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Editor's Note: A Dual Memorial  
Alfred Eichner and John R. Hodges

W. Robert Brazelton, Editor  
University of Missouri-Kansas City

For myself personally and for the economics profession generally the deaths of Alfred S. Eichner, Rutgers University, of natural causes in 1988 and the death of John R. Hodges, University of Missouri-Kansas City, in an automobile accident on New Year's Eve of 1987 were a dual loss. The first of these men I had known and respected professionally. The second, I had known as a colleague for almost twenty-five years.

I had known Professor Eichner from my contacts with him in relation to my work with the Post Keynesian analysis. I had admired Eichner's work, including his desire to give Post Keynesian economic analysis a quantitative basis without the "calculable determinancy" of the "Keynesian-Neo Classical" synthesis which the Post Keynesians largely reject. I remember a dinner meeting in St. Louis, Missouri, where, upon partaking of his meal at Tony's, he admitted that the meal was good, but not as good as New York. Eichner was a real New Yorker at heart. As such, he was not used to seeing neat Neo-Classical equilibrium states -- states to which the Post Keynesians often object to as unattainable or unrealistic.

I knew John R. Hodges for longer than I knew Eichner. Hodges was chairman of the Department of Economics at the University of Missouri-Kansas City for over three decades and professor emeritus at the time of his death. As a leading Ayresian Institutionalist, he once told me in a state of optimism that Lord Keynes had made business cycle theory obsolete. Later, in a more pessimistic era, he admitted that even though we had the knowledge and the tools to make business cycles obsolete, we had not yet absorbed that knowledge nor allowed ourselves to decrease our ceremonial adherence to outmoded modes of thinking and reacting -- a major premise of the culturalogical approach taken by Institutional Economic Analysis.

The two schools of thought of these two men concentrated upon different factors. The post Keynesians stress uncertainty; changing expectations;



financial frailties of the monetary system; reject general equilibrium analysis; and generally emphasize the absence of truly competitive markets. The Institutionalists have concentrated upon economics as a part of culture, not something completely separate from the society. They stress the conflict between outdated modes of thinking and the technology that promises, when used correctly, to advance human well-being. However, like the Post Keynesians, they see the system as flawed by man-made imperfections and, thus, also reject the general equilibrium analysis and the reality of the Neo-Classicals assumption of competitive market structure. Thus, there would have been room for a meeting of minds between Alfred Eichner and John R. Hodges.

At the 1988 meeting of the Southwestern Economics Association, there was a memorial session for both men. Wallace Peterson of the University of Nebraska, Tracy Mott of the University of Colorado, David Hamilton of the University of New Mexico, and Elba K. Brown-Collier of the University of Texas-El Paso participated in honoring Professor Eichner. A memorial statement honoring Eichner was composed by James Street of Rutgers University and read by Lewis Hill of Texas Technological University. James Sturgeon of the University of Missouri-Kansas City, John R. Munkirs of Sangemon State University, J.D. Martin of Longwood College (VA), and Thomas Hale of University of Maryland-Undergraduate College (all former students of Hodges) participated in honoring John Hodges. Wendall Gordon, Professor Emeritus of the University of Texas, was the rapporteur for the Hodges session. I was honored to have organized and chaired both sessions.

Two men whom I have known and admired have left us, but what they meant to us and what they had to say to us remains. They are not forgotten.



APPLICATION OF SIMS' CAUSALITY TEST TO VELOCITY,  
CAPITAL GOOD PRICES AND CONSUMER GOOD PRICES

Larry Allen  
Jimmy Moss  
Larry Spradley

Authors are respectively an Associate Professor,  
Assistant Professor, and Full Professor of Lamar  
University

This paper examines the relationship between velocity, capital good prices and consumer good prices in a time series context. The analysis suggests that increases (decreases) in consumer good prices lead to increases (decreases) in capital good prices. In addition, there is some evidence that increases (decreases) in capital good prices may actually have a negative (positive) effect on consumer good prices. The orthodox Keynesian model suggests that a increase in the price of capital goods should lead to an increase in the price of consumer goods, but an increase in the price of consumer goods could have either a positive or a negative effect on the price of capital goods. These conclusions rest largely upon the assumptions that consumer spending is relatively insensitive to interest rate changes, and that capital goods spending is responsive to interest rate changes. The effect of interest rates on consumer good prices and capital good prices has also been examined. Interestingly enough, capital good prices did appear to be more strongly affected than consumer good prices to changes in interest rates.

This study also found that increases in capital good prices were much more likely than an increase in consumer good prices to lead to an increase in velocity. If a rise in velocity is an indication of an excess demand for money (relative to the supply, at current prices, interest rates, and income) then it may well be true that changes in capital good prices cause inverse changes in consumer good prices.

In the neoclassical model monetary disturbances should affect the price of capital goods before the price of consumer goods. This analysis, on the contrary, suggests that consumer good prices change before capital good prices.



OIL PRICE VOLATILITY AND ECONOMIC GROWTH OF  
SOUTHWESTERN UNITED STATES IN 1980s.

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Louisiana  
Lafayette, LA

ABSTRACT

This paper examines the impact of oil prices on the economies of the traditional oil dependent states (Texas and Louisiana) over the last decade and beyond. The boom in these states in the 1970s was a response of the complex network of demand and supply, OPEC politics and long-term growth in the world economy. However, this boom received minimum attention in terms of economic diversification because the general feeling was that the statusquo would continue.

