term in such analysis has generally been interpreted as the existence of a risk premium. Risk premiums have largely been rejected in the single equation models. Employing the SUR estimation the presence of intercept terms cannot be rejected and the regression coefficients associated with the futures prices are less than and significantly different from unity.

COST OF CHARGE-CARD CREDIT

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University of Southern Mississippi

Consumer installment credit has shown a dramatic increase since 1975; and the category of consumer installment credit which has grown fastest over the past ten years has been revolving credit, which represents a large portion of charge-card credit. There are 700 million bank, retail, and travel and entertainment credit cards in the hands of Americans. The relatively high charge-card interest rates compared to personal loan rates and business interest rates, especially during most of the 1975-1984 period under study, and charges of unfair rates and reduced competition prompted Congressional hearings in 1977 and again during the current Ninety-Ninth Session in October of 1985 and January of 1986. Senate Rules 1603 and 1922 and House Rules 1197 and 3408 call for various limits on charge-card rates. Charge-card rates and fees vary considerably among states presently because of differences in state laws. The question facing Congress during the current session is whether rates are too high to be justified by the cost of charge-card credit. Arguments supporting the contention that rates are too high include the following statements.

1. With the exception of 1980, the prime lending rate and the discount rate have been far less than the credit-card rate, representing a reduction in interest-rate costs for banks and retailers of as much as 50 percent during the 1980's. Therefore, credit-card rates, using even the very conservative Fed estimates, are being held artificially and excessively high. The market is evidently not functioning adequately. A current spread of nearly 10 percent between cost of funds and credit-card rates represents exploitation of the consumer.

2. Annual fees, in addition to credit-card interest rates, increase the cost of credit-card debt to consumers and discourage consumers from shopping for lower-rate credit cards because they would face paying more than one annual fee

in a year. Furthermore, the change in billing practices to immediate accrual of interest from the date of posting makes the effective rate of interest more than the rate quoted consumers.

3. Since credit-card interest rates in most states which impose ceilings stand at the maximum rate allowable, consumers across the nation experience very different debt burdens for the same types of services. In addition, pre-approved credit-card mailings with attractive credit lines and an advertising blitz have enticed some consumers to incur debt to the point that they cannot escape from perpetual credit-card debt burden.

Arguments against the charge that credit-card rates are too high include the following statements.

1. The rate charged on credit cards is at a market-clearing level, and the industry is highly competitive. High financing costs in 1980-1981 coupled with state usury laws made the credit-card industry unprofitable then because rates were prevented from responding to market pressures. Current rates are the result of adjustment from the low or negative return from 1979 to 1981.

2. The cost of funds is not the major cost of providing charge-card credit. Therefore, credit-card rates should not be expected to change in line with other market rates. Administrative costs and delinquent/defaulted accounts comprise the major portion of total costs. Furthermore, investment in sophisticated, costly equipment and procedures unique to the credit-card industry justify high rates which reflect such costs.

3. Federally imposed ceilings would have serious adverse effects such as reduction in supply of credit and/or a shift to higher annual fees or merchant discounts.

Evidence from a limited study conducted of three major credit-card issuers, who together account for approximately 20 percent of the credit-card industry's outstanding balances, indicates that funds, delinquency, and other credit-card costs are such that current interest rates for charge-card credit make it a very profitable business--at least for the card issuers in the sample.

THE EFFECT OF KEY VARIABLES ON U.S. AGRICULTURAL TRADE

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and Michael D. Hammig

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To test for the significance and strength of macroeconomic linkages to the agricultural sector, the importance of price, exchange rates, competitor's production, and foreign income on U.S. agricultural exports of wheat, corn, soybeans, and cotton was evaluated. An export demand equation for each commodity was specified for three importing regions: LDC's, the European Economic Community, and the Pacific Basin. The yearly periods chosen for study were 1968-1983.

The explanatory variables were defined as follows: For each commodity, the yearly average price at the farm gate was deflated by the U.S. CPI to yield the real price. In the exchange rate variable, the effect of inflation differentials on the bilateral exchange rate between the U.S. and each trading nation was netted out to determine the real bilateral exchange rate first. Then, for each export demand equation, the real bilateral exchange rate of each trading nation in the region was weighted by that nation's share of the total U.S. commodity specific exports to that region over the 16-year period. The weighted real bilateral exchange rates were summed to yield a real trade weighted exchange rate for each export demand relation that was both commodity specific and region specific. A real trade weighted foreign GDP for each region was determined in a like manner. All foreign GDP's were converted to real dollars for each period to allow for a proper summation. The variables representing competitors production and expected exports were lagged independent explanatory variables. The estimating technique chosen was two stage least squares.

The empirical results of the study indicate that movements in exchange rates and foreign buying power do impact significantly on U.S. commodity exports to specific regions. Both exchange rate elasticity and foreign income elasticity were greater than |1| and greater than the own price elasticity which was found to be inelastic. This result refutes Schuh's hypothesis that the export demand for U.S. agricultural commodities has an own price elasticity greater than |1|. As such, declining commodity prices will not help the income situation of the farm sector. Soybean exports to the LDC's and the EEC were the most responsive to exchange rate movements and foreign income movements, while corn exports to the LDC's were the least responsive. Soybeans are sold strictly as a feed grain and as such we would expect a higher income and price elasticity than that found with food grains. Real price was found to be insignificant in all equations except for cotton exports to the EEC. Last year's competitors production was found to be a significant explanatory variable in all but cotton exports to the Pacific Basin and soybeans to LDC's.

The results and policy implications of this study are similar to that of Chambers and Just (1981, 1982), and Fletcher, Just and Schmitz (1977), that exchange rate movements do play a critical role in the exports of specific commodities to specific regions. If a causal relationship between real interest rates, monetary and fiscal policy, and the value of the dollar is established, then a key policy implication of this study is that the current high Federal deficits that are not monotized by the Treasury as well as monetary policy designed to combat inflation both impact adversely on the farm sector and hence some government assistance is perhaps warranted. The significant and powerful effect that foreign income levels have on U.S. agricultural exports, especially to the LDC's implies that contractionary monetary policy in the U.S., which triggered a world wide recession through rising real interest rates, impacted severely on the farm sector by reducing the ability of foreign buyers to purchase U.S. exports. The significance of competitors' production in replacing U.S. commodity exports may imply that current target prices and loan rates encourage foreign production and price the U.S. out of world markets. The exact effect of commodity programs needs to be empirically tested. In summary, a strong macro linkage to U.S. agriculture was estimated and shown to be significant.

BANKING STRUCTURE AND THE FARM PORTFOLIO

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In the past five years substantial changes have been made in the regulation of commercial banks at the national and state levels. The deregulation of the financial sector at the national level has changed many practices in financial institutions. Changes in state regulations have exhibited a trend toward more liberalized banking rules and a movement away from unit banking. The impact of bank structure on the farm sector's portfolio is investigated in this paper.

Using data from 17 states where district Federal Reserve Banks have engaged in agricultural credit surveys, a pooled time series - cross-section simultaneous equation model of the farm sector's portfolio is estimated. The model contains three asset and three debt equations. Differential patterns of debt formation across states are shown to be attributable to state banking regulations, as well as federal deregulation of the banking industry.

Two opposing hypotheses, the traditional versus the efficient market, concerning the impact of increased local concentration ratios in banking are tested. The study indicates the presence of unit or limited branch banking resulted in statistically significant lower rates of farm real estate debt formation than was observed in state-wide branch bank states. Unit and limited branch bank states also experienced significantly higher rates of growth in farm real estate assets then states with state-wide branch banking. The results associated with the farm real estate debt formation support the traditional market hypothesis, while the empirical results for asset formation are ambiguous.

The impact of federal deregulation has had statistically significant increase in the rates of growth of farm real estate and non-real estate debt and in farm financial assets. Significant decreases have been experienced in the rates of growth of farm real estate and non-real estate assets associated with federal deregulation.

ABSTRACT

APPLICATION OF THE INTERNAL COLONY MODEL TO THE CHICANO POPULATION IN THE UNITED STATES

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This paper concerns the problem of internal colonization as an economic institutional process which tends to subordinate the Chicano population of the United States. The notion of the Chicano as an internal colony falls within the descriptive parameters established by the internal colony model. The internal colony model points to a relationship of conflict between the dominant and minority groups within urban institutions. In the investigation there is a Chicano-inspired description of their contemporary experience with racial and class discrimination. The position taken in this study toward the Chicano internal colony model questions the reliability of self-analysis to determine the Chicano population's likelihood of success in achieving parity with other Americans. The conclusions drawn extend to the issues for neo-Marxian economics.

ECONOMIC EFFICIENCY OF SEED CONDITIONING PLANTS UNDER ALTERNATIVE SIZE CAPACITY UTILIZATION AND MARGIN ASSUMPTIONS

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Abstract

This study provided estimates of the costs associated with and the economic feasibility of alternative sizes and efficiency of seed conditioning plants in Mississippi. Three levels--100, 200, and 300 bushel per hour capacity plants were selected for analysis. Costs were estimated for three periods of operation, 15, 30, and 40 weeks per year. The seed mix considered was composed of 70 percent soybeans, 10 percent rice, and 20 percent wheat.

Total initial investment costs per bushel varied from $7.60 for Plant-I operating at 15 weeks utilization to $2.74 for Plant-III operating at 40 weeks. Annual operating costs per bushel ranged from $2.03 per bushel to $0.99 per bushel.

Economic feasibility analyses were conducted using breakeven, payback period and discounted cash flow analysis, all plants were economically feasible at $2.00 per bushel margin using a 10 year planning horizon. The analysis highlights the sensitivity of returns to the volume of seed mix handled. Economies to both size and capacity utilization were demonstrated.

Key Words: Seed conditioning, Economic efficiency, Economies to size

A Heterogeneous Demand for a Heterogeneous Product?

Some Tentative Conclusions About Consumers

Preferences for Beef.

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Two experiments were conducted to investigate the preferences of Hawaii consumers for USDA choice and less-than-choice beef. Results are consistent with a hypothesis that consumers have distinct preferences for USDA beef grades. The variation between participants in the experiments could not be explained by socio-economic variables such as education, household income, household size or race. The participants' revealed preferences, however, are consistent with their stated preferences for marbling or inter-muscular fat.

Based on this research, a majority of the market would purchase less-than-choice steaks if they were priced less than choice steaks. There is a segment of the market that would pay extra for good steaks, and there is also a segment that will pay extra for choice steaks. The existence of distinct groups of beef consumers indicates that it may be feasible to segment the retail beef market.

FACTORS AFFECTING FARMLAND PRICES IN THE ARKANSAS DELTA REGION

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Previous studies have identified many factors that affect farmland values such as farm income, government payments, technology, inflation, regional population density, land quality, urban influence, reason to purchase, type of lender and size of tract.

This study used a regression model to analyze factors affecting farmland prices in the eastern 26 counties of Arkansas, commonly referred to as the Mississippi delta region. Farmland prices (bareland value per acre) were hypothesized to be a function of inflation, rate of return on alternate investments, realized net farm income, principal product produced, percent of land cultivated and irrigated, tract size, reason to purchase, location, classification of surrounding area, non-agricultural influences, primary lender and financial terms.

The model was fitted to data on 3,063 Arkansas farm sales from 1970 to 1985 obtained from the Farm Credit System's Sixth district. The data set contained information on the sales price, date of sale, land quality and use, location, non-agricultural influences and financial aspects of each sale. Additional data specifying the national and farm economic situation were collected from U.S. government publications. Together these factors explained roughly 60 percent of the farmland price variation in the Arkansas delta region.

Forces in the national economy strongly influence farmland price movements in Arkansas. During the seventies, inflation was relatively high which contributed to increased land values since land is widely considered a hedge against inflation. Farmland prices increased $2.55 per acre for every one point increase in CPI. The Standard and Poor's Dividend/Price Ratio was positively correlated with land values. When the rate of return on stocks increased, farmland prices increased significantly.

The economic condition of the farm sector also had an impact on land prices. This impact was represented by Arkansas net farm income three years previous to the sale. Farmers receiving satisfactory returns are able and willing to buy additional land, thus putting upward pressure on prices. On the other hand, when farm income is falling investors are more reluctant to buy farmland and farmers are less able to expand their operations.

Much of the variation in price paid per acre was the result of differences between the individual parcels of land sold. The percent of the tract under cultivation had a significant impact on the purchase price. If the percent of cultivated land in a tract increased one percent then the value increased roughly $7 per acre. While the percentage of the tract irrigated had a positive impact on price, irrigation was not sufficiently unique to significantly change the price paid. The model indicated that if the tract contained less than 50 acres it sold for approximately $30 more per acre than tracts containing 50 or more acres, probably because there were more bidders for small tracts.

More than 85% of the land purchases in the data set were for the agricultural reasons of establishing, expanding or investing in farmland. Significantly different prices could not be related to any of these reasons for purchase. However, if the land was bought for non-agricultural purposes, the price paid for the land increased about $1,100 per acre.

The location of the tract had a significant impact on price. Land located further from town sold for approximately $8 more per acre than land located closer to town. The quality of the surrounding area and the degree of non-agricultural influence also had a significant impact on the sale price. An area with good schools, roads, community services and a prosperous business climate was associated with higher land prices. Land in an excellent area sold for $641 more per acre than land in a poor quality area. Also, the price of farmland averaged $861 more per acre if there were strong non-agricultural influences on the sale.

The source of financing for the sale influenced prices paid for farmland. FHA borrowers paid $97 less per acre than borrowers from other lenders. The reasons for these results are not clear, but may be due to the type of borrower or certain other aspects of the land purchase.

The model results indicate that farmland prices in eastern Arkansas were heavily influenced by inflation, rate of return on common stocks, net farm income, cultivated acres, distance to nearest town, quality of surrounding area and tract size. The results also demonstrate that if a land purchase was influenced by non-agricultural factors then the tract price rose significantly as the degree of influence increased.

MEASURING ENHANCEMENT AND DETERMINING REIMBURSEMENT FOR INCREASED VALUE OF SMALL CLOSELY-HELD FAMILY CORPORATIONS

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Texas and seven other states are community property states. Community property is a concept of ownership by husband and wife in community with each having an equal share in property acquired during marriage other than that specifically excluded by gift, inheritance or purchase with separate funds (gift, descent or device).

The rapid substitution of the corporation for partnerships and proprietorships caused by changing tax laws, liability prolems, financial opportunities, and the high probability of divorce has increased the complexity of the separation of community and separate property.

Many family businesses have been handed down for several generations. A son or daughter might work in a family business, receive stock in it as separate property, assume management, work in it day and night, and increase its value. And since this is separate property, it has historically been excluded from the community.

Corporations can enhance their value in two ways. First, endogeneous forces such as increased output, market expansion, increased productivity, and efficiency--all forces that reflect entrepreneural ability expand. Second, exogeneous forces outside the control of the entrepreneur such as inflation, fortuitous increases in land values, corporate goodwill, and other market forces grow.

Texas courts have held that uncompensated enhanced value of a coproration due to these endogeneous forces is part of the community if the entrepreneur and the manager-spouse are the same. This implies a difference between the concept of enhancement and reimbursement.

In September of 1984, the Texas Supreme Court in Jensen vs. Jensen (27 Tx Sup Ct J 533) ruled for the reimbursement method of dividing community property when it stated that a spouse may spend as much time as may be reasonably necessary to maintain his separate property, but that the value of the time, toil and effort spent making the separate property more valuable must be credited to the community with an appropriate offset for compensation received.

The determination of the enhanced value of the corporation due to the efforts of the manager-spouse requires two distinct operations. First, the adjustment of balance sheets to eliminate the effect of inflation and other exogeneous variables. This yields the increased value provided by the entrepreneural effort of the manager spouse. If this increased value was not paid out in dividends which would have accrued to the community, then the community should be reimbursed by that amount. Second, if the salary, perks, and other forms of compensation were inadequate and did not reflect the manager-spouse's contribution, then the community should be reimbursed for this loss.

The determination of the reimbursement is based on:

1. Determination of appropriate time period-marriage or assumption of control date until date of divorce.

2. Adjustment for inflation.

3. Measurement of increased value and amount of unpaid dividends.

4. Determination of adequacy of earnings.

These estimates all fall into the basic job description of economists who with this type of analysis can aid the court in the determination of the uncompensated value of the time, toil, and effort of manager-spouses which oftentimese has been misdirected from the community property to their separate property.

USING THE CAPITAL ASSET PRICING MODEL TO EVALUATE RISK AND RETURN IN CATTLE AND HOG FUTURES

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The capital asset pricing model (CAPM) was used to examine risk and return in cattle and hog futures. Using data for 1975-85, the systematic risk level (beta) was estimated to be -0.13 for cattle and -0.08 for hogs. The null hypothesis that cattle and hog futures are low risk (or zero-beta) assets was not rejected. According to the CAPM, the return on zero-beta assets should be approximately zero. From 1975-85, the mean monthly percentage returns from holding cattle (0.23) and hog (0.34) futures were low and not significantly different from zero. The low returns are consistent with low risk and, consequently, provide support for the CAPM as an explanation of risk and return in futures markets.