The immediate downturn of oil prices in 1982 and thereafter dislocated these economies due to locally strong oil-economic linkages (Amoateng 1987). The continuous drop in oil prices has had a negative "snowballing effect" on petroleum industries, energy-related industries, state and local government finances. Oil price trends from 1986 through mid 1988 are considered as modest oil price volatility factors because U.S. demand for oil is slowly but significantly catching up with the over-produced global crude oil. This period is again considered as one of stability since the upturn in oil prices is not so significant to bring marginal petroleum producers back to the petroleum industry.

OPEC prices are an important factor to both Louisiana and Texas oil prices but not significant enough to influence petroleum tax revenues and other macro-economic consequences over time. Oil price volatility from 1988 onwards is expected to be modest and upward since all other global oil markets are at stake. Upward oil price volatility is encouraged by all parties in global oil markets, but without oil-politics and/or a drastic reduction in world oil production, oil prices may not rise beyond the \$30 per barrel mark before 1990. With respect to the United States oil markets, a quick upturn of oil prices would depend on the outcome of 1988 presidential election and/or the supply responses of OPEC and non-OPEC exporters.

The negative "snowballing effects" of oil price volatility on the economies of petroleum-dependent



states were felt in the manufacturing, construction, employment, state and local government finances and the services industry. Continuous decline of petroleum production in the face of moderate petroleum prices must raise some concern for state policy-makers and practitioners. Thus, there is the need to look for alternative economic base for Texas and Louisiana. However, the most serious short-term concern for policy-makers will be measures to find solutions to cash-flow problems.



Expectations, Intentions and Actions  
Concerning Financial Preparations for Retirement

by Carl A. Bartling, Ph.D.

Arkansas College

The major purpose of this study was to investigate a wide range of factors that may influence (or be related to) financial preparation for retirement. Of particular interest was an expectation-intention-action model of the preretirement planning process.

These relationships were studied with a cross-sectional survey, using participants of widely varying ages (18 to 69). Cluster sampling was used to reduce potential biases in terms of participant self-selection on the basis of age, interest in retirement, or other important factors. Participants came from three organizations within each of three categories (college students, college faculty, and other workers). The other workers included employees from a chemical plant and a gas company along with the staff from one of the colleges. The geographic regions involved were north central Arkansas, northern Missouri, and southeast Iowa.

A summary of the major variables studied includes:

- Expectations: (1) confidence in the long-term stability of of the social security system,  
(2) each individual's estimate of his or her life expectancy,  
(3) perception of the importance of financial considerations on retirement decisions,  
(4) per cent of regular income needed to consider early retirement.
- Intentions: (1) planned age of retirement,  
(2) number of major sources of income one intends to have during retirement period.
- Actions: (1) involvement with financial preparations for retirement,  
(2) time spent thinking about retirement.

Subject Variables: (1) age, (2) education, (3) sex.

The following is a brief summary of some of the findings from this study: (1) a strong linear relationship between age and rating of financial preparation for retirement ( $r = .67$ ,  $p < .001$ ,  $n = 307$ ), (2) relatively low ratings of confidence in receiving full social security benefits during retirement (mean rating = 1.72; 0 = none, 1 = little, 2 = some, 3 = moderate amount, 4 = significant amount of confidence), but an increase in confidence as the age of the participants increases, (3) a moderate amount of support for an expectation-intention-action model of the retirement preparation/decision process (e.g., correlations between "intentions" and "actions" were all statistically significant at  $p = .01$  or less, but the  $r$  values ranged only from .16 to .19).

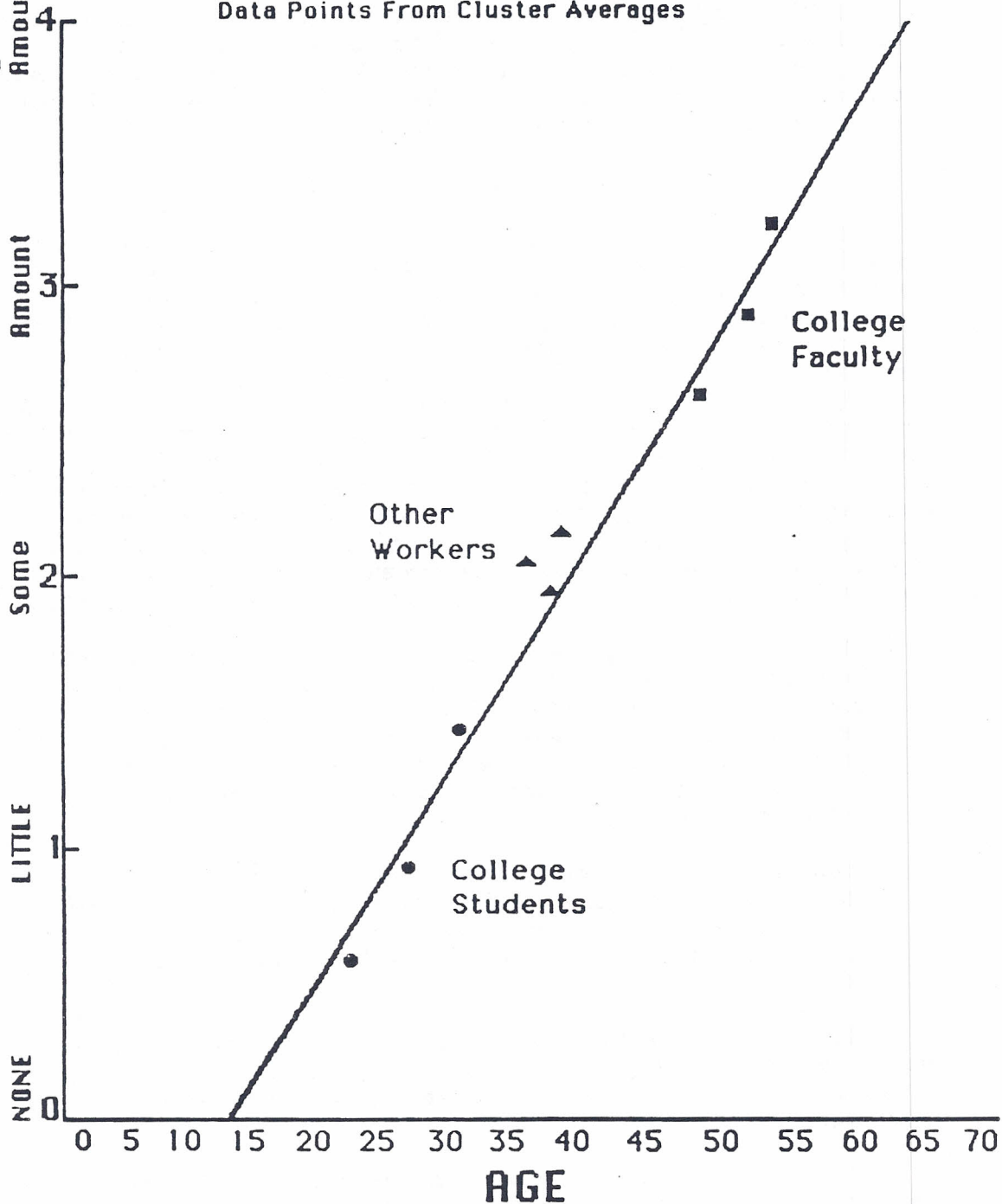
The most interesting finding in this study was the strong linear relationship between age and rating of financial preparation for retirement across a wide range of ages (see Figure 1).



# FINANCIAL PREPARATION FOR RETIREMENT

NONE  
1  
LITTLE  
2  
Some  
3  
Moderate Amount  
4  
Significant Amount

Figure 1  
Financial Preparation For Retirement As A Function of Age:  
Data Points From Cluster Averages





## THE OILFIELD SERVICES INDUSTRY: An Earnings Quality Study

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Texas Christian University

In this paper I have undertaken the task of examining the "earnings quality" of a group of five major worldwide factors in the oil service industry. These are Baker Hughes Incorporated, Dresser Industries Incorporated, Halliburton Company, McDermott International, and Schlumberger Limited.

### THE IMPACT OF OIL PRICES

It has long been argued by economists and qualitative financial analysts as well as by some of the more broadly focused accountants and quantitative financial analysts that a major factor bearing on "earnings quality" is the manner by which earnings are obtained. Looking at this in a narrow sense and ignoring the cost side of the equation (obviously, a significant determiner of earnings in its own right) one can argue that earnings changes may be traced to changes in two variables (quantity demanded of a product and product price). It may further be argued that changes in the former, when they impact positively on earnings tend to result in a better quality of earnings gain than would be the case if such a gain resulted from higher product prices. This is because higher product prices inevitably result long run in one of two unfortunate situations:

Situation I: The price increase does not prevail ("stick") in which case the company raising its price ends up in the same position from which it began prior to raising prices. In some cases the company could even end up in a worse position assuming angry consumers successfully petition the public authorities for increased regulation and other political remedies.

Situation II: The price increase does prevail ("sticks") in which case the company raising its price tends to lose market share to competing products (both direct and indirect substitutes might be involved here) as well as associated economies of scale.

Thus, neither of these alternatives is positive in a long run sense whereas volume gains (increases in the quantity demanded of a product) imply real product market growth with its associated scale economies.

With this in mind, I felt that it would be interesting to test the hypothesis (assuming oil and oilfield services to be



complementary products) that moves in the wellhead price of United States oil would impact on the stock prices of the sample grouping of oilfield service companies. If meaningful correlation was found to exist the next issue to be addressed was whether such correlation was positive or negative. Obviously, positive correlation would imply a direct relationship between the variables (wellhead price of United States oil and oilfield service company stock prices) whereas a negative correlation would imply an inverse relationship.

Meaningful positive correlation could be argued to imply that rising wellhead prices of United States oil are viewed by rational investors (efficient markets assumed) as positive events. This would tend to carry the implication that oilfield service companies being measured either have inelastic demand coupled with related ability to retain market shares in a rising price environment or that they operate in a growing market featuring rising quantity demanded which by itself tends to protect "earnings quality" by underwriting the scale economies dimension. Conversely, meaningful negative correlation could be argued to imply that rising wellhead prices of United States Oil are viewed by rational investors (efficient markets assumed) as negative events. This would tend to carry the implication that oilfield service companies being measured either have elastic demand implying an inability to maintain market share in a rising price environment or that they operate in a mature market featuring stagnant or even receding quantity demanded which by itself tends to undermine "earnings quality" through the scale economies dimension.