THE DEMAND FOR AN ENGINEERING EDUCATION AT UMR: INITIAL FINDINGS AND PROJECTIONS

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The demand for enrollment at the University of Missouri-Rolla (UMR) appears to be unitary price elastic. If tuition and fees increase, enrollment will fall enough to offset the higher payments per student, leaving this institution's fee revenue virtually unchanged. This challenges the conventional wisdom that increases in tuition and fees enhance revenue.

We support this position with an analysis of enrollment at UMR from 1970 through 1984. The demand for freshman enrollment is modeled as a log-linear function of real tuition and fees, real per-capita Missouri personal income, statewide unemployment rates, the number of graduating high school seniors and an index of the employability of UMR graduates, all lagged by one year. This model is consistent with the literature on enrollment demand and a Box-Cox test of functional form supports the double-log specification. With the notable exception of the unemployment variable, all regression coefficients are found to be significant at the 95% confidence level. We speculate that unemployment is insignificant because the majority of students at UMR are engineering students who regard higher education as both an investment and consumption good. This affect of unemployment on engineering enrollment is therefore ambiguous. Lower unemployment rates increase the opportunity cost of attending school but also increase the expected value of an engineering degree in a crowded job market.

Regression results indicate that the demand for enrollment at this institution is income elastic (1.15) and price unitary (-1.03). The model itself has a high degree of explanatory power ($R^2 = .95$). Given estimates of the size of future high school classes, growth in personal income, and tuition and fee policies, we predict enrollments at UMR for the next 10 years and compare these forecasts to the official forecasts of the university. We conclude that our administration's expectations cannot be fulfilled unless real tuition and fees remain unchanged and the state enjoys a continuous 3% rate of growth in real personal income.

COMMUNAL GRAZING: A TEST OF THE TRAGEDY OF THE COMMONS

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The deterioration of common pool resources is nothing new. Aristotle once said a long time ago, "What is common to the greatest number, gets the least amount of care." However, when Garett Hardin published "The Tragedy of the Commons" in 1968, attention was focused on the "tragedy" of the situation.

Hardin's main point was that, with a growing population, unlimited access to commonly owned renewable natural resources often leads to their destruction. This hypothesis is intuitively attractive and hindsight seems to bear it out. However, it is supported by only very limited quantitative evidence. The overall objective of this study was to provide such evidence as it pertains to communal rangelands.

On communal ranges the tragedy manifests itself in the form of excessive overstocking which leads to severe denudation of the resource. The ultimate result is poor animal performance and reduced productivitiy per unit of land area. The communal rangelands of northern Mexico provide the necessary social and economic arrangements to conduct an almost controlled experiment for testing this hypothesis. This study undertook to measure and compare production characteristics of these lands with similar measurements from nearby private ranches and/or standards established in the literature.

A typical area in the State of Chihuahua was selected for case study. The range was determined to be in poor condition. The proper stocking rate for the 21,000 ac (8,500ha) under this condition is 387 mature cows with calves (AUs).

If, hypothetically, these rangelands were in excellent condition, they would support about 782 AUs. The legal charter permits a maximum of 1,100 AUs on the study area. In short, if the range was in excellent condition and stocked at the legal level, it would still be overstocked by about 40.7%. Productivity/animal was found to be about 40.1% of what it could potentially be if the range was in excellent condition and properly stocked. Also productivity/ac was found to be some 56.4% of its hypothetical potential. These data indicate that, indeed, these communal resources are neither being used at peak economic efficiency nor are they being conserved.

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The Efficacy of Motor Vehicle Inspection

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This paper evaluates a set of econometric models for both time series (1929–1979) and cross-section data (1979) for the efficacy and cost-effectivenss of motor vehicle inspection in reducing fatalities and injuries using the criteria of: i) non-fragility of coefficients and ii) specification error tests.

Linear models relating, for example, fatalities and the occurrence of inspection as well as other socio-economic and driving related independent variables are posited. The coefficient associated with the inspection variable is expected to show a negative effect on the dependent variable. If the effect of inspection, as measured by the size and significance of its associated coefficient, can be shown to be stable or non-fragile across reasonable alternative specifications, one is likely to have strong reason to support public policy which acts on this variable with reasonable conviction of the efficacy of such policy (given the standard all else equal assumptions). The empirical findings using both cross-sectional and time series data are that inspection consistently results in a significant reduction of fatalities. These results are non-fragile across various alternative specifications.

Several of the models evaluated for fragility were examined for specification errors. Three specification error tests were employed: RESET, BAMSET and WSET. RESET is used for detecting: omission of variables, misspecification of the structural form of the regressors and the simultaneous equation problem. RESET is based on a F-distribution. BAMSET – a Bartlett's M test for non-equality of variances – is used for detecting heteroscedasticity, where BAMSET is distributed as chi-square. WSET is the Shapiro-Wilk test for normality of the error term of the model. As such, the tests are used to evaluate the existence of the full ideal conditions underlying a model of the form: $Y = X\beta + u$, where the full ideal conditions are denoted as:

i) $u \sim N(0, \sigma^2 I)$

ii) u is independent of X and

iii) $X'X$ is of full rank.

Rejection of the null hypothesis of the existence of the full ideal conditions by one or more of the specification error tests is the decision rule for rejection of the model.

Nine specifications are evaluated by the specification error tests. The tests fail to reject eight of these models. The nonrejected models include those which would have been chosen as optimal using more traditional criteria. As such, the specification error analysis provides additional evidence of the efficaciousness of inspection.

Finally, a benefit/cost analysis for the year 1979 was conducted using New Jersey as a reference state. The analysis indicates that inspection is cost-effective.

The specification error analysis, the fragility analysis and the evaluation of benefits and costs show that motor vehicle inspection is an effective procedure in reducing the loss of life and injuries associated with motor vehicle accidents.

REDISTRIBUTION OF SERVICE EMPLOYMENT, INCOME AND POPULATION IN THE LARGE COUNTIES OF THE UNITED STATES

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During the seventies, employment in the services sector continued to grow at a faster rate compared to other sectors. In the face of population redistribution and differential rate of growth of per capita real income across the nation, the stability of services employment remains to be examined. The paper analyzes the growth and stability of services employment simultaneously with the redistribution of income and population in the 75 largest counties of the United States for the period 1970-80. Data were collected from various issues of _City and County Data Book_, _Statistical Abstracts of the United States_ and _County Business Patterns_. The sample counties represented 24 states and The District of Columbia. These counties were further divided into four census regions.

To examine the relationship between growth of services employment, net migration and growth of per capita real income, a system of simultaneous equations model is estimated. The model consists of three behavioral equations relating to change in service employment, change in population (net migration) and change in per capita real income. The change is defined as the difference in the value of the variable between 1970 and 1980. In addition to the three change variables mentioned above, the following predetermined variables are included: property tax rate in the beginning period (1970), population in the beginning period and per capita real income in the beginning period. Two Stage Least Squares (TSLS) regression technique is used to estimate the equations.

Sample averages indicate that employment in the service sector grew at an average annual rate of 25 percentage point. This growth rate was more or less uniform across the four census regions. Per capita real income increased at an average annual rate of 12 percentage point. The South and the West regions showed a slightly higher growth rate than the North Central and the East regions. Population for the whole sample increased at an average annual rate of one-half percentage point. The South and the West regions registered a gain of population growth rate of about 1.8 percentage point per year while the North Central and the East regions registered a loss of population of about one-half percentage point per year. The uniform growth rate of service employment despite the differential growth rate of population and per capita real income indicate the stability of service employment in the service sector.

The TSLS estimates suggest that net inmigration and income growth have significant positive relationship. An additional increase of 1000 people adds three dollars to the growth of real income per capita while an increase of one dollar real income per capita attracts an additional 269 people in a county. The population change and level variables indicate that in 1970, for every 100 people about seven service jobs were created while during 1970-80, no significant change in service employment occurred as a result of migration. The estimates suggest that an increase of 100 service jobs leads to an increase of 56 people in a county. The coefficient on the property tax rate variable indicates that counties which experienced faster growth in per capita real income were the ones which had a higher per capita property tax. This suggests that richer counties experienced a higher growth in real income per capita compared to poorer counties.

THE SOCIOECONOMIC ALLIANCE IN LABOR-MANAGEMENT RELATIONS

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During the decades of 1950-70, the overall economic growth patterns of the U.S. declined from 3.9% to 2.9%. A more alarming indicator was the productivity growth rate which had fallen from 3.3% in 1966 to a negative rate of (1.709%) by 1981.

After World War II, the social welfare was closely tied to an expanding economy and higher standards of living. Attributing economic slumps to lack of effective demand, social policy focused on income distribution rather than productivity patterns.

From 1970-80, contract settlements escalated cost-of-living adjustments and medical and pension benefits into double-digit rates. Subtracting productivity, annual wage costs rose by 8% to 9%. Management concentrated upon narrowly defined short-range objectives, rather than forecasting long-range market needs and socioeconomic trends.

Realizing that the common concern of remaining in business should surpass all traditional adversarial roles, labor and management mutually recognized their contributive behaviors to the existing economic decline and began a new path of compromise.

Labor granted economic concessions in health care, and automatic wage increases. Quality-of-life approaches, designed to alleviate work related tensions which inhibit productivity were established to improve product quality and output.

Management began the development of quality circles, aimed at the improvement of skills which would affect cost savings. Research and development were placed in strategic budgets rather than with funds earmarked for costs of operation, leading to a 16% average annual increase in R&D expenditures since 1980. Labor-management codetermination became a reality at Chrysler and Eastern Air Lines.

By 1984, signs of economic recovery lessened public pressures on the collaborative efforts of labor and management. While their joint efforts appear to be successful, neither group is without its critics and advocates in the trial and demonstration of their new alliance.

Skeptics feel that the concessions granted by labor do not reflect a change in priorities, as their actions were merely a path to exchange wage gains for job security. Critics state that management has no serious intentions of reopening contracts in the near future, and labor officials serving on boards of directors would not be given further serious consideration in codetermination or a role in corporate planning. As management would possess final control, quality-of-work life programs were considered as less than ideal. Worker priorities would be ignored if they conflicted with profit maximization.

Dismissing these criticisms as symptoms of a system in transition, advocates of this alliance cite current economic indicators and continued success in cooperative efforts as a proof of change. Work rule changes aimed at increasing productivity are becoming more common. Employing control groups, which are designed to study costs, quality of product, productivity patterns, and work related attitudes, there is sufficient positive data to support the growth and importance of quality-of-life programs. Within management, there are numerous firms which have oriented policies and operations toward the long-run.

The manifestation of mutual understanding is visible. Labor recognizes the vital roles of profit and reinvestment, while management solicits the valuable input of labor, which contributed positively to higher levels of productivity. Laying aside old conflicts, two diverse interest groups combined their efforts to aid in an economic recovery.

Beyond the economic turnaround, there is optimism for continued cooperative efforts and innovative growth. The team efforts which brought about new attitudes and structural changes within the workplace should be a positive indicator for the enhancement of a stronger and more competitive socioeconomic system.

THE IMPACT OF SPECIALIZED PEASANT HOUSEHOLDS IN CHINA

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For achieving the goal of rapid increase in agricultural production and impovement of rural life, reform took place in China beginning in 1978. The reform included raising farm prices, expanding private plots, diversifying rural economy, introducing responsibility system, and separating government administration from communes. Among them the most important one is the responsibility system which links the peasants' remuneration with output and grants peasants autonomy management. The responsibility to the specialized households is the important form of the system. There were 25 million specialized peasant households, or 14% of the national total in 1984. They engaged in specialized occupations such as cultivating grain or cash crops, raising livestock or poultries, transportation, processing farm products, handicrafts, marketing products and others. Generally, they manage their small-scale business within their own families. Due to such specialized household's skill, experience, diligence, talent and better education, they always take the lead in using new techniques and engaging intensive farming, and have generally achieved greater labor productivity. For example, a specialized peasant can raise 2.75 times more hogs and double his growing vegetable area than the old commune system. Likewise, the specialized grain or cash crop households' yield per unit or labor is much higher and its cost is lower.

These specialized households are new productive forces in rural China. It is a division of labor into specialized lines of production. They produced large quantity of agricultural products. Their production is not for self-sufficiency but for social consumption. They are able to sell 70-90% of their output as surplus. It shows that China's self-sufficient or semi-self-sufficient agricultural production is shifting to commercial production. It is an improtant factor to contribute to the record 1984 output of crops, livestock and aquatic products. 1978 is the year of pre-responsibility system. A comparsion of agricultural output between 1978 and 1984 shows the effect of specialized production. In

1984 the output of grain, cotton, oil crops, sugar-cane, tea, acquatic products and meat increased 33.59%, 180.43%, 127.14%, 127.05%, 53.36%, 30.15%, and 78.09% over 1978, respectively.

The record 1984 harvest of grain, cotton and soybeans has caused the changing Chinese agricultural trade with U.S. There is no more importation of corn, soybeans and tallow from the U.S. In 1984 the importation of wheat, cotton and soybean oil was down 46.61%, 99.20% and 61.54% from 1981, respectively. China imported agricultural commodities from U.S. totalled $6.13 billion in 1984, down 69.12% from 1981.

The specialized agricultural production has brought a dramatic increase in agricultural production and peasants' income. The average per-capita income for peasants rose from 309.8 yuan (U.S. $1=2.32 yuan) in 1983 to 355 yuan in 1984, up 14.59% over 1983. Such increase has stimulated the expansion and prosperity of China's rural market, giving a major boost to the country's imminent economic take-off. The rise in income has brought about improvement in peasants' living standard. Their level of consumption has been increased. They bought high-quality food, clothing, furnishings and household items, and built new houses. Some specialized households not only built spacious houses, but also bought refrigerators, washing machines, and big color TV sets. However, the specialization has also led to income inequalities, there are specialized households that earn 10,000 yuan or more each year and low income ones with per-capita income only 150 yuan or less in rural areas. Since the income gap has widened, there is a tendency to lead to polarization between the rich and poor.

Today, the peasant households are allowed to own means of production, except land, and to hire laborers. These can be viewed that the system has changed the collective agriculture into individual farming which is similar to American's family farming and has somewhat led to the capitalistic road. The Chinese realize that they cannot use the old Maxist and Lennist works to solve their present-day production problems.

DEPOSIT INSURANCE AND BANK RISK,
SOME PRELIMINARY ESTIMATES,
1934-1981

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The purpose of this paper is to measure the impact of federal deposit insurance on one aspect of bank risk in the period 1934-1981. The hypothesis is that deposit insurance systematically increases the risk of commercial bank portfolios. Section II of the paper gives a rationale for this prediction. Section III discusses three conceptual views of bank risk and briefly indicates how these risks might be measured. Section IV presents a model which is used to estimate beta coefficients for a sample of New York City banks. Section V presents a model designed to examine the relationship between deposit insurance and systematic bank risk. Section VI gives the empirical results and draws some tentative conclusions.

The model used to 'explain' the beta coefficients is based on the work of Rosenberg and Marathe. In this model, systematic risk is specified as a linear function of certain operating characteristics of the sample banks. These characteristics are represented by "descriptors" derived from accounting data and stock market price behavior. In my extension of the model, two variables are added to examine the possibility that federal deposit insurance may have increased systematic bank risk over time. The variables are: LOSSES = depositor losses not compensated by FDIC or assuming institution payments and INSURED/DEPOSITS = the ratio of insured to total deposits in the banking system.

If federal deposit insurance has significantly increased bank risk over time, the regression coefficients of these variables should differ significantly from zero. Specifically, the LOSSES coefficient is predicted to be negative since increases in uncompensated depositor losses would tend to increase depositor monitoring and enforcement behavior designed to reduce bank risk. The INSURED/DEPOSITS variable is predicted to be positive since greater FDIC insurance coverage would presumably increase managerial incentives to engage in risky activities while reducing depositor incentives to prevent excessive risk taking.

The empirical results are not encouraging. The coefficient of correlation (R^2) is low and none of the independent variable coefficients are statistically significant. In particular, the estimates fail to support the hypothesis of federal deposit insurance systematically increasing commercial bank risk. More generally, the results suggest that more research is needed to identify the fundamental determinants of risk in the banking industry.

CLARENCE AYRES: BETWEEN ABSOLUTISM AND RELATIVISM?

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This paper questions Clarence Ayres' success in the effort to avoid moral relativism or agnosticism in the social sciences without succumbing to the "transcendental" epistemology of classical philosophy grounded in the desire to know absolute or ultimate truths.