I chose for testing the period 1972-1986. This span served well since it was a period of great turbulence and instability in world oil markets.

The technique for linear regression was used to test for correlation. Thus, for each oilfield services company an equation of the following form was used:

$$Y = \alpha + \beta X + \epsilon$$

The calculations themselves were largely carried out using the Minitab statistical package. Two experiments produced results that were not autocorrelated. These were the McDermott International and Schlumberger Limited experiments (McDermott had a DW statistic of 1.58 while Schlumberger had a DW statistic of 1.46.). Both of these cases involved positive correlation and acceptable t statistics. The McDermott International  $R^2$  statistic (36.2) was considerably lower than that of Schlumberger Limited (82.0). When adjusted these  $R^2$  statistics fell to 30.4 for McDermott International and 80.3 for Schlumberger Limited.

## ELASTICITY AND DETERMINANTS OF THE U.S.-BORN AND FOREIGN-BORN FEMALE EARNINGS

by Hamdi Bilici and Bhushan Kapoor  
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Analysis of wage and salary earnings differences between the U.S.- born and foreign-born male workers has been the subject of considerable study over the past decade. However, the labor market activities and earnings for female migrants have received relatively less attention. This research, utilizes 0.1 per cent sample data of the 1980 U.S. Census of Population and Housing to study the determinants and differentials in wage and salary earnings for the U.S.-born and foreign-born female workers. The elasticities of earnings of the time devoted to work are also analysed and compared for the two groups of workers.

Based on Investment in human capital model, wage functions are often specified using logarithm of earnings as the dependent variable and the logarithm of work hours as one of the explanatory variables. Since both the dependent and the independent variables are in logarithmic form, the coefficient of the log hours represent the elasticity of the earnings with respect to work hours. Blinder and others point out that if this coefficient is not close to one its meaning is unclear. Hence the regression can not be interpreted as the wage equation. In their empirical studies of female workers, Long and others found the coefficient of log hours to be less than one. These studies did not control for family income in their equations. Family income is very likely to be negatively correlated, *ceteris paribus*, with the workers' supply of labor hours. Inclusion of this variable is likely to correct the problems associated with the low coefficient. In this paper we will study the partial impact of family income on the elasticity of earnings of female workers.

In the first part of the article, we have extended the human capital model to include the variable elasticity of earnings with respect to the time devoted to work. Earnings functions are estimated separately with and without taking into account the variable elasticity of earnings. The elasticity of earnings from the model with constant elasticity assumption, lies between 0.78 and 0.85. In the extended model, the variable elasticity of earnings with respect to hours worked, lies between 1.03 and 1.15 for all females who work between 25 and 45 hours per week. However, the elasticity estimates are lower for those who work less than 25 hours or more than 45 hours per week.

Later in the study, we decompose the earnings differentials between the U.S.-born and foreign-born female workers into two



components: (1), because the two groups of workers possess different earnings-related characteristics, and (2), because the earnings- equations for the U.S.-born workers and foreign-born workers are structurally different. The geometric averages of yearly earnings for the U.S.-born and foreign-born female workers are respectively \$5634.70 and \$5411.05, a difference of about 4 per cent in favor of native-born female workers. From the decomposition results, we find that the gap due to the structural differences is in favor of foreign- born workers. The other portion of the gap attributed to the different earnings-related characteristics of the two groups is favorable towards the U.S.-born female workers.

The important factors contributing to the endowment portion of the earnings differential are: (1) education, time devoted to work, type of employer and industry which are in favor of the U.S.-born female workers; (2) labor market experience which is in favor of foreign-born female workers. Overall, the sum of the effects of these factors is in favor of the U.S.-born female workers. The U.S.-born female workers, on the average, possess 12.6 years of schooling as compared to 11.3 years for foreign-born females. The U.S.-born females work 1537 hours during the year. This figure is 1517 hours for foreign-born female workers. A higher per centage of the U.S.-born female workers (22.5 per cent) are employed in the public sector which are better paymasters (12.4 per cent for foreign-born female workers). Proportionately, more of the U.S.-born female workers are employed in the higher paying industries. The only earnings-related characteristic which favors foreign-born female workers is experience (21 years as compared to 18.8 years for the U.S.-born female workers).

The important factors that contribute to the structural portion of the earnings differential are: (1) education, time devoted to work, race, geographical location and type of employer in favor of the U.S.-born female workers; (2) labor market experience, occupation and the intercept term in favor of foreign-born female workers. The intercept differential favoring foreign-born female workers represents extra motivation and some other abilities possessed by them and are not captured by the extended human capital equations. This advantage for foreign-born workers may likely be due to selectivity bias in migration. On the whole, the sum of the structural effects of all these factors give an advantage to foreign-born female workers and tend to reduce the gap in the earnings of the two groups of workers.

Inclusion of family income in the human capital equation, however logical it may seem, did not change the results of the study and did not effect the conclusions relating to the elasticity of earnings for both the U.S.-bornn and the foreign-born female workers.



THE ECONOMIC VALUE OF  
VALUE LINE'S STOCK RECOMMENDATIONS

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Louisiana  
Theodor Kohers  
Mississippi State University

Recent empirical research in finance presents convincing evidence of abnormal returns inconsistent with an equilibrium in a market where the Capital Asset Pricing Model (CAPM) holds. Where this phenomenon has been observed the term anomaly has been used. This research is an investigation of one of the most important and, so far, poorly explained anomalies, namely the Value Line Investment Survey's alleged "above average earnings" for its investment recommendations.

Most of the studies dealing with Value Line's stock recommendations not only contained methodological and data problems but also often concluded with conflicting results. No study uses more recent data than 1980.

In view of the unresolved question about the usefulness of the Value Line ratings to generate above average, risk-adjusted rates of return, this research presents new evidence on the subject and proposes a possible explanation for Value Line's alleged success in predicting stock returns.

The primary data were obtained from the Value Line Investment Survey for the period January 4, 1980 through September 9, 1985, and from the daily stock return files produced by the Center for Research in Security Price (CRSP) at the University of Chicago. Two financial models were used to test the information content of Value Line's stock rankings for the holding period of one year. The two models were the CAPM and Cornell's model. Paired t-tests and ANOVA were the statistical techniques employed.

The CAPM revealed that for the period of one year after a stock rank change (the time which Value Line states as its rankings' performance period), rank "2" and "4" securities performed as Value Line had predicted. The annualized rates of return above what were expected were 2.7 percent, and -8.1 percent respectively. Surprisingly, rank "1" and "5" securities did not outperform their risk adjusted expected levels.

Cornell's model was not appropriate for testing the informational content of Value Line's rankings. However, the model exposed the method Value Line apparently uses



to rank the securities. Cornell's model is based upon the validity of stock price trends. This model suggests that Value Line's stock selecting procedure heavily weighs past stock returns (stock price trends.)

The Estimation of Cost and Production Functions  
by Thomas M. Carroll  
University of Nevada, Las Vegas

One of the important objectives of a managerial economics course is the realistic blending of economic theory and estimation techniques. The challenge is to demonstrate the relevance and validity of theory through the use of empirical examples. Ironically, realistic examples are often overlooked because the instructor mistakenly believes that the constraint under which he or she operates should also limit the types of examples he or she uses. For instance, since academic economists rarely have access to internal firm data, they tend to use only published data sources when discussing empirical estimation of production and cost functions. Unfortunately, the kinds of data that are available are usually "filtered" by the operation of markets. For instance, if one attempts to estimate a production function for an industry by using cross-sectional data, one finds a high correlation between the inputs used by firms. This, of course, merely reflects the fact that operating in a market wherein input prices are roughly constant across firms, all firms will tend to use the most efficient capital-labor ratios. Similarly, if we attempt to estimate a cost function by matching variations in cost to variations in the rate of output, we tend to find little departure from linearity. This can be explained by the fact that firms to expand beyond the range of falling average variable cost, while operating below the level of increasing average cost. While giving students a glimpse of real world problems is laudable -- particularly when this lesson reveals the way markets behave -- being constrained by the availability of published data unnecessarily reduces the uses of statistical analysis INSIDE the firm.

It is the purpose of this paper to simulate two experiments involving the estimation of a simple production function and a simple cost function. Students are shown the benefits of parsimonious techniques -- that simpler models are preferred to more complex ones, ceteris paribus. However, they are also shown how to recognize negative feedback indicating that a simple model is inadequate and how to search for a more complex functional form which fits the data more closely.

In the first section we simulate the estimation of a simple Cobb-Douglas production function, estimated from data in which replications of independent variables were purposely included in the experiment. We discuss why the error term is not likely to have a zero mean -- inefficient rates of output are more likely than efficient ones. We show that better estimates of production functions can be obtained by selecting the "best," that is, the maximum, rate of output for each capital-labor combination. In the second section we estimate the parameters of a polynomial cost function. In this case we show how sorting the data by output allows the Durbin-Watson statistic to signal misspecified equations. This diagnosis is further supported by the use of a formal lack of fit test for the alternative specifications of the cost function.



THE IMPACT OF EXCHANGE RATES ON EXPORT  
DEMAND FOR CORN, WHEAT, SOYBEANS, AND RICE

NATHAN W. CHILDS

Economics Research Service, USDA

To estimate the significance and magnitude of various factors affecting the export demand for U.S. agricultural commodities, quarterly export demand models for corn, wheat, soybeans, and rice were developed. Quarterly exports of each commodity in million metric tons were estimated as a function of own price, exchange rates, foreign supplies, customer incomes, and the price of a substitute commodity. The crop years 1977 to 1986 were examined and the estimating technique chosen was ordinary least squares.

The explanatory variables used in each export demand equation are defined as follows: For each commodity, crop year quarterly farm prices were derived from monthly farm price data and deflated by the U.S. CPI. The effect of inflation differentials on the bilateral exchange rate between the U.S. and major trading partners and competitors was netted out. Real bilateral exchange rates were converted into indexes (1980=1.00). Each customer exchange rate index was weighted by its share of U.S. exports of the modeled commodity. Weighted customer indexes were summed to yield customer trade-weighted real exchange rate indexes. Each competitor exchange rate index was weighted by its share of non-U.S. commodity trade and summed to yield a competitor trade-weighted real exchange rate index. Customer and competitor indexes were weighted by the U.S. and non-US share of world trade of the modeled commodity, respectively, and added together to yield a combined exchange rate index. For rice, only customer exchange rates were considered.