Ayres' views were grounded in a dichotomy of science or technology and ceremony. Ceremonial behavior was based on false values which impeded the developmental process that brought about improvements in men's well-being. Ceremonial behavior was associated with a desire to know ultimate truths rather than the true values derived from the non-teleological evolutionary life process in which technology is the driving force.

Early in his scholarly life Ayres held to an epistemologically moral relativist or agnostic position derived from the Darwinian-Veblenian concept of evolutionary social science. However, in 1918 Ayres described a "new epistemology" which laid no claim to eternal verities but could still resolve differences of opinion about true values. Ayres did not explain how this was possible. During the 1930s and 1940s, and in particular in his 1935 exchange with Frank Knight, Ayres complemented his epistemological moral relativism with an explicit methodological absolutism that would preserve the seemingly oxymoronic belief in true values which were not grounded in ultimate truth. Ayres attempted to provide the requisite methodology stating that it was the technology driven life process that was the source of true but not ultimate values.

During the 1950s, Ayres continued to abjure both moral nihilism and belief in ultimate truths. This had required the dichotomization of ceremonial and technological processes since the former yielded only false values. But in a 1956 letter to Donald Walker, Ayres admitted that this dichotomy "won't stand up as a fiat." Furthermore, Ayres seems to have been on the verge of adopting the position that ceremony could aid rather than impede the developmental process. This breakdown of the Ayresian dichotomy logically impels one to reject the argument that Ayres discovered a middle ground between complete moral relativism and the absolutism of the old epistemology.

THE REAL INTEREST RATE AND INFLATIONARY EXPECTATIONS: EVIDENCE FROM THE 80'S

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The proposed effect of anticipated inflation on interest rates by Irving Fisher is well known by economists. While it has been a cornerstone of monetary economics the theoretical assumption that nominal interest rates adjust completely in response to changes in expected levels of inflation (or deflation) has never been verified to the satisfaction of many researchers. In contrast the Mundell effect stresses that inflationary expectations are likely to have a significant impact on the real rate thereby altering the value of the nominal rate. The empirical evidence over the postwar period is mixed. Earlier studies seem to acknowledge the Fisher effect. More recent studies seem to refute the Fisher effect in favor of the Mundell effect, and in some cases, an inverted Fisher effect has been observed. This conflict may be due in part to the special time period that is covered by each. In addition the use of different proxies for the unobserved expected inflation may account for some of this disagreement. Thirdly it must be realized that the later studies have included a wide array of independent variables while the earlier ones were more simplistic. This paper explores these possibilities. A model which is representative of some recent studies is developed and tested by using alternative measures of inflation expectations over a 30-year period ending in 1984. Specific analysis is given to the last five years.

The model is derived from the familiar IS-LM paradigm with some additional modifications. The reduced form solution shows the nominal rate of interest to be a function of inflationary expectations, inflationary uncertainty, exogenous expenditures, a supply shock and unanticipated change in the money stock. The three forms of the inflationary expectation variable are the Livingston Survey Data, and a weighted averages of past values of both the CPI and GNP deflator. As a convenience for estimating the model, a partial rational expectations framework is employed. Interest rates are now a function of anticipated inflation as well as unanticipated inflation. This procedure allows for simultaneous testing of variables that determine nominal rates, *ex post* real rates and *ex ante* real rates. The effects of the remaining four variables are the same regardless of whether the real rate of the nominal rate is used as the dependent variable.

The results indicate that none of the inflationary expectations' variables confirm the presence of a pure Fisher effect for the entire 30 year period. While there is no evidence of an inverted Fisher effect, the Mundell effect may be fairly strong in some cases if the after tax rate of interest is considered. Models which use some variant of past values of the CPI to form expectations are likely to show the strongest Mundell effect. When the Livingston survey data are used the Mundell is not as strong. If past values of the GNP deflator are used to form future expectations then the Mundell effect is weakest. In addition the evidence indicates that structural and specific parameter relationships existing in earlier periods have not remained stable. In fact the changes occurring in the 80's are shown to be fairly substantial.

BUREAUCRACY, EXCESS SUPPLY AND DISCRIMINATION

IN LOCAL PUBLIC EMPLOYMENT

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Municipal bureaus tend to pay above-equilibrium wages, and therefore to hire under conditions of excess supply. The greater the excess supply for a public occupation, the greater the extent to which employers can favor a particular group of applicants in exchange for political support. The desire of vote-seeking employers to favor applicants from a given group depends on the vote elasticity of the group with respect to a change in its share of public employment. From a group that lacks political cohesiveness, the municipal employer can expect no more than the support of those hired. In contrast, when applicants from a political cohesive group are hired, the municipal employer can expect (a spillover) support from other members of the group. Non-white and hispanic groups tend to exhibit greater political cohesiveness than most other ethnic groups. In addition, non-whites and hispanics, referred from here on as minorities, tend to perceive less favorable employment opportunities than members of other ethnic groups. Thus, it is reasonable to expect the vote elasticity of minorities with respect to local public employment decisions to be high enough for vote-seeking municipal employers to favor minority applicants, when hiring under conditions of excess supply.

Based on the assumption that minorities constitute an special interest group from the standpoint of local public employment policy, a model is developed for predicting the share of minorities in local government employment. The basic structure of the model is given by equation (1)

$$M_{ij}/L_{ij} = h(M_j/N_j,\ V_{ij}, W_{ij}, W^e{}_{ij}) \quad (1)$$

where M_{ij} is the minority employment level in occupation i for city j, L_{ij} is the total employment level in that occupation, M_j is the minority population in the city, N_j is the total population, V_{ij} is a vector of factors (other than M_j/N_j) that affect the participation of minorities in the supply to the occupation, W_{ij} is the actual wage and $W^e{}_{ij}$ the equilibrium wage for the occupation.

The equilibrium wage is not observable, and is replaced by the variables in the demand and supply for the occupation. Thus, yielding equation (2)

$$M_{ij}/L_{ij} = h\ (M_j/N_j,\ V_{ij},\ W_{ij},\ W^p{}_j,\ Y_j,\ N_j,\ X_j) \quad (2)$$

Where $W^p j$ is the private sector opportunity wage in the local market, Yj is per capita community income, and Xj a vector of city characteristics that influence the demand and supply for the occupation.

The basic hypothesis of this paper is that the greater the excess supply for a local occupation, the greater the share of minority employment in that occupation. Note that the explanatory variables in equation (2), other than Mj/Nj and Vij, affect the employment ratio via their effect on excess supply. If the change in a given variable tends to increase (decrease) the excess supply of labor to category i, then we expect a positive (negative) effect on the minority employment ratio.

The model is tested using employment data for police officers and fire fighters. The empirical results from both the police and fire fighters equation are favorable to the hypothesis. Thus, the results add to a growing body of evidence on the applicability of the political-bureaucracy model to local government decisions.

One implication for future research is that to the extent that minority groups are aware of the connection between excess wages and their employment opportunities, they will be motivated to support government spending increases and to oppose tax and expenditure limitation efforts. This implication could, of course, be tested by analyzing voting patterns by race in tax/expenditure limitation referenda.

EMPIRICAL TESTS OF CONTRACT EFFICIENCY: THE CASE OF CRUDE OIL

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During recent years, observed differences between official and spot crude oil prices have tended to be both substantial and persistent. Citing this evidence, previous authors have claimed that official prices are set on the basis of rules of thumb or simple partial-adjustment mechanisms, with the implication that crude oil contracts are inefficient. This paper derives and implements empirical tests of crude oil contract efficiency. These tests are based on the theoretical result that if contracts are efficient, there should be no systematic correlation between the official - spot price differential on the one hand and information available when the official price was set on the other.

Univariate tests involve searching for the presence of forecastable momentum in the official-spot price differential series itself. These tests employ a modified version of the Box-Pierce statistic that allows for the theoretically permissible possibility of serial correlation at short lags. Failure to make this modification severely biases the tests against efficiency. After allowing for structural change (for which we provide overwhelming evidence), we find no evidence of such forecastable momentum in the series. In this regard, official crude oil prices behave like efficient contract prices. We do find substantial evidence of inefficiency in the behavior of the combined monopoly/risk premium separating the official price and the expected spot price, however. This premium changes over our sample period in a way that does not seem to be consistent with efficient contract theory.

Multivariate tests involve examining the power of other information variables in predicting the official-spot price differential. Preliminary results suggest some difficulty in rejecting the hypothesis of crude oil contract efficiency.

VOLATILITY AND SEASONALITY OF NEW YORK COTTON FUTURES PRICES

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Abstract

Options on commodity futures contracts have given cotton producers a new and potentially useful method to manage price risk. The cost of using this new marketing tool has been described as the options premium which is a function of five factors. A review of premiums indicated that the variability of futures contract prices, or volatility, has been one of the most important determinants of the premium. Daily cotton futures prices were collected and volatility calculated for each of the five contract months traded during the 10-year study period, 1975-1984.

The results of this study found that the volatility of cotton futures prices possessed seasonal patterns, therefore; option premiums also possess seasonality of cotton futures prices was found to be primarily dependent on the physiological development of the cotton plant during the growing season. Volatility was, in general, highest during the critical cotton fruiting months of July and August and the lowest prior to planting in February and March. Producers need to be aware of this information in order to properly utilize options on futures and minimize the costs of the new marketing alternative.

Key Words: Options on futures, Option premiums, Volatility, Seasonality

"A REGIONAL NEOCLASSICAL INVESTMENT FUNCTION DISAGGREGATED BY INDUSTRY": A STUDY FOR THE CANADIAN REGIONS

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Given an economy of interconnected regions, the purpose of the paper is to study and evaluate regional investment behavior while disaggregating along broad industrial lines. The Theoritical foundation of the model follows the lines of the neoclassical theory of investment, and its estimation has been done by combining cross-sectional and time-series data for six Canadian provinces, for the period 1950 through 1975. The food and beverage industry has been selected as the industry under consideration. Noteworthy, is the fact that this study utilizes a new data set on regional capital stocks by industry which has been made available by Statistics Canada only recently. The resulting six equation econometric model-one equation for each region - has been estimated by the technique of seemingly unrelated regressions, and the overall estimates of the regressors are quite reasonable, satisfying the restrictions implied by the model assumptions.

An aggregation bias test has been run to empirically investigate if the regional (Micro) units could be aggregated into a national (Macro) one. In order to test this hypothesis, an F - statistic has been used. The null hypothesis is rejected, concluding that investment behavior in the particular industry under consideration follows a strictly regional pattern and any aggregation will cause biases.

THE IMPACT OF PERCEIVED FAMILIARITY, PERCEIVED IMPORTANCE, AND SUPPOSITION ON ECONOMIC REASONING IN TIME-ALLOCATION DECISIONS

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The study sought to determine whether students' thought processes (i.e. perceptions of the familiarity and importance of decision-making situations, motivation in response to hypothetical vs. non-hypothetical decision-making situations) influence the transfer of cost-benefit analysis to students' personal time-allocation decisions. Experiment I employed a 2 X 2 (perceived familiarity x perceived importance) factorial design. High school seniors who had received instruction in cost-benefit analysis were randomly assigned to four treatment conditions--exposure and written response to high familiarity-low importance, low familiarity-high importance, high familiarity-high importance, and low familiarity-low importance time-allocation dilemmas. All decisions were evaluated in terms of a three-level hierarchy of economic reasoning. For experiment I, a two-way ANOVA revealed that subjects who resolved dilemmas of high perceived familiarity used a significantly higher level of economic reasoning than subjects who resolved dilemmas of low perceived familiarity, regardless of the perceived importance of these same dilemmas. There was no significant interaction effect between perceived familiarity and perceived importance. Experiment II employed a posttest-only control group design. It involved three randomly-formed high school economics classes. Two classes made an enactive response and a written response to a non-hypothetical time-allocation dilemma, but the order of responses was reversed for the two classes. A third class responded in writing to an identical but hypothetical time-allocation dilemma. Again, decisions were evaluated in terms of a three-level hierarchy of economic reasoning. Using a set of planned comparisons, no significant difference in level of economic reasoning was found between the mean scores of the two non-hypothetical decision groups or between the average of the mean scores of the two non-hypothetical decision groups and the mean score of the hypothetical decision group.

TAX-EXEMPT BOND YIELDS: AN ALTERNATIVE SEGMENTED MARKET APPROACH

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This study evaluates two theories of tax-exempt yield determination. The Efficient Market Theory advocated by Miller, Fama and others was found to be lacking because it cannot adequately explain why tax-exempt/taxable yield ratios for long term securities exceed the predicted level of one minus the lenders' marginal tax rate. The Institutional Demand Theory forwarded by Van Horne, Fortune and others was found to be inadequate because the hypothesized correlation between the yield ratio and household purchases of municipal bonds cannot be verified empirically for periods later than the early 1970s.

An alternative theory of tax-exempt yield determination is developed and empirically tested. This theory assumes that the market for municipal bonds is primarily a local market characterized by local commercial banks and households constituting the primary purchases of locally issued bonds. Bond prices and yields are set through negotiation. Increased participation in the market by national institutions (such as property insurance companies) is considered to be a significant external force which drives up municipal bond prices and therefore causes a reduction in yields.

The alternative theory is empirically tested using two sets of taxable and tax-exempt bond yields and Flow of Funds data to measure demand by the different sectors. Statistically significant results indicate that the level of external (national) demand is inversely associated with changes in tax-exempt yields: increased external demand is associated with lower tax-exempt bond yields.

TRADE RESTRICTIONS AND U.S. AGRICULTURAL EXPORTS

by

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After a decade long rise, total U.S. exports of agricultural commodities declined from $43.8 billion in fiscal 1981 to $34.8 billion in fiscal 1983. Although many factors may have contributed to this decline, a major factor has been restrictive policies imposed by trading partners. These policies take the form of tariffs, quotas and voluntary export restraints, regulatory requirements relating to health, safety and licensing, state trading, variable levies, customs valuation practices and export subsidies.

The purpose of this paper was to analyze the major policies restricting U.S. exports of agricultural commodities to principle trading countries. Particular attention was focused on the Common Agricultural Policy of the European Economic Community, Japanese import barriers, trade with less developed countries and restrictions imposed by centrally planned economies. Attention was also given to a description of policy strategies which could be designed to increase the sale of U.S. agricultural commodities in world markets.

variable that measures permanent changes in the distribution of employment shares across national economic sectors is applied.

In order to address the differing role of aggregate fluctuations over time, we include a measure of time-specific relative variance-covariance of Texas nonagricultural employment as an explanatory variable. This variable is, in fact, a measure of U.S. employment variance and covariance, but weighted in accordance with the employment shares peculiar to Texas in each quarter. It is shown that the values of this "portfolio variance" increase over the observation period, suggesting that changes in the industrial composition of Texas' economy moved its structure from one of relatively low cyclical volatility to one of higher volatility.

Last, a measure is offered that assesses the relative significance to Texas of growing industries compared to shrinking industries and this measure is then linked to one that captures permanent directional change in the distribution of shares of labor demand by national sector. This composite variable expresses the notion that, if Texas has a relatively large share of growing industries during a period, then the Texas unemployment rate will remain below the national rate, ceteris parebus.

The quarterly Texas unemployment rate is regressed on the following four variables: (1) Contemporary and five lags of GNP gap. (2) A measure of permanent national sectoral shifts in employment. (3) A relative employment portfolio variance measure. (4) The "growing" and "shrinking" industry shift variable.

While no individual GNP gap variable in the lag structure is statistically significant at an acceptable level in the equation, the collected contemporary and lagged variables were tested for collective significance and found to have it at the .001 level. The usual test statistics for other variables and for the equation in toto were significant at conventionally acceptable levels.

Both sectoral shifts and aggregate fluctuations are shown to have played significant roles in explaining the Texas unemployment rate, while the growing volatility of the state economy was shown to aid in explaining the increase that occurred throughout the observation period in the average Texas unemployment rate.

"Empirical Analysis of the Supply of Crime in Thailand, 1980"

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Statement of the Problem

A number of arguments have been advanced by social scientists to explain criminal behavior. Among the alternative approaches to the study of crime, most economists accept the theory that all individuals, criminal and non-criminal alike, are rational and respond to incentives. In a path-breaking paper, Becker (2,1968) brought the study of criminal behavior firmly into the domain of economic analysis. Following Becker, economists have extended the principles of utility maximization to the analysis of illegal activities. This approach posits that: individuals calculate the return from all possible activities--illegal as well as legal--and choose those that maximize expected utility; criminals are responsive to policies which alter the tradeoffs between the relative costs and benefits derived from criminal activities; and increasing the probability and severity of punishment would raise the expected costs, while increasing legitimate opportunities is a method of reducing crime. This study applies the economic theory of criminal behavior to an analysis of the supply of crime in Thailand. This application extends previous empirical research of the economics of crime in developed countries to determine whether the theory provides a foundation for analysis of crime in an underdeveloped economy. No comparable study of crime for an underdeveloped country has been found.