Estimated quarterly customer percapita incomes were converted into dollars, deflated by the U.S. CPI, trade-weighted, and summed. Using world harvest data and reported annual stocks, quartely world production and inventory levels were estimated. The quarterly real domestic farm price of a substitute was used in each export demand equation. For rice, the quarterly Thai export price of milled rice was used. Exchange rates were lagged six periods and prices one period.

The empirical results indicate that the exchange rate is a significant explanatory variable in the feed crops equations but insignificant in the food grain equations. Own price is significant in each export demand equation except corn. All equations exhibit an inelastic short-run response to movements in prices and exchange rates. Long-run elasticities were not estimated. Foreign income is significant only in the wheat equation where it exhibits a unitary elastic short-run response. A measure of foreign supplies is a significant explanatory variable in all equations. The quarterly Thai export price of milled rice is a significant explanatory variable in the rice equation.

The adjusted R-squares range from 57 percent in the soybean equation to 48 percent in the rice equation. The Durbin-Watson test statistic indicates a possible presence of serial correlation in all equations. These empirical results are likely caused by the inclusion of concessional sales in commodity export data and the exclusion of any variable representing trade distorting policies on commodity trade-flows.

Some specific policy implications stem from the empirical results. If one assumes that the longer-run elasticities are in the same elastic or inelastic category of these three-month estimates, then the favorable impact on the farm sector of the declining dollar since early 1985 is not going to be very strong and will not restore exports to the levels achieved in 1980/81. The inelastic response of exports to movements in own price indicates that the primary objective of the Food and Security Act of 1985 (to make the American farmer more competitive in world markets by eliminating price floors created by government programs) will not increase revenue to the farm sector in the short run. The unitary-elastic response of wheat exports to income movements indicates that a rescheduling of loan repayments for Latin American countries and revived economic growth in the LDC's would benefit U.S. wheat producers. The significance of foreign supplies in all four export demand equations in explaining some of the variation in U.S. agricultural exports indicates that a revival of U.S. farm exports to levels seen in 1980/81 is unlikely.



TESTING THE LINEARITY OF THE COST  
FUNCTION EMPLOYED IN THE  
UNIFORM RAIL COSTING SYSTEM

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In an effort to fulfill the requirements of the Staggers Rail Act of 1980 and its predecessor, the 4R Act of 1976 the Inter State Commerce Commission (ICC) has developed a new uniform system of accounts. The ICC proposed that its newly developed Uniform Rail Costing System (URCS) be used as the exclusive methodology for determining variable costs in surcharge and jurisdictional threshold calculations.

The ICC methodology specifies linear cost equations and it uses regression analysis to estimate the proportion of expenditures that are variable or constant, category-by-category, so that variability ratios can be calculated for specific types of rail services. Estimates of variable costs by category are crucial to application of several provisions of the Staggers Rail Act of 1980, especially in determining jurisdictional threshold rail rates. The Act specifies that rail rates are not subject to ICC regulation unless they exceed certain proportions of variable costs.

The determination of a proper functional form of the cost function is fundamental to statistical cost estimations. In reality, the nature of the relationship between cost and output is an empirical question. However, the ICC methodology as noted above, assumes, a priori, that this relationship is linear and proceeds without testing the reasonableness of the linearity assumption. In addition, the URCS' expenditure equations do not explicitly consider the prices of factor inputs as variables influencing rail operations.

The purpose of this paper is to test the linearity assumption using the same data set employed in the ICC study. This is done first by: (1) performing a Box-Cox transformation on the linear expenditure equations (2) applying maximum likelihood estimation to obtain the parameter estimates, and (3) performing tests for linearity.

The test results indicated that the linearity hypothesis could not be accepted at the 5 percent significance level for the majority of the cost categories. The estimates of variable costs were also found to be sensitive to the functional form of the cost function. Thus, the ICC's estimates of expenditure functions and variability ratios are based on rather restrictive functional form not consistent with the data. Hence, the resulting variability ratios are not reliable measure of variable costs.

It is in the best interest of the railroads, shippers, and shippers' customers to have an accurate and reliable costing system. This would require construction of rail cost models that are fully specified as determined by the rail production systems and market conditions.



THE FEMALE SURVIVOR BRINGING A WRONGFUL DEATH SUIT:  
WHAT PERSONAL MAINTENANCE THEORY IS APPLIED  
TO THE DECEDENT'S INCOME?

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The female as wife/mother in the age range 25-64 is three to four times more likely than the husband/father to be the surviving household member in a fatal, tortious accident. The critical question in wrongful death litigation is the monetary award given to compensate survivors for income lost due to the death of a principal income earner for the household.

It is now well established in most state courts that the personal maintenance expenditures of the decedent must be subtracted from his earned income after the award sum is determined since survivors would never have had access to that portion of the decedent's earned income anyway. The least satisfactorily resolved economic issue in wrongful death litigation is the size of that personal maintenance deduction. There is an appreciable difference in the legal and economic interpretations of the deduction. The plaintiff is entitled to either the net value of what the decedent would have contributed to the household had he lived (legal view), or maintenance of the standard of living that existed prior to the decedent's demise (economic view). The net economic damage award to the female survivor as wife/mother varies substantially depending on the rule adopted.

This paper examines the theoretical basis for the personal maintenance deduction under both the legal and economic rules. It reviews selected court decisions involving a male, head-of-household decedent to determine the grounds for adopting either rule. It notes the decedent's percentage maintenance deductions from income permitted under either rule. It then examines the economic literature on the same topic.

Those two rules reduce essentially to these positions: the legal view historically is that a share of all household expenditures must be attributed to the personal consumption of the decedent; most economists hold that only the marginal-variable expenditures should be deducted from the decedent's income. The economic interpretation generally is more agreeable to the female as survivor. But that position has been challenged successfully in several courts. Observations are made on the implications and problems of these two approaches, especially on the use of the fixed cost concept as applied to household budgets.

## WHAT REALLY WAS GOMPERS' POLITICAL POSITION?

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The controversy within the organized labor movement over its political stance and role continues. The AFL-CIO's 1984 primary election strategy of nominating its own Democratic Presidential candidate did not bring a general election victory. The contrasting low profile of the federation in the 1988 campaign seems to accord better with its historically orthodox position of non-political methods to obtain its agenda. In that view the economic means were at least as important as the economic objectives sought. Disdain for political action ranging from indifference to hostility was stated regularly as the correct political position of the AFL, i.e., of Samuel Gompers, its President and principal philosopher during its formative years.

But that identification of political methods (and goals) of the AFL is not always clear from reviewing the history of that period. The federation's public position vacillated from a political laissez faire neutrality to "rewarding labor's friends and punishing labor's enemies" to actually fielding political candidates. Hence the two main questions addressed in this paper: What was the underlying political philosophy of the AFL in its formative years? Why did its actual political position often differ from that philosophy? In suggesting answers, identification is provided for what Gompers and other leaders meant by political involvement, "partisanship", and political party action. These definitions are reviewed against the "non-partisan" political experience of the AFL in three time periods: 1881-1894, 1895-1905, and 1906-1914.

Extended analysis of six possible explanations for the difference in federation political philosophy and its public position is provided: the voting public would not accept a more overtly political labor federation, so practice had to diverge from stated philosophy; the uses of federation political action were philosophically justified as exceptions to the rule; federation spokesmen in some instances tailored their pronouncements to fit the audience while preserving political orthodoxy; various federation spokesmen favored different degrees of political involvement; the federation needed to emphasize economic means to its objectives in order to retain membership loyalty, even as it engaged in political action; the use of economic methods ("voluntarism") was the official doctrine of only a segment of the labor force (craft workers). The last two explanations of the difference in political philosophy and practice of Gompers (and the AFL) arguably are the most plausible of those studied.



"An Analysis of First Order Reasons Given By Dairy Termination Program Participants Across Milk Production Areas of Louisiana"

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The Dairy Termination Program (DTP), a federal voluntary milk supply reduction program, permitted dairymen to "bid" themselves out of production for a minimum period of five years. Of the 177 Louisiana dairymen submitting bids, 90 were accepted since their bids were less than \$ 22.50 per hundredweight. This paper analyzes the reasons given in personal interviews by 51 of those 90 Louisiana DTP participants. The rate of DTP participation within a geographical area reflects relative economic conditions for dairying within that area. Three milk production areas (MPAs) within Louisiana (the SE, SW and N) were delineated for purposes of analyzing the relative rates of DTP participation and the reasons for producer participation within those MPAs.

Relative rates of DTP participation varied widely across the MPAs of Louisiana. Rates ranged from 8.5 % of producers in the SE MPA to 21.7 % of producers in the SW MPA. The DTP participation rate in the N MPA (15.6%) was about the same as its relative population of dairymen (13.6%). The DTP accelerated the downward trend in numbers of Louisiana dairy farms and intensified the concentration of Louisiana dairy farms in the SE MPA. Alone, it resulted in the exit of over 10 % of Louisiana's active dairy farms between April, 1986 and September, 1987. Many of the reasons cited by DTP participants were common across the MPAs. However, variations in the rates of participation and the reasons given by DTP participants support the proposition that Louisiana has a heterogenous dairy industry.

Traditional reasons associated with dairy the farm exodus were identified and grouped under voluntary reasons such as retirement; management problems leading to economic deterioration of the dairy farm and eventual exit; and factors largely beyond the control of the individual producer, such as deterioration of the operator's health. Analyses were based upon a reclassification of the specific reasons cited by the DTP dairymen into the traditional set of reasons associated with dairy farm exit.

The relative rates of DTP participation and the reasons cited for participation indicate that the SE MPA has a greater attractiveness for the dairy industry. While financial motivation for DTP participation appears to have its origin in failures of management, it was the most common reason cited by DTP participants in all three milk production areas. On a relative basis, financial motivation was weakest in the SE and of about equal strength

in the N and SW MPAs. Voluntary motivation for DTP participation was strongest in the SE MPA and almost insignificant in the SW MPA. An indication of no intention to return to dairying but to pursue other alternatives in the SW contrasts with an indication of a return to dairying and the absence of a desire to pursue other agricultural enterprises in the SE in the post-DTP period. Management associated motivators were important in the milk production areas with the relatively higher rates of DTP participation (the N and SW MPAs) while voluntary motivators were most often associated with the MPA with the lowest relative rate of DTP participation, the SE.