Methodology

The simultaneous equations model presented in this study is composed of three equations: 1) the supply of crime, 2) the imprisonment rate, and 3) the per capita police expenditure equations.

We estimate the following equations:

$$(1) \quad \ln C_i = a_1 + a_2 \ln CON_i + a_3 \ln S_i + a_4 \ln UN + a_5 \ln WE + a_6 \ln SCH + a_7 \ln DEN + a_8 TOUR + a_9 CEN + a_{10} NORTH + a_{11} SOUTH + Z$$

$$(2) \quad \ln CON_i = b_1 + b_2 \ln C_i + b_3 \ln S_i + b_4 \ln EX + b_5 \ln YG + b_6 CEN + b_7 NORTH + b_8 SOUTH + ZZ$$

$$(3) \quad \ln EX = c_1 + c_2 \ln C_i + c_3 \ln POP + c_4 CEN + c_5 NORTH + c_6 SOUTH + ZZZ$$

where indicates ln = natural logarithm and Z, ZZ and ZZZ are disturbance terms. The expected signs of the elasticities are:

$$(4\ a\text{-}k) \quad a_2, a_3, a_6, b_2 < 0; \text{ and } a_4, a_7, a_8, b_4, b_5, c_2, c_3 > 0.$$

The equations were estimated by the method of two-stage least squares. The model was estimated using the 1980 cross-section data for 72 provinces in Thailand. 1980 was selected because it was the most recent census year for which data are available.

Empirical Results

The Supply of Crime Function. The statistical results indicate the imprisonment rate variable (CON_i) is significant and has the anticipated negative sign in the motorcycle theft equation. However, the coefficient of the imprisonment rate variable is insignificant in the robbery equation and also has an unexpected positive sign in the murder and rape equations. The severity of punishment (Si) has the expected sign (negative) in all cases, except motorcycle theft. The percentage of teenagers in school (SCH) has the expected sign in all but the rape equation. For both Si and SCH, the coefficients that have the sign contradicting the economic theory of crime are not significant at the 10 per-cent level with a one-tailed test. The variables for unemployment and income, UN and WE, do contradict the theory. The population density, DEN, is the only variable that confirms the theory in all four equations.

Criminal Justice Production Function. The crime rate and the per capita policy expenditures, Ci and Ex, follow the theory except in the case of robbery. In both cases, however, it is insignificant. The coefficient for the per-centage of young people follows the theory except in the case of motorcycle theft where it is not significant. Severity of punishment, as expected is not very significant.

The Per Capita Police Expenditure Function. Crime rate, Ci, has the expected positive sign on all the equations except in cases where it is not significant. The population size variable, POP, is significant in all equations. In addition, it is negative which appears to conflict with the theory. However, note that the actual coefficients are for all intended purposes near zero.

In conclusion, the results obtained do not always confirm the economic theory of crime for an underdeveloped country, such as Thailand, However, in general this study appears to uphold the theory. Further studies are needed in order to determine whether the economic theory of crime is applicable to underdeveloped countries.

COKE AND ENGLISH PURITANS ON VOLUNTARY LABOR IN EARLY SEVENTEENTH-CENTURY ENGLISH ECONOMIC THOUGHT

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Sir Edward Coke, the premier jurist in the early seventeenth-century common law courts, typically has been portrayed in one of two ways in regards to his role in the rise of the market economic order in England. He is either seen as a self-conscious economic liberal or a reactionary traditionalist. However, both approaches have overlooked the rich congruence of Coke's rulings with the contemporary English Puritan views of voluntary labor. This paper seeks to demonstrate the commonality of sources for the conceptions of 'free trade' and monopoly in Coke, certain Puritan theologians, and economic thinkers such as Edward Misselden and Gerard de Malynes. 'Free trade' in this literature referred to the freedom of ingress into an occupation. Coke's opposition to the 'engrossing' of labor as evidenced in certain exclusionary guild practices reflected the Scholastic roots of his notion of 'free trade.' English Puritans such as William Perkins and John Hooper concurrently explicated the importance of voluntary labor in a 'godly calling.' Coke's rulings on several cases demonstrated a similar concern for occupational liberty as uncerstood within the normative framework of a 'lawful calling' and a qualified opposition to monopoly. Coke censured various guild practices as arbitrary restraints of trade, but still expressed his support for government of trade that promoted the public interest.

THE ROLE OF MONETARY POLICY IN ECONOMIC GROWTH IN SMALL OPEN ECONOMIES

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At this time, there is a near consensus among economists on the importance of money in the determination of the course of economic activities. What is not clear is the extent to which its management matters in shaping economic growth in small open economies especially since the wide spread trade restrictions and protectionist measures, the adoption of the flexible exchange rate arrangement and the globalization of financial markets which make prediction of events difficult.

This study, using a modified version of the neoclassical growth model with money, demonstrates the essential nature of the global economic interdependence. In particular, it is shown that since the global adoption of the flexible exchange rate regime, international economic interdependence has increased while rendering economic growth in a small open economy more vulnerable to external turbelence and policies. The study indicates that domestic savings, and investment therefore economic growth are intertwined with the foreign supply of money stocks and output.

The study further indicates that monetary policy, which we define as in Wilson (1965) as any action that is concerned to influence the volume and character of the flows of money and money-substitutes, can have a positive or negative impact on output depending on the spread between the nominal and the real stock of money. However, monetary policy, when properly conducted, remains the most powerful instrument that can help to bring about economic transformation. The premiere role of monetary policy will be to keep the economy balanced on a razors edge between inflation and deflation.

THE VALUE OF HOUSEHOLD OUTPUT: A DECADE COMPARISON 1970-1980

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This paper employs time serial data to compare the change in the real weekly value of home production of two parent-two children families in 1970 and 1980. Data for the household services workweek for this period, assuming no change in market employment, shows a statistical significant decline in the housewive's workweek of almost ten percent. There was no task where time increased. The husband's workweek showed no change; for children there was a slight increase.

To transform time use data to a monetary value, household tasks must be assigned a wage rate. This paper follows a replacement cost approach. It does not employ the wage rate of a polyvalent domestic worker because these individual activities are concentrated in babysitting and cleaning. Instead, after determining a correspondence between household tasks and market occupations, the wage rates for different relevant jobs has been determined by dividing weekly earnings statistics by the hourly workweek. In determining wage rates for a housewife's services, female market wages have been employed; for husbands, male wages. There is a wide variation in wage rates between tasks. It clearly makes a significant difference what services are performed within the home. It should be noted that relevant female wages increased faster than male wages.

By combining time use and wage rate data an estimate of the change between 1970-80 of the weekly home production can be computed. For the housewife the real increase in home production was around four percent. This change in output/income was the result of the actively rapid increase in wage rates for household services offsetting a decline in the workweek. Housewives still dominate the production of home output. During the 1970-1980 period neither husbands nor children showed any significant change in the monetary value of their home production.

For the 1970-1980 period the statistical evidence indicated that the increase in home production of two parent-two children families was smaller than the expansion of real per capital GNP. This would reduce the ratio of market to nonmarket output. However, despite a decrease in the workweek of the leading contributer to home output real household output for the family unit being discussed did not decline. There were changes in the composition of output that increased the relative significance of marketing and housecare and a decline in the significance of dishwashing and clothing care. The analysis of the value of household services presented in this paper could be useful in domestic relations and personal injury litigation cases.

One major economic trend in the 1970's was the increased labor market participation of women. The impact of this variable, which has not been discussed in this paper, would clearly reduce home production. There is a type of family whose impact on home production has received insufficient attention. This is the single parent family. Divorce in particular should lead to a duplication of household tasks and an increase in home production. In addition, the number of single individual increased rapidly. Thus, without information on the household workweek of a variety of family units the aggregate ratio of nonmarket to market output cannot be determined.

ECONOMIC EXPANSION, THE QUALITY OF LIFE, AND THE ECONOMIC FORECASTING PROCESS

M. Ray Perryman

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This paper describes the economic forecasting portion of a major study of economic development within the central portion of the I-35 corridor. Contemporaneous reports examine the quality-of-life and demographic segments of the overall project. The six county region utilized for the investigation is surrounded by areas that have experienced rapid economic growth (Dallas/Ft. Worth, Austin, and San Antonio), yet its business expansion has lagged that of the state and the nation to a substantial degree. The overall objective of the study was to provide a comprehensive data base that could be utilized as an effective input to significant programs for economic developments, industrial recruitment, and strategic planning. The economic outlook portion of the study included (1) the design of a comprehensive "on-line" historical data base; (2) the derivation of econometric models for each of the counties in the area, as well as an aggregate regional model, and (3) the generation of twenty-year outlooks for each of the counties. All elements of the project were fully integrated and presented in a major public forum. The project provides an excellent illustration of the potential for utilizing economic, demographic, and quality-of-life information in the context of a comprehensive development strategy for both metropolitan and non-metropolitan regions.

THE I-35 CORRIDOR MODEL: A SYNOPSIS OF RECENT DEVELOPMENTS AND EXTENSIONS

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This paper outlines preliminary results from an econometric model of the Interstate-35 corridor of Texas. This area has been widely publicized as a major center of economic development and growth, particularly with regard to the "high tech" sectors. The model is a highly disaggregated system that includes the metropolitan areas of Dallas/Ft. Worth, Waco, Temple/Killeen, Austin, and San Antonio as well as one non-metropolitan county (Hill). The major advances that have served to focus national attention on this region have largely been concentrated in the Austin, Dallas/Ft. Worth, and San Antonio areas. The "Central Corridor", i.e., Hill, McLennan (Waco), and Bell (Temple/Killeen) Counties, has continued to lag well behind state and national patterns. The paper describes some essential elements of the modeling process, but primarily focuses upon preliminary empirical results from a series of dynamic long-term simulations on both an aggregated and a disaggregated basis. The model is quite useful in that it may be used as a tool for corporate and governmental planning, industrial recruitment, development of industrial location strategies. Detailed graphical and tabular analysis accompanies the basic discussion and analysis of the model. Moreover, the techniques utilized in this project may be readily adapted to other regions and, hence, has widespread applicability in a number of other contexts.

RETURNS TO SCALE WITH STOCHASTIC PRODUCTION

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This paper presents a stochastic production model where output is treated as a continuous non-negative random variable. If the probability distribution of output is homogeneous of degree zero then expected output is homogeneous of degree one. In general, if the value of the probability distribution is not changed when all inputs are multiplied by t and the dummy variable for output is multiplied by t^z, then expected output is homogeneous of degree z. The natural idea that the probability of success can exhibit constant returns to scale is vacuous if success constitutes producing an output that exceeds some preassigned level. If expected output is homogeneous of positive degree, then cost minimization requires inputs to be used in constant ratios dependent on input prices. There are analogies to isoquants, and the maximization of expected profit is related in familiar fashion to the degree of homogeneity of expected output.

COMPARATIVE ANALYSIS OF THE EFFECTS OF OCEAN SHIPPING COSTS ON FLOW OF U.S. COTTON EXPORTS

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The purpose of this study was to examine the ocean shipping costs in international cotton trade and to analyze their effects on the flow of U.S. cotton exports. The analysis showed that overall the U.S. has the higher shipping costs when compared with other exporting countries. Also, a comparison of shipping costs by importing regions indicated that the U.S. Gulf Coast had the highest shipping cost to the Far East Asian importing countries and the West Coast to European countries. These findings imply that the shipping costs may have the most significant impact on the competitive position of the U.S. in the world market; consequently on U.S. exports.

A linear programming model was employed to determine the optimum flow of cotton for the world markets given the existing shipping costs. It was found that the shipping costs associated with worldwide cotton exports could have been reduced with the optimum flows suggested by the model. Parametric programming was used to determine the cost reductions (or adjustments) that would be necessary for the U.S. to be competitive in selected markets. The results of the model showed that, with small adjustments, the U.S. surplus could be reduced substantially (given that the 1978 crop year was used as a base for this study). The total cost of these adjustments was about $1.4 million or .65 cents per pound (approximately one percent ad valorem). The study also looked at the potential for expanding exports through increased utilization of West Coast ports. This analysis showed that the U.S. could eliminate surplus cotton by increasing the usage of West Coast ports. However, in this work, the cost of getting the cotton to the ports was not considered.

Key words: international trade, ocean shipping costs, cotton

EFFICIENT ALLOCATION OF FEDERAL ASSISTANCE TO SOIL CONSERVATION PRACTICES

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The social benefits of reducing soil erosion often exceed the private benefits, resulting in a less than socially optimal level of erosion control. When the private net benefits of using soil conservation practices are negative and the marginal net social benefits are positive, social welfare can be increased by providing financial incentives for farmers to adopt such practices.

This paper evaluates the physical and economic effects of three schemes for allocating federal financial assistance to soil conservation practices; namely, fixed cost sharing, variable cost sharing and the net benefit scheme. With fixed cost sharing, farmers installing eligible soil conservation practices receive between 50 and 60% of the average installation cost. For variable cost sharing, the cost share rate increases in proportion to the pre-practice erosion rate and the percent reduction in soil loss achievable with the practice.

While cost sharing stimulates the adoption of soil conservation practices, it is not uncommon for farmers to receive cost sharing payments even though adoption is economically feasible without federal assistance. For this reason, there is need to identify more efficient ways of allocating federal assistance to soil conservation practices.

The two cost sharing schemes and the net benefit scheme were compared for sixteen resource management systems (RMS) in the Rebel Flat Creek watershed located in eastern Washington. This scheme allocates federal assistance to soil conservation practices that are economically infeasible without financial assistance and for which adoption increases net social welfare. Each RMS represents a particular combination of three crop rotations (wheat/fallow, wheat/barley/fallow, and continous barley), three tillage practices (low residue, high residue and no till) and two cultivation methods (up-and-down and divided slope). RMS were divided into source and target RMS. A source RMS has an erosion rate above the soil loss tolerance of 5 tons per acre per year (TAY) for the two soils analyzed, namely Athena and Thatuna. A target RMS has an erosion rate below this tolerance. The average reduction in soil loss between the source and target RMS is 7.19 TAY for Athena soil and 5.39 TAY for Thatuna soil.

Three criteria were used to evaluate and compare the three allocation schemes, namely: changes in net social benefits per ton of erosion reduction due to federal subsidies; public cost per ton of erosion reduction; and social efficiency. Social efficiency is the change in net social benefits per dollar of public cost.

Erosion rates and net returs per acre were calculated with the Soil Conservation Economics model. The productivity index model was used to estimate the yield losses associated with different levels of soil erosion. Yield losses were inputted to SOILEC to estimate the revenue losses from erosion. Net private returns per acre were calculated for a one-year planning horizon and net social returns per acre were based on a 20-year planning horizon and a 4% discount rate. Divided slope farming was assumed to cost $4.25 per acre more than up-and-down cultivation.

Of the 105 possible replacements of a source with a target RMS, only 20 qualified for fixed cost sharing, 15 for variable cost sharing and none for the net benefit scheme. Of the 35 cost-shared RMS, 13 are economically feasible without financial assistance. None of the target RMS qualified for financial assistance with the net benefit scheme.

Net social benefits decreased for all cost-shared RMS. The average social loss was greater for fixed than variable cost sharing, namely $9.08 vs. $4.39 per ton of erosion reduction on Athena soil and $9.92 vs. $4.26 on Thatuna soil. Net social loss for fixed cost sharing was over twice (120%) as much as for variable cost sharing. The public cost of fixed cost sharing was two and one-half times (152%) greater than for variable cost sharing. Each cost-share dollar was associated with a net social loss of $1.21 to $1.31.

THE ECONOMICS OF IMPROVEMENTS IN HUMAN RIGHTS AND THE QUALITY OF LIFE: EXAMPLES FROM AGRICULTURE IN EGYPT

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In each nation human rights and quality of life are sustained by the existing economic base. In Egypt, changes were initiated in the revolution of 1952 to introduce socialistic central planning into the structure of the society and the economy. The ensuing attempts to improve the quality of life and human rights have been based on transfers of resources from the agricultural sector. Because there has been inadequate compensation for maintaining productivity, the agrarian economic base has deteriorated. The United States must avoid this trap by continuing a policy of a free market system amid government expenditures for support programs, plus public education, research, and extension to sustain vitality in agricultural industry.

HISTORICAL AND ECONOMIC EVOLUTION OF NACIONAL FINANCIERA, S.A.

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Many latin American countries have found it necessary to create financial institutions such as development banks, public investment corporations and special funds that will channel resources in a different direction from that in which they would flow if the intermediaries had a solely pecuniary objective.

More often than not, they have emerged in response to the pressing financial and technical requirements which their respective countries have faced during times of economic crisis. Two examples that readily come to mind are the creation of Nacional Financiera, S.A. in Mexico (1934), and some years later, the establishment of the Chilean Development Corporation (CORFO). These institutions would play key roles in the economic and financial development of their respective economies, especially during and after the war years. Indeed, Raymond W. Goldsmith (1961) has called Nacional Financiera "...the most important original contribution made by Mexico to the type of financial institutions participating in financing economic development and economic growth" [p. 12].

This paper examines Nacional Financiera's (NAFIN) financing and promotion of the industrial sector since its creation some 50 years ago. During this span of time, the Mexican economy experienced a number of significant developments in the structure of its basic industry and infra-structure -- all of which have altered the policies and operations of NAFIN and related agencies. This reorientation of the bank's basic goals and activities, in face of the changing size and nature of the financial requirements of industry is at the heart of this discussion.

First, the formative years under the Cardenas administration (1934-40) are reviewed. It is shown that during this period the bank delved into a variety of activities in search of its proper role and identity in the emerging financial system. Second, the bank's crucial participation in the industrialization drive of the 1940s is analyzed. Particular attention is devoted to NAFIN's entrepreneurial functions, viz., its provision of risk capital as well as its participation in the creation of various key enterprises such as an integrated steel mill at Monclova in the state of Coahuila. Next, we consider the reorientation of NAFIN's basic policies and operations as it entered the period of "stabilizing development (1955-72)." In particular, it is shown that the promotional activities of the development bank diminish in importance relative to its purely financial functions. Also, we assess the role played by NAFIN in the "Mexicanization" strategy begun during the administration of Adolfo Lopez Mateos (1958-64).

The final section is devoted to analyzing the operations of NAFIN under the administration of president Jose Lopez Portillo (1976-82). The interest in this period is two-fold: 1) a renewed emphasis on the promotion of basic industry, especially undertakings requiring large commitments of capital and specialized manpower took place; and 2) the ratio of external loan capital to direct foreign investment increased dramatically. The discussion establishes that NAFIN was an integral component in this process, not only in securing long-term loans from international agencies but also by virtue of its participation in a number of joint ventures with foreign multinational corporations.

THE DISCOVERY OF CRITICAL GROWTH FACTORS IN A CITY

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This study involved the investigation of growth-inducing and growth-retarding factors for cities under 100,000 population, using Pueblo, Colorado as a model city. Factors which might be common to all cities were those sought while researching Pueblo's development. The climate, composition of population, agriculture, manufacturing, government, retailing, banking, real estate, transportation, employment trends and planning efforts were important areas of concentration.

A favorable climate and adequate water placed Pueblo in a more desirable growth mode than Denver or Colorado Springs, yet Pueblo is a distant third in growth.

The population composition has imposed an excessive welfare burden upon the City as well as an entrenched, ethnic traditionalism which has resulted in lower expectational levels with regard to private and social goods and services. Traditionalism, which did not encourage change, led to inadequate services by the government, shoddy practices and inadequate inventories by private business, a glut of old and incomplete housing and dire shortages of government-supplied services.

Agriculture has followed the national trend of becoming less of a source of employment for Pueblo's citizens each year.

An excessive reliance upon one manufacturer caused this source of employment to almost vanish in the early 1980's.

The government efforts of the City to create growth have been extensive in recent years, but are burdened by the poor appearance of the City and accumulation of needs created over many years of neglect. Had the City and its citizens taken care of problems as they developed, this burden would not face them.

Retailing, not pressed by demands of customers or activities of competitors, continued to be carried on with 19th century methods into the latter part of the 20th century. Consequently, they have lost business to other cities and the downtown area is depressed.

Banking, losing its prominence to Colorado Springs in the 1980's because of timidity, has never regained its stature.

Real estate, lacking outside competition, offered its citizens minimal housing and housing with incomplete features. Although this situation has changed, to some extent, the bulk of housing is of the older incomplete variety.

Air transportation has always been expensive and inadequate from the Pueblo airport. Colorado Springs and Denver are prominent for connections to distant locations.

Employment has hovered in the same range in Pueblo for the past twenty years. Were it not for other sectors taking up the slack when manufacturing dropped drastically, Pueblo's employed force would have dropped considerably.

Planning efforts have been considerable in recent years, but are not necessarily in consonance with the wishes of the citizens.

In summary, traditionalism, apathy, a lack of entrepreneurial ability in public and private business and the accumulation of problems of the past have created more needs than current efforts are able to overcome. All this could be reversed if Pueblo were successful in entering a sustained period of growth.

OFFICIAL HOLDINGS OF FOREIGN CURRENCIES UNDER FIXED AND FLEXIBLE EXCHANGE RATES - THE LDC CASE

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This paper attempts to evaluate the impact of the transformation of exchange regime on the choice between currencies held as official foreign exchange reserves by less developed countries. It also analyzes the determinants of official holdings of foreign exchange reserves and differences in the general patterns of currency holdings of LCDs after the exchange-rate overhaul in the early 1970's.

Since individual countries do not disclose the currency composition of their foreign exchange reserves, we can only take a highly aggregative approach in our empirical analysis. Reserve currencies in which foreign exchange is held assume two general categories: (1) the U.S. dollar, (2) non-U.S. dollar currencies. In addition, the unavailability of data for currency breakdown limits our observation of countries to three main areas---Africa, Asia, and Latin America, instead of individual countries.

Exchange Arrangements and Currency Holdings

Since the collapse of the Bretton Woods System, a variety of exchange regimes exists among countries. In general, industrial countries float their currencies against each other or take some form of cooperative exchange arrangements. Most developing countries, however, peg their currencies to a single currency or to a composite of currencies. The major currencies chosen for pegging are the U.S. dollar and the French franc. An observation of the LDCs exchange arrangements after 1973 reveals that the U.S. dollar peggers and the countries with limited flexibility vis-a-vis the U.S. dollars are largely located in Asia and Latin America, while French franc peggers are concentrated in Africa. The average of the proportion of foreign exchange held in the form of U.S. dollars is obtained for the three less developed areas over the period of observation. The means of the ratios are tested for equality between French franc peggers (represented by Africa), on the one hand, and U.S. dollar peggers (represented by Asia and Latin America), on the other. The null hypothesis to be tested is that there is no difference in the means of the LDC areas with different exchange arrangements.

In the "more flexible"exchange rate period, both Asia and Latin America held a larger ratio of U.S. dollars to foreign exchange reserves than Africa. The difference between the mean holdings of Africa and Asia and that between Africa and Latin America are statistically significant at 0.1 percent. The results of the mean test thus reject the null hypothesis and suggest that countries keeping a closer currency tie with the U.S. dollar choose to hold a larger proportion of their foreign exchange reserves in dollar assets than franc peggers since the international monetary framework moved to a more flexible exchange regime in 1973.

The Behavior of Official Holdings of Foreign Exchange in the Form of U.S. Dollars

Several hypotheses were developed to explain the behavior of the ratio of the U.S. dollar to foreign exchange reserves, and they are used as independent variables in the following estimating equation which is specified in log-linear terms:

$$\ln(FD/F) = a + b\ln(MUS/M) + c\ln(LUS/RUS) + d\ln(R/M) + e\ln(IN/ID) + f\ln(VFD) + u$$

where MUS/M represents LDCs' imports from the U.S. as a percentage of their total imports; LUS/RUS, an indicator of riskiness of holding U.S. dollars; R/M, LDCs' reserves-to-imports ratio; IN/UD, the ratio of interest rates on non-dollar assets to that on dollar assets; VFD, external payments disturbances; u, an error term; and FD/F, the ratio of the U.S. dollar to foreign exchange reserves for LDCs. The estimates are obtained from quarterly data over two periods---1967-73 (the adjustable par value period) and 1974-83 (the more flexible exchange rate period).

Results indicate that, in terms of R-square, the overall fit of the regressions is more satisfactory for Latin America and Asia, largely dollar peggers, than Africa, largely franc peggers. Most of the estimated coefficients carry the expected sign. LUS/RUS appears to be most statistically significant, while VFD is significant only for Latin America in the period of fixed rates.

Exchange Regime Transformation and Official Currency Holdings

To appraise the influence of the evolution of the international monetary system on the regression model, we use two methods to compare regression estimates between the fixed and flexible rate periods. The first method is the dummy-variables method. At 95 percent confidence level, the coefficient of interest differential is different for Latin America and Asia, the coefficient of relative imports is different for Africa, and the coefficient of the risk proxy is different for Asia. The second method used is the Chow test. The null hypothesis is that regressions for the two exchange rate periods are not different from each other. The F-statistic values for the test are less than the critical values at the 95 percent confidence level for Asia and Africa but higher than that for Latin America. Thus, we may conclude that changes in international monetary structure had a significant impact on the composition of official foreign exchange holdings only in Latin America.

AN EMPIRICAL EVALUATION OF THE SUPPLY SIDE ECONOMIC POLICIES

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In August 1981, the U.S. congress passed the Economic Recovery Tax Act which was presented by the Reagan administration. The ERTA adopted the following: (1) personal tax, (2) all saver's certificate, (3) expansion of IRA, (4) effective elimination of the estate tax, (5) accelerated cost recovery system of depreciation, (6) tax credit, (7) tax indexation (from 1985), and (8) industry deregulation. These policies are often called the supply side economic policies on the ground that tax cut will increase labor supply, saving and investment, and economic growth. The major purpose of this study is to empirically evaluate the performance of such policies.

However, measuring supply side economic effects of an economic policy is not an easy matter for the following reasons: (1) A current economic condition is a result of many other policies and external factors, Thus, measuring the net effect of a policy is difficult. (2) There is a time lag between implementation of a policy and its results. Since each measure may have a different time lag, it is difficult to measure the total effect of economic policies for a short period of time. (3) In addition to these theoretical problems, there is the fact that the Reagan administration adopted counteracting measures to increase taxes, such as Tax Equity and Fiscal Responsibility Act of 1982, Social Security Amendments of 1983, and Deficit Reduction Act of 1984.

Under these circumstances, an easy method, though certainly not strict, is to compare the economic conditions of the two periods, i.e., the supply side period and the pre-supply side period. Since only four year data are available for the supply side period, we have taken also four pre-supply side years for the purpose of comparison. The results are presented in Table 1. If the supply side policy is effective, the real GNP growth rate should be higher and the poverty rate should be lower during the supply side policy period. However, the statistical data show the contrary facts that the real GNP growth rate is lower and the poverty rate is higher during the supply side period. The results tend to support the Keynesian theory.

Table 1. Economic Indicators, 1977-80 vs 1981-84

		1977-80	1981-84
(1)	Real wage rate (W/P)($)	2.833	2.673
(2)	Unemployment rate (%)	6.425	8.475
(3)	Labor force participation rate (%)	63.25	64.08
(4)	Employment/population (%)	59.08	58.55
(5)	Rate of increase in employment (%)	2.86	1.42
(6)	Real GNP growth rate (%)	3.25	2.73
(7)	Personal saving ratio (S/Y)(%)	5.98	6.00
(8)	Gross investment ratio (I/GNP)(%)	15.55	15.12
(9)	Interest rate (AAA,%)	9.58	13.18
(10)	Real interest rate (i-p)(%)	-0.17	7.18
(11)	Inflation rate (CPI,%)	9.75	6.00
(12)	Inflation rate (excluding energy, food and shelter) (%)	6.85	6.85
(13)	Rate of increase in money supply (M1)(%)	7.525	7.533
(14)	Exports/GNP (%)	11.36	10.99
(15)	Imports/GNP (%)	11.06	11.13
(16)	Net Exports/GNP (%)	0.17	-0.12
(17)	Families in poverty (rate)	9.48	11.90
(18)	Persons in poverty (rate)	11.93	14.73
(19)	Business failure rate (per 10,000)	30.55	86.67
(20)	Net business formation (1967=100)	125.53	115.53
(21)	Federal revenue/GNP (%)	20.11	19.96
(22)	Federal expenditures/GNP (%)	21.80	24.26
(23)	Federal deficit/GNP (%)	1.69	4.28
(24)	State-local revenue/GNP (%)	14.97	14.34
(25)	State-local spending/GNP (%)	13.65	13.07
(26)	State-local surplus/GNP (%)	1.32	1.27
(27)	Growth rate in Federal revenue (%)	13.02	6.98
(28)	Growth rate in Federal spending	11.90	9.99
(29)	Growth rate in State-local revenue (%)	9.59	7.90
(30)	Growth rate in State-local spending (%)	9.08	7.30
(31)	Growth rate of money GNP (%)	11.26	8.66
(32)	Federal revenue elasticity (27)/(31)	1.156	0.806
(33)	State-local revenue elasticity (29)/(31)	0.852	0.912

Note: Calculated from Economic Report of the President, 1985.

COMMENTS ON "SOCIOECONOMIC ALLIANCE" AND "UNION REPRESENTATION OF HEALTH CARE WORKERS"

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In "Socioeconomic Alliance," Professor Heacock and Mr. Slaughter discuss recent attempts to increase cooperation in labor-management relations in manufacturing. The context is the decline in the rate of national productivity increase and the loss of international competitive position. They point to negotiated cuts in fringe benefits and productivity-enhancing changes in work rules as signs of organized labor's willingness to participate in the "alliance." Management clubs, "quality of work life" groups, quality circles, and the appointment of union officers as directors of some corporations are pointed to as indicative of a less authoritarian management style.

While the authors present a large amount of information, it is not clear that these changes represent an "alliance." Declines in unit labor cost resulting from gains in productivity and decreases in total compensation only maintain output levels in "mature" product markets. The implication for blue-collar workers, and increasingly for white-collar managerial workers, is job loss. While many workers may minimize their personal losses as a result of greater union cooperation with management, they do it from a position of weakness. The employer is a clear winner as he acquires greater control of the production process as well as the benefits of the productivity gains, as evidenced by the decline in his labor cost.

In "Union Representation," Professors Parigi and Elliott present a much harsher view of labor-management relations in the 1980s. Their case study of a strike and decertification campaign, between the Schlesinger Geriatic Center, a nursing home in Beaumont in east Texas, and Local 706 of the Service Employees International Union, illustrates many critical labor issues in low-wage service industries. Important characteristics of the environmental context and of the actors included wage and wage-rule concessions among the leading labor organizations in the region, cutbacks of Medicare and Medicaid payments, the close personal links between the board of directors at Schlesinger's and key public officials in a small city, issues of race, sex, and class, the easy availability of substitute workers, and the role of the SEIU international office, including a national campaign. The confrontation produced a wide range of unfair labor practice charges, the final outcome of which was still unknown. Regardless of the outcome, the authors thoroughly demonstrate the key background elements and issues in labor relations in a case where the relative balance of power has shifted away from the workers.

U.S. STEEL INDUSTRY: DOES TECHNOLOGICAL CHANGE MATTER?

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In this paper I explore the impact of technological change on productivity in the U.S. steel industry between 1960 and 1978, a period in which the industry faced increasing foreign competition in our own market. In the face of this challenge, the industry has sought increasing protection by means of tariffs and quotas. Will protectionist measures result in cost-reducing productivity gains?

The role of technological change in productivity enhancement can be significant, but its origins and causes are not as clear. Technological change may arise from lessons learned in the firm in the production process (endogenous) or from developments outside the firm and production process (exogenous). The endogenous source of technological change has been labeled "learning by doing," and has generated inquiry concerning its impact on productivity and how best to stimulate learning. In this paper I investigate this subject in the context of a four-firm sample drawn from the U.S. steel industry.

Between 1960 and 1978 industry production increased 38 percent while the number of manhours diminished by 22 percent and the number of blast furnaces declined by 32 percent. The only way this production growth could have occurred is by being in the third region of production (negative marginal product) if there were no technological improvements, or in the second region (declining, but positive marginal product) if technological change were present.

Now we do know that the basic technology of the industry has changed since 1960. In 1960, 86 percent of U.S. raw steel was produced in the open hearth furnace, a pre-World War II technology, whereas by 1978 the basic oxygen furnace, 1950s technology, accounted for 60 percent and the electric furnace, 1960s technology, 23 percent of raw steel production.

Most industry studies focus on industry-wide aggregated data. Here I use a small sample of large steel firms (Republic, National, Wheeling-Pittsburgh, and Kaiser) to reduce the amount of aggregation bias. This sample proved to have productivity and capital-labor ratio growth rates statistically similar to the industry average. Thus it was hoped that other results for the sample may also reflect industry-wide trends.

In 1970 Paul David tested for the impact on productivity of learning by doing in the U.S. antebellum cotton textile industry by estimating a Cobb-Douglas production function which included a variable to represent increased experience: either cumulative output of the firms (CUMQ) or cumulative years of experience (YR). David then mused whether such an approach could be used with not-so-young industries.

I have attempted, by estimating a translog production function, to accomplish the same end. The translog functional form assumes neither a strong separability of parameters nor a unitary elasticity of substitution, both of which restrictive conditions are assumed in the Cobb-Douglas function.

Due to the high degree of expected collinearity among the inputs it is necessary to estimate this function by a joint estimation of the cost-share equations for the inputs. Thus, I used Zellner's Seemingly Unrelated Regression technique. The resulting estimated production function proves to be well-behaved with negative elasticities of demand for the factor inputs. Those inputs are: (1) manhours, (2) capital services, (3) a combined administrative labor-materials-energy input, (4) a time trend to represent exogenously inspired technological change, and (5) CUMQ or YR to represent endogenously inspired technological change.

The results indicate growing average labor product (APL), yet the marginal product (MPL) is consistently below APL. Considering that at the same time there occurred a decline in capital services per manhour in these firms, the increase in APL must have been due to technological improvements. Except for the latter part of our period of study, the impact of the exogenous and endogenous experience variables on MPL is positive, though diminishing. Technological change did enhance productivity.

The log of the maximum likelihood function is much higher when including CUMQ than when using YR or the time trend alone, indicating a better fit to the data when using CUMQ. CUMQ accounts for anywhere from a 3.4 percent to a -0.5 percent growth in productivity. The exogenous time trend accounts for a 0.3 percent to a -1.9 percent productivity increase. Furthermore, whichever learning variable is included, the bias of technological change is capital-saving and labor-using as we would expect.

In summary, technological change, whether endogenously or exogenously inspired, played a decreasing role in affecting productivity in these steel firms during the period 1960-78.

STEIN-RULE LEAST SQUARES: CORRECTING FALLIBLE VARIABLES

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I. Introduction

The imperfect observation or measurement of theoretical economic magnitudes has always posed serious problems for the empirical economist. In the "early days" of econometrics, "errors-in-variables" (EV) was given the central role in generating the stochastic disturbances of econometric models. More recently, the standard practice was to consider the effects of observational difficulties negligible. Fortunately, there is now a resurgence of interest in errors-in-variables. It is the purpose of this paper to show how an initial Steinian estimation of the independent variables leads to a consistent and potentially unbiased estimator of the regression coefficients.

II. Stein-Rule Least Squares

A simple version of EV may be expressed as:

1. $Y = \theta\beta + u$ and $X_i = \theta_i + e_i$ $\quad i = 1,2,\dots,n$

Where θ is a (n x 1) unobservable variable vector, Xi is the i th observed value of θ , and e is the measurement error which is distributed normally and independently with mean zero and variance σ_e^2 .

The problem that lies at the heart of EV is the need to estimate the n parameters of θ in addition to the usual regression coefficients. Since Stein-rule estimators are most advantageous when estimating a large number of means, a Stein-rule solution should prove helpful.

2. $Zi(X) = \bar{X} + [1 - (n - 3)S^2/(m + 2)\sum_{i=1}^{n}(Xi - \bar{X})^2](Xi - \bar{X})$

for $n \geq 4$ and S^2/m as an estimate of σ_e^2 . This Stein-rule estimator can be expressed in a more revealing manner by noting that S^2, the sample sum of squared measurement errors, is equal to:

$$(1 - \rho)\sum_{i=1}^{n}(Xi - \bar{X})^2$$

for ρ as the reliability coefficient-Lord & Novick(1968). Combining this with (2) gives

3. $Zi(X) = \bar{X} + [(1 - c) + c\,\rho\,](Xi - \bar{X}) = \bar{X} + s\,(Xi - \bar{X})$

for $c = (n - 3)/(n + 1) < 1$ and $s = (1 - c) + c\,\rho$.

Now if we use Z in the regression model as our estimate of θ, many interesting consequences follow. The Stein-rule, least squares (SRLS) estimator of β becomes

$$4.\ b = \sum_{i=1}^{n}(Yi - \bar{Y})(Zi - \bar{Z}) / \sum_{i=1}^{n}(Zi - \bar{Z})^2 = B/s$$

where B is the usual OLS estimator.

In practice, one must employ an estimated reliability coefficient in the place of ρ. As long as a consistent estimate of reliability is used, SRLS will be consistent. In addition, if an independent and unbiased estimator of the reliability coefficient replaces s, then SRLS will also be unbiased, Stanley(1986).

Following the Stein-rule least squares heuristic, one might continue to substitute the Stein-rule estimate of θ for fallible X in all the remaining least squares formulas. In this case, all of the standard measures of "goodness of fit" will be equivalent for SRLS and OLS. Thus, the adoption of SRLS involves minimal revision of computational formulas or past empirical findings.

III. Conclusions

Applications of SRLS can have important practical consequences. For example, when employed to estimate the consumption function, SRLS reveals how Friedman's permanent income hypothesis is a statistical artifact. For prediction or tests of nonzero regression coefficients, SRLS can result in substantial differences for our statistical inferences. "As a heuristic, SRLS can serve as a compromise between the competing goals of statisticians and empirical economists," Stanley (1986, p.150). Applications of SRLS underscore the importance of knowing the quality of one's data. At a minimum, nonexperimental empirical scientists need to have explicit knowledge about the quality of their data. In the absence of controlled experiments, less information would be intolerable, since statistical inference based upon fallible data of unknown quality must itself be unreliable. SRLS merely makes this prerequiste explicit and incorporates the informative content of reliability into the estimation of our statistical models.

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ALTERNATIVE VERSIONS OF THE SYNTHESIS AGGREGATE SUPPLY AND DEMAND MODEL: ABSTRACT

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In traditional analyses of aggregate supply it was common to distinguish between classical and Keynesian versions of the aggregate supply curve. In the classical case the supply of labor depends on the real wage, resulting in a vertical aggregate supply curve. In the "moderate" or "general" Keynesian version the aggregate supply curve has a finite positive slope, at least up to a "full employment" level of output. Such a Keynesian aggregate supply curve can be generated by any of three alternative assumptions: 1) the money wage rate is fixed, 2) the supply of labor depends on the money wage rate, or 3) the supply of labor depends on both the money wage rate and the price level, but more strongly on the money wage rate.

More recently a "synthesis" aggregate supply and demand model has arisen, in which the aggregate supply curve has a Keynesian form in the short run and a classical or nearly classical form in the long run. The distinction between the short run and the long run may be made either by considering periods of different length (see Branson [1, Ch. 6]) or by considering the distinction between what happens in a single period and what happens over a succession of periods (see e.g. Gordon [3, Ch. 7]).

In those models of this type where the long run aggregate supply curve is strictly vertical, the supply of labor depends on the real wage in the long run. If the succession of periods approach is adopted there are a number of possible assumptions concerning the supply of labor in the short run. One possibility, used by Gordon [3, Ch. 7] and Parkin [4, Ch. 25] is to assume that the money wage rate is fixed in the short run, i.e. for each single period. This, of course, is the analog of the traditional Keynesian case with a fixed money wage. A second possibility, used by Gordon [2], Parkin [4, Ch. 24], and Stephens [5], is to assume that the supply of labor depends on the expected real wage, W/P^e, where W is the money wage and P^e is the expected price level. The expected price level is assumed to be fixed for each single period. With the expected price level fixed, the supply of labor becomes a function of the money wage within each individual period. This is the analog of the traditional Keynesian case with the supply of labor dependent on the money wage. A third possibility, which as far as I know this paper introduces for the succession of periods model, is to assume that the supply of labor depends on the expected real wage and that the expected price level responds partially to change in the actual price level within the period. Under these assumptions, if the actual price level for the period differs from the expected price level established at the beginning of the period, then the expected price level for the period will change by a fraction of the amount of the change in the actual price level. Since the supply of labor is a function of the expected real wage, W/P^e, workers would require an adjustment of their money wages in the same proportion as the change in the expected price level in order to supply the same amount of labor. However, since the change in the expected price level is only a fraction of the change in the actual price level, this is the analog of the traditional Keynesian case with the supply of labor depending on both the money wage and the price level, but more strongly on the money wage. This paper analyzes the implications of these three alternative assumptions for the synthesis aggregate supply and demand model, and notes some interesting aspects of the nomenclature relating to "Keynesian" and "classical" adopted by various previous writers on this subject.

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SUBJECTIVELY EVALUATED OUTPUT IN PRINCIPAL-AGENT THEORY

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In standard principal-agent theory, each individual provides factors of production which are combined to produce output. Once the output is produced, it is measured and divided between the two as defined in the sharing contract agreed to by both. This paper considers a special case of principal-agent theory in which the quantity of output is determined by a subjective evaluation by the principal. If the principal systematically underestimates the amount of output produced, the principal's share is increased and the agent's decreased. The incentives for such strategic behavior exist only if the agent faces positive transaction costs of forcing a truthful evaluation of the output. Two additional modifications are also made to standard theory. The principal enters into three sharing contracts with relevantly similar agents over time. Also, information about the principal's past strategic behavior is allowed to flow from past agents to current and future agents. These modifications allow the examination of the principal's strategic behavior and the influence of information upon this strategic behavior in an intertemporal setting.

The principal selects the agent's share of the output through the output evaluation. The selection maximizes the principal's total output from all three periods. Information flows from past to current agents through the agents' expectation of the share they will receive. An agent forms this expectation and uses it to select the amount of production factors to provide. An expectation must be used because the selection of factors is made prior to observation of the agent's share. The expectation is formed by equation (1).

(1) $S^e_0 = TS$; $S^e_i = TS^{1-L}(\prod_{j=1}^{i} S_{j-1})^{L/i}$ for $i=1,2$.

For computational reasons, these are transformed into S^{e*}_i by taking the common logarithms of equation (1). In both sets of equations, S_i, TS, L are, respectively, the past agent shares, the agent's share if output is objectively evaluated, and the percentage of past evaluations by the principal known to the current agent. L denotes the quality of information.

Equation (2) states the maximization problem.

$$(2)\ \text{MAX}\ \{pf(a(S^{e*}_0))-c(a(S^{e*}_0))-S_0\}+V_1\{pf(a(S^{e*}_1))-c(a(S^{e*}_1))-S_1\}+V_2\{pf(a(S^{e*}_2))-c(a(S^{e*}_2))-S_2\}$$

In this equation, f(), c(), a(), p, V_i are, respectively, the production, cost and agent's factor functions, the output price, and the present value factor. Solving the maximization problem produces the agent's share functions shown in equations (3) and (4).

$$(3)\quad S_0=(p(df/da)-(dc/da))(V_1(da/dS_1)+(1/2)V_2(da/dS_2))L$$

$$(4)\quad S_1=(V_1/V_2)(p(df/da)-(dc/da))(da/dS_2)(1/2)L$$

These functions directly reflect the marginal benefits which the principal receives from increasing the agent's share by an additional dollar.

The maximization problem and the share functions generate four potentially refutable propositions.

<u>PROPOSITION 1</u>: $S_2=0$.
The principal evaluates the output in the last time period so the agent's share is zero, given prohibitive transaction costs. In the last period the principal receives no benefits from paying the agent an output share. $S_2=0$ maximizes profit.

<u>PROPOSITION 2</u>: $S_0>S_1>S_2$.
Over time, the principal pays the agents decreasing shares. This is because the principal's marginal benefit from the agent's share decreases through time. Hence, the principal decreases the agent's share.

<u>PROPOSITION 3</u>: The agent's share changes directly with L in the initial and first time periods.
As the information available to the agent improves, the past agent shares have greater weight on the expected shares of future and current agents. The principal's benefits from paying a larger agent's share increase. Therefore, the principal increases the agent's share.

<u>PROPOSITION 4</u>: When L=0, $S_0=S_1=0$.
When no information is exchanged between agents, the principal's marginal benefit from paying a positive share is zero. Profits are maximized when $S_0=S_1=0$.

The paper illustrates a reasonable model for the special case of principal-agent theory in which output is subjectively evaluated. It shows that the output division between the individuals is influenced by the availability of agents' information, the number of contracts entered into by the principal, and the relative position of the current period in this time horizon. In these ways, it improves the applicability of principal-agent theory to the special case of subjectively evaluated output.

USING JOINT UNITED STATES-MEXICAN WATER PROJECTS ON THE RIO GRANDE TO TEACH INTERNATIONAL COOPERATION AND CROSS-CULTURAL SHARING: A CASE STUDY IN ECONOMICS EDUCATION

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The decade of the 1980's seems destined to serve as a major turning point in economics education throughout the public schools of the United States.

Two economic concepts that are especially deserving of institutional attention are the concepts of international cooperation and cross-cultural sharing. Because the United States is entwined within a truly global economy (or "Global Village" as Robert Samuelson has pointed out), the need for economic cooperation and cross-cultural sharing of technology, resources, and personnel is an economic reality. Many students view the United States as an isolated economic monolith capable of acknowledging or ignoring the economic activities of other nations. A pressing need exists to teach students that the United States is a member of a global economy and that a significant dimension of this membership is the need for international cooperation.

The purpose of this paper is to demonstrate how these two vitally important concepts can be taught to students by using a case study. Joint United States-Mexico water projects on the Rio Grande River were selected as the focus of a case study for several reasons. These projects possess a particular relevance for Texans due to their location in and nearby Texas. Secondly, numerous educators and organizations (Project 2000, for example) have identified water resources and water distribution as among the most significant economic issues confronting Texas in the 21st century. Finally, relations between the United States and her Latin American neighbors have become increasingly important during the last decade.

The two joint United States-Mexico water projects emphasized were the Amistad Dam and Reservior Project near Del Rio and the Falcon Dam located near Laredo. The International Boundry and Water Commission secured the rights and duties which both governments assume under the boundry, water treaties and agreements entered into over the years between the United States and Mexico. This arrangement benefits the economic and social welfare of both nations and thereby improves relations between the two as well. Virtually every aspect of these projects is reflective of a spirit of cooperation between the United States and Mexico. Planning, construction, maintenance, and use of these dams and reservoirs is based upon each nation's relative needs.

Specific facts and information about the treaty history between the United States and Mexico persuant to these treaties, as well as material concerning the dam and reservoir projects themselves was provided in this paper to serve as the content for each respective case study. Additional information on these projects can be obtained either from the authors or directly from the International Water and Boundry Commission, El Paso, Texas 79902.

This case study approach presents many important concepts. Looking first at economic cooperation, the model points out the advantages, both on an economic and social level, of joint cooperation in large scale projects such as these.

The costs of such projects can fairly be divided in terms of potential or real benefits received from them. Such cooperation also leads to cross-cultural sharing. Improved relations generally result in economic and political advantages to both nations far beyond the realm of dam and reservoir projects. Also, cross-cultural sharing implies technological diffusion and cultural reciprocity. The sharing of our resources and technology and the subsequent reciprocal relationship that is established is important in increasing our economic and cultural awareness.

The International Economic Policy Coordination Instrument: Some Considerations Drawn From the OECD Experience
(London: University Press of America, Inc., 1985)
by William M. Timmins, Brigham Young University
and David B. Timmins, American University, Paris

As we approach the Silver Anniversary of the Organization for Economic Cooperation and Development (OECD), it was thought that it would be informative to take a look at some of the problems the Organization has grappled with over the past quarter century to see what might account for its successes and failures and what lessons might be learned about the applicability of the Richard Gardner criteria from his seminal Sterling Dollar Diplomacy, in what is perhaps the most successful economic organization in the world: one which includes the 21 most advanced industrial countries (including Japan, Australia, New Zealand), plus Spain, a bridge to the Arab world; Yugoslavia, a reformist communist economy; and Portugal, a link to the Third World. Little regarded or understood by many otherwise well-informed scholars and world statesmen, the OECD accounts for upwards of 70% of non-communist world trade and has (with a sad relapse during the Carter Administration due to his ignorance of the functions of this important body) kept the industrial world on a virtually uninterrupted and historically unparalleled growth path for twenty-five years.

Our study found that the OECD has made three particularly significant contributions to economic theory. First, it has validated the significance of the international economic policy coordination instrument identified by Harry Mundell, Richard Cooper, and others as a valuable tool of economic policy supplementing monetary policy, fiscal policy, and trade policy and, through enhancing their effectiveness, amounting in effect to a fourth policy instrument.

Second, the close examination of issues related to non-tariff barriers within the OECD has provided a distinctly sharper insight into the theory of "second best" and how when one country gets ahead of the others in its liberalization policy this can lead to a deterioration, rather than an improvement in world welfare.

Third, the OECD has given renewed importance to the concept of Political Economics as a distinct field of study. The quasi-political negotiating process within the OECD, condemned by marginalists as a contamination of economic theory, can now be seen as the essence of the "higgling and bargaining behind the curves" which Professor Alfred Marshall now so many years ago understood to be basic to economic analysis. Indeed, in our book we define Economics as "an impartial politics applied to the non-human objects of our environment," while, conversely, we see Politics as "the economizing of relationships between human beings in the social context of national and international affairs."

Looking in detail at some of the problems confronted within the OECD, we first examined the OECD Growth Target adopted as the organization's first objective during its 1960-1970 Development Decade. After a somewhat exhaustive look at the different reasons which motivated the several member countries to favor the Growth Target (which boil down in essence as a propagandistic riposte by the West to Kruschev's threat to bury the West economically), and the practical negotiations leading to its adoption, we arrived at a profoundly deeper understanding of the relationship of economics and political negotiation, why Gardner condemned simon-pure "Economism" as a major fallacy of applied economics, and why Professor Marshall encouraged economists to look carefully at the higgling behind the curves.

Next, we looked at the OECD's attempt to grapple with a burden sharing formula as a means to reinforce the efforts of the Development Assistance Committee to coordinate and strengthen the development aid activities of member states. Here we found that the lack of an agreed theoretical basis for what in fact constitutes "aid" precluded consensus and caused the exercise to founder--one of the few examples of a clear OECD failure. On this basis we identify some implications for other international organizations and caution the OECD to avoid insofar as possible future problems where theoretical understanding is insufficient to underpin agreement.

Third, we looked at the efforts of the OECD to eliminate or reduce non-tariff barriers to trade, particularly in the realm of invisible transactions.

The text closes with an analysis of the international debt situation and a number of suggestions for future international economic cooperation proposals.

INSTINCTS IN ECONOMIC ANALYSIS

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Human behavior may be viewed as the manifestations of the interplay of a host of their instincts or natural propensities. Economic activities are a part of that behavior, therefore the instincts rooted in the human nature must be viewed as the ultimate driving forces of economic achievements and progresses. The diversity and disparity of world economic conditions all can be traced to the relative strength of various instincts possessed by the peoples. Equally, their cultural environments modify these instincts; and their instincts shape their environments in which they live.

A number of instincts which are significant for economic analysis have been discussed by Taussig and Vebelen. The most important one is the instinct of contrivance (workmanship). This instinct is the predominant force in creating material wealth for mankind. Vebelen even attempted to interpret history of mankind in terms of the developments of workmanship. The instinct of contrivance is the creative and innovative forces for the economic progresses. The technical advances, innovations, developments of new markets and products, and in a broader sense even the creation of institutions and organizations are the evidences of the manifestations of such an instinct. Contrivance may be viewed as the foundation of the concept of production function.

In addition to the instinct of contrivance, Taussig also singled out three other instincts: emulation, domination and devotion which are significant for economic analysis. Emulation is human's desire for achieving social distinction or status. This desire leads to the expansion of individuals' utility and demand functions beyond the limit of merely achieving subsistence. Social emulation gives the importance of the interdependence of individuals' utility functions. It is the origin of shaping the tastes and values by peer pressure. Such an instinct leads to endless expansion of human desire and generates ever increasing pressure on the limits of the available resources. On the other hand, such a pressure also sustains the continuous efforts of creation and contrivance.

The competitions in economic activities are motivated by domination. The feeling of power and distinction may be derived from the process of competing. The achievement of economic efficiency is the consequence of competition, not the motive of such competition. To reach a dominating position in a market brings power and capability of mobilizing the resources for contriving, and further to accumulate wealth and power. The cycle goes on. The formulations of monopoly and conglomeration, and the developments of colonialism and imperialism are some of the examples of the manifestations of this instinct.

There is no doubt that the interplay of contrivance, emulation and domination can provide abundant fuel for running economic engine. However, with these instincts only, economic progress will lead to self destruction. With the desire for social emulation and domination alone, the benefits of contrivances can not be shared fairly by the members of a society. Some individuals or institutions achieving social distinction or dominating position must mean that others are dominated and without distinction. Such a contrast will eventually generate a countervailing force in a society. The ultimate clash between these two groups may endanger economic progress. A central planned or socialistic economic system is not an answer to this problem. As Taussig had anticipated that such a system would deprive the instinct of contrivance. The case of economic development in the communist China supports such a contention. On the other hand, free enterprise system encourages the full blown of such an instinct. The successful economic developments of Hong Kong, Singapore, South Korea and Taiwan are the demonstrations of such a contention. Of course, the environment of free enterprise also encourages social emulation and domination.

To promote healthy economic progress, Taussig pointed to the instinct of devotion or public spirit. The instincts of contrivance, emulation and domination are the narrower-self regarding motives; while the instinct of devotion may be viewed as a wider-self regarding motive. On this foundation, public interest and social welfare can be promoted. Various social welfare programs and legislations governing the conduct of private businesses in existence may be said as the result of such public concern.

The narrower-self regarding motives and the instinct of devotion or public concern are the twin pillars for developing economic well-beings for all. Pursuing the narrower-self regarding motives without devotion leads to self destruction; and pursuing public concern without promoting narrower-self interest leads to withering economic activities. The developments of socialist economic system and the evolutions of capitalist economic system are the clear illustrations of the need of maintaining a proper balance of these two elements.

Economic well-being is a necessary component of human happiness. It can be developed to the fullest extent, if the narrower-self regarding instincts like contrivance, emulation and domination are not deterred. However, without devotion, public spirit or social concern, economic prosperity may not continue.

An Empirical Investigation of Macroeconomic Models: Group-Ten Countries

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Different schools of thought in economics present similar views on steady-state equilibrium position of the economy. Disagreements among macroeconomic theorists arise in the dynamics of adjustment once there is a deviation from full employment, where economists differ on the speed of adjustment and the appropriate means of returning to the full employment equilibrium.

The objective of this study is to estimate a set of dynamic models in an attempt to compare the New Classical and the Monetarists' models of the unemployment rate by using data for Group Ten Countries from 1958 to 1981.

New Classical economists believe in the rational expectations hypothesis in which market participants can predict the future value of economic variables without making systematic errors. When applied to the prediction of the unemployment rate, the New Classicals believe that due to randomness of the public's forecasting errors, changes in the unemployment rate from its natural rate are purely random. This suggests that policy makers cannot systematically affect the unemployment rate even in the short-run. Consequently, the New Classical economists argue that the unemployment rate in year t, conditioned upon the available information at t-1, is fully described by an autoregressive model. They also claim that adding other variables to the autoregressive equation will not increase the predictive ability of the model.

The implication of the New Classical claim is quite revolutionary. If this proposition can be verified empirically, all the sophisticated econometric models which have been developed by economists to predict the future value of certain economic variables may become obsolete.

The view presented by New Classicals regarding the prediction of the unemployment rate by using the autoregressive model is challenged by other economists. Monetarists, for example, do not deny the importance of the past value of the unemployment rate in predicting the future value of this variable. They argue that unanticipated inflation is also an important factor in explaining the deviation of the unemployment rate from its natural rate. This implies that the current unemployment rate depends not only on last year's unemployment rate, but more importantly on the unanticipated inflation.

The Monetarists' view is based on the argument that economic agents may not know whether changes in policies are temporary or permanent. As a result, when the rate of monetary expansion is higher than the rate of inflation, then the actual rate of inflation exceeds its anticipated rate causing the forecasting error. In the long-run, the nature of policies will be known, causing the movement of real variables toward their equilibrium position. The major implication of the Monetarist hypothesis is that even a predictable but sudden change in monetary and/or fiscal policy could result in substantial loss of output or employment.

The overall findings of this study with regard to the New Classical autoregressive model seem to indicate that the past values of real variables such as the unemployment rate are generally very important in predicting the future value of the variables. This evidence is consistent with the New Classicals' claim that previous values of the unemployment rate are very important in predicting the future behavior of this variable.

The empirical testing of the Monetarist model as pertains to the unemployment rate indicates that the lagged value of the unemployment rate is highly significant for all countries. The estimated coefficient of real money balances which is used in this study as a proxy for the unanticipated inflation is highly significant in explaining the unemployment rate for the United States, United Kingdom, and West Germany. The growth of real money balances does not seem to be very important in explaining the unemployment rate for the remaining seven countries.

The empirical findings in this study appear to provide some support for the New Classicals' claim that the predictive ability of the autoregressive model cannot be improved if we add other variables into the model. The explanatory power of the New Classical autoregressive model is not generally increased when the growth of real balances is added as an independent variable for most of the countries in this study. The overall findings, however, suggest that the growth of real balances could play an important role in influencing the future value of the unemployment rate for some of the countries under study.

CERTAIN ASPECTS OF LOUISIANA BUSINESS CYCLES 1969-1983

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Regional economics tries to determine and explain why the economy of a nation and its subdivisions--state or a region, differ. The performance of the economy of a nation serves as a standard with which the performance of the economy of a state is compared. Although the theory of state or regional cycles is not in its definite form, several authors have observed that many economic activities on the level of a state show cyclical fluctuations different from cyclical fluctuations on the national level.

This paper compares two Louisiana time series: nonagricultural wage and salary employment and employment in goods producing industries with corresponding U.S. data. Louisiana data are seasonally adjusted using Variant X-11 of the Census Method II. Timing, duration and amplitudes of specific and reference cycles are calculated. The results show that Louisiana time series depart considerably from reference dates and also from U.S. specific cycles. Since the Louisiana economy is less diversified than the U.S. economy, the industrial composition of Louisiana's economy can explain in part the difference in cyclical fluctuations. If the difference is small, data on the level of the country represent adequately the state or the region. However, if the difference is significant, and especially if movements in the time series are in opposite directions, as is the case in Louisiana, an attempt should be made to find the cause or causes of these differences.

Since the economy of any state is changing over time, an examination of state cycles, especially their durations and the amplitudes serve as a measure of these changes. In the past not much was done to measure cyclical development on the level of a state. Unless they are measured over long periods of time, one cannot a priori say that such measurements have no merit.

Economic research on the level of a state is needed to assist legislators to come with appropriate economic policies and to evaluate their efficiency.

CHARACTERISTICS OF BANKS ACQUIRED BY BANK HOLDING COMPANIES

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This study attempts to identify the financial characteristics common to banks acquired by bank holding companies (BHCs). The underlying assumption is that some non-random decision process determines which banks are acquired. Some aspect (or aspects) of the potential acquisition makes that particular bank more attractive than others to the acquiring BHC. Identifying those traits common to acquired banks is a first step in estimating and evaluating the prices paid for these acquisitions. This study also attempts to determine the difference, if any, between acquisitions of one bank holding companies (OBHCs) and those of multi-bank holding companies (MBHCs). State laws on bank branching may restrict bank expansion into other geographic markets. The formation of a MBHC is a mean of circumventing that restriction. Do branching restrictions mean MBHCs may be attracted to banks with a profile that differs from the banks a OBHC acquires?

A sample of 85 banks acquired from 1970 through 1979 was assembled. Thirty-four were acquired by MBHCs and fifty-one by OBHCs. The period chosen reflects the stable legislative period prior to bank deregulation. Financial data on these banks one year prior to acquisition were collected, as were industry-wide average figures on net income, assets, capital and deposits. Banking industry data are also reported by the FDIC by bank size, and these size-controlled data were collected as well.

The average net income-to-assets ratio for the sample was not significantly different from the industry average or the average of banks of similar size. Acquired banks do have a higher (by 5.57%, t = 15.91) deposit-to-asset ratio than the industry average. However, this difference and significance disappears when you control for bank size.

The comparison of capital-to-asset ratios yielded surprising results. Holding companies often claim that their access to capital will benefit the acquired bank. However, in the sample selected, the capital-to-asset ratio for the acquired banks is 8.5%, while the industry average is 6.87%, with the difference being significant ($t = 7.42$). For banks of similar size, the ratio is 7.5% and the difference remains significant ($t = 4.36$). Thus, instead of aiding banks with low capital ratios, the bank holding companies are acquiring those with strong capital positions.

No difference were apparent between OBHC and MBHC acquisitions in this study. This is somewhat surprising, since MBHC acquisitions maintain their bank charter and are viewed as independent banks by bank examiners and regulators. OBHC acquisitions, on the other hand, are merged into the lead bank and become a branch office, to which and from which funds may be transferred with relative ease.

In summary, the notion that BHCs add stability to the banking industry by acquiring poor performers is not supported by this study. Acquisitions generally exhibit average figures of banks of similar size, except for capital. BHCs seem to be attracted to banks with higher than average capital-to-asset ratios. Do BHCs view acquisition as an inexpensive source of capital? If such is the case, bank industry stability is not enhanced. At the very least, BHC requests to the Federal Reserve for acquisition approval deserve more than cursory attention.

COMPONENTS OF FOOD PRODUCTION GROWTH IN DEVELOPING COUNTRIES: 1960-1980

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According to estimates of the United Nations, 434 million people in developing countries did not receive an adequate supply of food to sustain minimum nutritional levels in 1974. Although world agricultural production grew annually at an average rate of 2.4 percent between 1960 and 1980, food availability in the developing world did not register parallel improvements. Food imports were hampered by rising prices, tighter credit and shrinking foreign exchange. For such reasons, domestic production shortfalls intensifies nutritional deficiencies. Therefore, growth in domestic food production remains a cornerstone in national agricultural policies in developing countries.

Thirty developing countries representing Africa, Asia and Latin America were selected with the analysis focusing on the production of major starchy staples. A gross calorie product index was used to evaluate productivity growth among the countries for crops such as rice, maize, potatoes, wheat and cassava. Two equal periods were constructed for comparison between 1960 and 1980. The gross calorie index was decomposed to reflect productivity growth attributable to area, yield, crop mix, and yield-crop interaction.

The largest productivity growth in period I (1960 to 1970) was in Latin America followed by Asia and Africa. In the second period (1970 to 1980), the rate of growth in Asia increased to 39.3 percent and Latin America declined to 31.1 percent. The most significant observation however is the low growth rate of 18.5 percent in period II for Africa. In terms of annual compound growth rates in food production, the growth rates in period I of 2.5 and 2.1 for Asia and Africa have not contributed to per capita growth since annual population increases in the 1960's ranged from 2.3-2.5 percent in these regions. In the second period, a 3.4 percent growth rate for Asia compares favorably with a population growth of 1.9-2.5 percent whereas a 1.7 percent growth in Africa led to declines in per capita food availability in that region. During the total period then, per capita food availabilities recorded highest increases in Latin America, moderate improvement in Asia and declines in Africa relative to population increases.

After decomposing total productivity, results indicate that gains in Asia for both periods can principally be attributed to increases in yield. Latin Americas gains were mainly attributable to area expansion in period I switching to yield improvements in period II. Africa, on the other hand, has experienced virtually no gains in food productivity due to improved yields. Area expansion has been Africa's primary method for expanding food production.

The decomposition of the productivity gains into area, yield, crop mix and interaction components in general points out that the yield component has emerged as the dominant factor in food production growth in Asia and Latin America and its effect was less marked in Africa. Most countries with higher growth rates had above average yield responses at least in one period. All countries with higher growth rates had a larger proportion of their cropland under wheat, rice or maize. The introduction of high yielding varieties (HYV) of seed and the adoption of modern technology may have played a vital role in this growth process. For example, in Asia all countries with higher growth rates (India, Pakistan, Sri Lanka, Indonesia, Malaysia and Philippines) had more than 40 percent of their rice acreage under modern varieties. Similarly in Latin America, wheat producing countries are associated with higher growth rates.

The development and adoption of modern varieties started mainly with rice in Asia in the mid 1960's, wheat in Latin America and Asia in the late sixties and then new varieties of maize. Patterns of food production growth in the three continents seems to be closely correlated to the adoption of these modern technologies in agriculture. Therefore, from a national agricultural policy viewpoint a rapid rate of food production seems to be closely tied to the adoption of modern high yielding crop technologies. The dissemination of HYV of rice, wheat, and maize has already contributed to rapid growth in food production, and similar improved seed varieties have been recently developed for sorghum, cassava and beans. Thus efforts in research and extension should be a high priority area, especially for African countries, to improve food production.

RELIABILITY OF MATHEMATICAL PROGRAMMING SYSTEM SOFTWARE

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The Sperry Univac Functional Mathematical Programming Package (FMPS) has been found to yield dubious results for some problems (more particularly when dealing with large problems and/or problems which approach singularity). Specifically, given repeated submissions of problems, the FMPS algorithm failed to yield consistent "solutions". The solutions for these submissions were always different as were the values of the objective functions. This problem is reported and possible remedies presented.

Key Words: mathematical programming, linear programming

ECONOMICS DIMENSIONS OF THE BRAIN DRAIN: THE CASE OF IOWA

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Iowa's economy has not completely recovered from the recession of 1982. This phenomenon has muted the prospects for business expansion and employment opportunities. Although the state's unemployment rate, until recently, has been below that of the national average, it has not necessarily implied a better than average economic performance. The lower rate is attributed, in part, to the migration of workers to other states in search of job opportunities.

Although the migration of workers, discouraged or otherwise, may temporarily alleviate the burgeoning unemployment problem, it entails undesirable long term consequences. This is particularly true if migrants come from the ranks of highly skilled workers and educated individuals. The exodus of such skilled and educated workers from a state or region is commonly referred to as the "brain drain." The export of human capital, unlike other forms of exports, has deleterious effects on the economic condition of the state because of the link between education and economic well-being. It deprives the state (region or country) of a return on its investment in the education and training of the emigrants. This assertion is predicated on the assumption that spillover benefits from investment in education are lost to the state as migration occurs.

The consensus that emerges from the migration literature is that people essentially migrate to maximize their own welfare. That is, potential migrants decide to migrate if the discounted net present value of income differential between the place of residence and immigration is positive. Previous research also indicates that distance serves as a deterrant to migration. Further, it has been argued, in the migration literature, that the probability of migration varies inversely with age. Additionally, studies suggest a direct relationship between education and migration. Finally, a host of other factors such as family ties, taxes, and the quality of life, play an important role in migration decisions.

A review of migration literature provides the theoretical basis for an empirical analysis of migration determinants for a group of Iowa college graduates. The data used in this study were obtained from a survey mailed in November 1985 to December graduates of one of Iowa's three state universities. A total of 1914 questionnaires were mailed and 626 were returned. The survey question of particular concern to us was the following: "Do you intend to move from Iowa as soon as you graduate?" Our results showed that 47.9% of the graduates planned to move out of state following graduation.

We used discriminant analysis to select a set of variables which best discriminates between the two groups of graduates: those planning to move and those planning to stay. Our sample provided 620 cases which could be classified in one group or the other. The results of a stepwise discriminant analysis using the "Rao" method included the following variables: age, gender, marital status, dependents, location of high school, major, perception of job opportunities in Iowa, and current employment status. Being younger, male, single, without dependents and graduating from high school outside the state, made a graduate more likely to plan to move. Being in the category of business and law majors added to the likelihood of moving as did having a negative perception of job opportunities within the state. Those currently employed full time were more likely to move following graduation. The sign on the employment variable is somewhat puzzling in light of migration theory, since it suggests that being employed full time adds to the probability of migrating. An investigation of the characteristics of those employed on a full-time basis showed that, for these people, current full-time employment did not serve as a hindrance to their mobility, but, rather, reflected demographic and education characteristics which were compatible with full-time employment while in school.

The discriminant function estimated using the stepwise procedure classified 61.7% of the cases correctly, an improvement over the 50.1% of the cases that could be correctly classified by chance. Two other statistics, the canonical correlation coefficient and Wilk's Lamda, indicated that the discriminant function met the statistical tests of significance.

THE DIRECT AND INDIRECT COSTS OF THE FEDERAL HELIUM CONSERVATION PROGRAM

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The Helium Act Amendments of 1960 established a federal helium conservation program. The Secretary of the Interior was empowered to enter into long-term contracts to acquire, process, transport or conserve helium. Four helex companies undertook the helium extraction ventures in the early 1960's. Five multimillion-dollar plants were built to extract helium from helium-rich natural gas and the crude helium was delivered and stored at Cliffside reservior until the conservation program was terminated in 1973.

The creation of a crude helium market induced lessee-producers to file suits against the helex companies, in which they claimed they had not been paid for the helium extracted by the helex companies. In these value-of-helium lawsuits the United States government was invloved as a third party. Under the helilum-purchase contracts the government was responsible to reimburse the helex companies for any amount the companies might be required to pay the lessee-producers in excess of $3.00 per Mcf of contained helium.

In addition, a number of breach-of-contract lawsuits have resulted from the attempt by the Bureau of Mines to terminate helium conservation program. After more than two decades of controversy, much of the helium litigation has been concluded.

The purpose of this paper is to assess the direct and indirect costs of the federal helium conservation program, including settlement of the claims of the helex companies against the government. The total financial costs of the conservation program were about $890 million.

A FRAMEWORK FOR EVALUATING AGRICULTURAL COMMODITY CHECKOFF PROGRAMS

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Regional agricultural research is commonly financed through the collective efforts of farmers using an output tax referred to as a commodity checkoff program. Eligible farmers periodically vote on this output tax rate.

Agricultural research funded by these programs has commonly taken the form of technological developments available to all producers. Within such a setting, this paper treats agricultural research as a collective factor of production for a group of farmers. The checkoff mechanism is evaluated for conformity with the definition of public-sector efficiency and incentives underlying the the structure are examined.

The model is that of a firm facing an output excise tax with a publicly provided input generated by the tax revenues. An efficiency condition for provision of the collective factor is derived in a partial equilibrium framework. It is assumed that the coordinating authority receiving checkoff revenues acts so as to maximize the joint profits of N farmers. Although the condition for a Lindahl-Wicksell tax solution is theoretically tractable, the solution is non-operational given incentives to hide true benefits due to free-riding.

An analysis of the voting outcome in the checkoff tax decision indicates it is a Nash equilibrium. This condition is notable in that no equivalence has yet been shown between Nash and Lindahl equilibria which are individually feasible. Several mechanisms generating Lindahl solutions are evaluated. None approach the actual practices of checkoff procedures and, more seriously, all assume the number of firms to be fixed. The assumption of fixed firm number does not allow evaluation of the Samuelson condition and thus reduces the usefulness of all such analysis.

THE AMERICAN NOBEL ECONOMICS PRIZE LECTURES: HERBERT A. SIMON TO GERARD DEBREU

William J. Zahka

Widener University

Of the twenty-one Nobel Economics laureates selected as of 1984, twelve have been Americans. Upon receipt of the Nobel prize, the laureate presents a lecture which enables him to reflect upon his contributions to the profession and to discuss his present research activities. These Nobel lectures provide the reader with a more personal perspective and a broader viewpoint on their area of expertise than would be found in an economic journal article written by the same author. The latter, by its very nature, is more restrictive and narrower in focus.

These lectures provide us with insights into aspects of economics that could never be gleaned from the myriad textbooks and can serve as powerful instruments to update our own economic thinking. Also, they indicate various areas in economics in which we may desire to do further reading and research.

This paper focuses its attention on the last six of the twelve Nobel Economics prize lectures--which are of more recent interest--i.e.

NOBEL LAUREATE	YEAR OF AWARD	TITLE OF NOBEL PRIZE LECTURE
Herbert A. Simon	1978	"Rational Decision-Making in Business Organizations"
Theodore W. Schultz	1979	"The Economics of Being Poor"
Lawrence R. Klein	1980	"Some Economic Scenarios for the 1980's"
James Tobin	1981	"Money and Finance in the Macroeconomic Process"
George J. Stigler	1982	"The Process and Progress of Economics"
Gerard Debreu	1983	"Economic Theory in the Mathematical Mode"

Thus, the purpose of this paper is twofold: first, to share with colleagues an overview of the contents of these Nobel Economics Prize Lectures; and second, to highlight ways the lectures may be used in the teaching of relevant economics courses.

Farm Structure and Its Impact on the Local Economy

-A COMMENT-

Marian V. Heacock

University of Alabama at Birmingham

While examining the relationship between farm structure and socioeconomic conditions in rural counties, Professors Ralph O. Gunderson and Enrique Ospina successfully integrate the Goldschmidt hypothesis. Focused on the Arkansas farm economy, the study includes 49 counties with at least 5% of personal income derived from farming, with a subset of 27 counties which provide at least 10% of farm related personal income. The test results indicate that such farms do have a positive impact upon rural counties, as well as large farms. The latter finding refutes the earlier Goldschmidt studies in rural California. The authors conclude that current public agricultural policy which is directed toward large farm support should be re-evaluated to include the impact of small farms upon the rural community.

The study was well researched and effectively presented. It is acknowledged that this model is not proper for all types of farm economies, but can be adjusted for other regions. As a suggestion for further study, the authors might wish to consider an extended use of the available personal income tax returns. This study measured farm size in terms of gross sales. The question arises as to whether the test results would differ to any significant degree if net income from farm sales could be included. Such a suggestion would obviously lead to adjustment in other variables, but might impact the total data relative to poverty levels.

Redistribution of Service Employment,
Income and Population in the Large Counties
of the United States

-A COMMENT-

Marian V. Heacock

University of Alabama at Birmingham

Continuing with the findings related to their respective doctoral dissertations, Professors Wali I. Mondal and Charles Z. Ali undertook a study to analyze the behavior of the service sector relative to the redistribution of income and population. The data base was derived from the census data in the 75 largest counties of the U.S., representing 28 states and the District of Columbia. Using a system of simultaneous equations to measure changes in service employment, per capita real income, and population over intervals of time, the study found that population movements were comparable to national trends. Employment in the service sector indicated a uniformity of growth across regions, accompanied by increases in real per capita income which corresponded positively with population trends. Test results indicate that growth in service employment is positively affected by income growth and the initial level of population.

Having developed this base of information, a suggestion for further study would be to examine changes in the composition of the labor force. During the period 1950-80, the service sector has experienced a large growth in professionals and semi-professionals, compared to previous periods. Patterns of movement which would indicate the rates of growth in these two groups, along with changes in income distribution, would provide valuable data for the purpose of examining potential population concentration and corresponding increases in real wealth within selected geographical regions.

Reestimations of Two Models of Income Concentration in the United States

-A COMMENT-

Marian V. Heacock

University of Alabama at Birmingham

For the purpose of analyzing family income distribution in the United States, Professor Ronald M. Ayres tested cross-sectional data from the 1980 _Census of Population_, as compared and contrasted to the models developed by Farbman (1973) and Sale (1974). To measure the concentration in the distribution of income, the Gini coefficient was employed. After examining criticisms directed toward the use of the Gini coefficient, the underlying hypotheses associated with the Farbman and Sale models were listed. Applying regression analysis, Professor Ayres found instability in the Farbman model, and structural shifts in the economy which rendered the Sale model less reliable at this time. Given the data and test results, Ayres concludes that ethnic structure (the percent of the population which is non-white) is consistent in generating income inequality. Further, with income inequality increasing by the same amount in the 1970's, the Gini ratios indicate a possible increase, rather than a decrease or leveling, in income concentrations.

As perceived by this reviewer, two major limitations apply to this paper: namely; (1) the bibliography is severely limited, and (2) there is no new proposed use of the models employed for applicability in current analysis. A re-examination of the variables selected and the application of this data in the use of the Gini coefficients may result in more stability of the models. At present, this study does not parallel the findings of more in-depth and current research which address this subject.

The Impact of Labor Force Participation by Women on Earnings Distribution across States: 1960, 1970, and 1980

-A COMMENT-

Marian V. Heacock

University of Alabama at Birmingham

Professor's B. B. Reagan and D. J. Slottje's paper on the impact of LFP by women on earnings distributions, measured estimated income inequality across states and by race. Employing the beta distribution of the second kind, the exact aggregation of the marginal distribution of total national income from the joint distribution of income for all 50 states was acquired. Income inequality was examined through the application of Gini coefficients, coupled with the Spearman test to determine how the LFP rate in each state correlates with income inequality. Summary statistics indicate that states with high LFP rates by women had lower levels of inequality in their respective distributions of income, with the magnitudes of the coefficients appearing to be relatively unaffected by the racial classification of the time periods studied. The reduction in unequal income distribution is attributed to policies which encourage female LFP, leading to a growth in average incomes.

This paper is well researched, contemporary in nature, and examines the issue of female LFP on both present and future earnings and distributions. Given the limitation of a lack of time series data, the analytical and systematic approach developed offers this study for consideration as a contribution to the literature.

As a suggestion for further study, the authors might wish to consider the increase in union membership by women in the work force. In the period 1954-1978, union membership increased at a decreasing rate, while female membership increased at an increasing rate. This factor could explain a partial cause of the closing of income distribution gaps between races and income groups.

ALTERNATIVE VERSIONS OF THE SYNTHESIS AGGREGATE SUPPLY AND DEMAND MODEL

J. Kirker Stephens

- A Comment -

A. L. Persky

Southern University at New Orleans

The paper compares three textbook models relating aggregate supply to a price index via a labor market. In the first model, money wage is fixed. In the second, supply of labor depends on the expected real wage, and expected price is fixed. In the third, supply of labor depends on expected real wage, and expected price, p, depends on actual price, p^e, with $0 < \frac{dp^e}{dp} < 1$. The models generate progressively steeper aggregate supply curves, hence the models become progressively "less Keynesian" although there is some question about this terminology.

The analysis is typical of an intermediate macroeconomics course. There are no mechanical errors, but there is little depth. The labor market analysis is conceptually weak. The same price index is used to determine real wage for both supply of labor and demand for labor. This ignores the idea that the relevant price index for a worker is the price index of the goods he buys, and the only price that matters to an employer for hiring decisions is the price of the particular good he sells. If some industry has disproportionate effects on the supply of labor and the price index of consumer goods, then supply of labor does not depend on the same price index as demand for labor. In the paper, both curves should shift - but do not - if the consumer price index changes. The paper has some interest as a guide to current terminology.

SUBJECTIVELY EVALUATED OUTPUT IN PRINCIPAL-AGENT THEORY

Robert W. Stone

- A Comment -

A. L. Persky

Southern University at New Orleans

The paper analyzes the case of an agent who supplies labor to produce an output subsequently divided with a principal according to a contract. The principal can cheat the agent by undervaluing output and giving him less than his true share. The only constraint on the principal's cheating is the difficulty of retaining agents. The agent at first assumes the principal is honest and supplies labor in anticipation of the true share, but as information accumulates, the agent learns to expect less than the true share and adjusts his effort accordingly.

The topic is interesting, but the analysis is not handled well. In the model for the agent's behavior, expected share of output depends on the agent's actual past shares and on the amount of his other information-the percentage of the principal's actions in similar situations known to the agent. The content of the information does not affect the agent's behavior. He does not take account, for example, of the average percentage of the true share that the principal has given other agents. The model should be changed so that both the content and the amount of information affect the agent's behavior.

HOW TO USE ELEMENTARY SUPPLY AND DEMAND ANALYSIS: A PROCEDURAL FRAMEWORK

Colin Harbury

The City University, London, England

Comments by Joseph E. Rossman, Jr.

Texas A&I University

In this paper the author seeks to help students better apply supply and demand analysis by first providing a procedural framework and then showing the student how to use it to solve simple economic cases or problems. Consisting of five procedural steps, the framework first has the student determine if the framework is appropriate for the problem at hand. Assuming the framework is appropriate, the student then considers the impact of the stated problem on equilibrium, the direction of change, the effects of change and finally the efficiency implications of particular policy measures appropriate to the problem at hand.

While recognizing that the framework was carefully designed and clearly reflects the author's attempts to be simple, I am concerned about how the elementary student is going to be able to effectively use the framework. To be of use, the student must not only memorize the framework but also must be able to handle a list of elementary tools.

Some of these elementary tools or concepts such as externalities and significance of equality between marginal cost and marginal utility in a market are concepts I really didn't appreciate or master until my graduate courses. Even the most basic ideas, such as the difference between a change in demand and a change in quantity demanded are rarely mastered by more than a few in a class.

In conclusion, I believe the author has provided an excellent tool for analysis of supply and demand situations. However the framework is more appropriate for presentation in an intermediate or advanced text than in an introductory principles text.

THE IMPACT OF PERCEIVED FAMILIARITY, PERCEIVED IMPORTANCE, AND SUPPOSITION ON ECONOMIC REASONING IN TIME-ALLOCATION DECISIONS

James Duke Laney

North Texas State University, Denton, Texas

Comments by Joseph E. Rossman, Jr.

Texas A&I University

In the author's words "this study sought to determine whether students thought processes (i.e. perceptions of the familiarity and importance of decision-making situations; motivations in response to hypothetical vs. non-hypothetical decision making situations) influence the transfer of cost-benefit analysis to student's personal time allocation decisions".

A 110 plus pages, this study was obviously the author's doctoral dissertation. As such it was polished and honed. No visible loose ends were apparent as the author touched the "traditional bases" found in all dissertations.

Using a 2X2 factorial design (perceived familiarity versis perceived importance) the study found that high school students resolved dilemmas of high familiarity with a higher level of economic reasoning than that used on dilemmas of low familiarity regardless of perceived importance. These results were consistent with existing literature and provided no basis for criticism.

However, the relatively small amount of variance in economic reasoning scores explained by the significant main effect variable (perceived familiarity) suggests additional avenues should be explored. It seems reasonable to determine whether or not racial or ethnic differences were present in the sample which might have served to provide a measure of "noise". In addition no consideration was given to the "intelligence" of the individual students. One might expect a correlation between a student's IQ and the level of economic reasoning used by that student.

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