SCALE EFFECTS IN A BUREAUCRACY MODEL  
OF GOVERNMENT EXPENDITURES

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Greater consumption benefits will be rendered from a given municipal output when it is shared with a larger population, provided the service exhibits to some extent the characteristics of a Samuelsonian public good. The greater the degree of publicness, the more pronounced the consumption economies from city growth. Scale economies on the consumption side may be reinforced or counteracted on the production side depending on whether per unit cost tends to fall or rise with output.

The empirical analysis of economies of size for municipal services falls into two categories. The first attempts to measure the degree of publicness of municipal services, the second attempts to estimate scale economies in their production. One problem with the empirical literature on municipal economies of size is that it neglects the interrelationship between production and consumption economies. The publicness studies have relied on the restrictive assumption of constant cost in order to obtain clearcut empirical results. The research on production economies has ignored the publicness question altogether. Another issue that plagues both streams of research is the assumption that local fiscal decisions are made in a perfectly competitive environment. The publicness studies explicitly assume that municipal governments produce where marginal cost equals marginal benefit, and obtain revenues equal to the minimum necessary cost of producing the chosen output level. Similarly, the studies of production economies implicitly assume efficient production.

Elsewhere we have shown that the theory of bureaucracy provides a method for integrating production and consumption economies to determine net economies to city size (Gonzalez and Mehay, 1985). In this paper, we refine this method by allowing for differences in the market power of municipal governments. Net economies to city size are then estimated for a sample consisting of all medium size cities (population 25,000 to 350,000) in eight of the ten largest U.S. states. The findings indicate that there are no significant economies of size for the cities in our sample.

Decreasing cost (scale economies in production) and the publicness of municipal services are often cited as reasons for increasing the size of existing local government jurisdictions, and reducing their number, especially through consolidations schemes. However, prior research lends no support to these particular arguments for consolidation. It has been argued

that prior studies on municipal economies of size may have mispecified their estimating equations by neglecting bureaucratic supply factors. Therefore, it is noteworthy that the empirical results of this paper which are derived from a bureaucracy model of municipal governments, reaffirm the results from models based on a competitive view of local governments, namely that municipal services exhibit no significant degree of publicness and that there are no substantial economies of scale in their production. It appears that relatively small cities can render services efficiently.

Finally, this paper does not attempt to answer the question of which paradigm -the competitive model or the bureaucratic supply model- best characterizes local fiscal outcomes. Which of these views is appropriate can only be settled by careful empirical testing of alternative hypotheses.

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SPILLOVER EFFECTS AND THE  
DEMAND FOR LAW ENFORCEMENT SERVICES

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The prior public choice literature on police expenditures has been based primarily on the median voter model. Using cross-sectional data, median voter studies have identified price and income elasticities, and publicness parameters for police output. More recently, the theory of bureaucracy has been employed to estimate the degree of publicness of police services. A weakness shared by both the bureaucracy and median voter studies is that they have ignored the possible presence of spillovers of police services across jurisdictional boundaries. An increase in police protection by a community could induce a shift in the production of illegal activities toward neighboring communities. Several studies have found evidence of adverse police output spillovers among intra-metropolitan communities. These studies, however, have not been primarily concerned with explaining local public expenditure decisions, and have employed their empirical relationships without employing a collective choice model.

The omission of police spillover effects in the above models may cause a mis-specification of the basic police expenditure function. For example, the finding by prior studies that police services do not exhibit any publicness characteristic is somewhat surprising given the similarity between some aspects of police services and national defense, for which there is strong evidence of publicness.

This paper presents one approach to the task of correcting this omission. The inter-community police spillover effect is incorporated into an expenditure decision model based on the theory of bureaucracy. This approach permits us to separate the spillover effect from the direct population size impact on expenditures, which depends on the publicness of police output. The median voter model can also be modified to incorporate the police spillover effect. However, the bureaucracy paradigm appears to be more adequate for our purposes. Blecha (JPE, 95,p.622-631) has shown that the

publicness effect can not be empirically isolated from the distributive effect using a median voter model. Hence, median voter estimates of publicness are suspect.

The data set consists of California cities. The focus variables are the population of the city, police expenditures of the other cities in the county, and average income of the city. Our study finds that police output does exhibit a degree of publicness. We also find a significant positive spillover effect. In terms of an elasticity, a 1% increase in the police expenditures of the other cities in the county leads to a 0.0667% increase in per capita police expenditures of the own city. At the sample mean the increase is approximately \$3000. The per capita income variable suggests that a one percent increase in per capita income results in a one percent increase in per capita police expenditures.



THE IMPORTANCE OF THE PRIME RATE:  
HOW HAS IT CHANGED?

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The term "prime rate" has been the subject of much debate over the last ten to twenty years and the vast changes experienced in the financial environment have been the primary cause. Does the term mean the same today as in years past? What importance, if any, does the prime rate serve in today's financial environment? This paper will attempt to answer these and other questions that relate to the prime rate.

Historically, the prime rate has been the interest rate that commercial banks charge their most creditworthy customers on loans that have relatively short maturity. Prime was developed in the early 1930s to act, not only as a floor or minimum rate charged, but as a method of preventing price wars and thus, permitting banks to at least make a small profit.

Changes experienced in banking have brought about much confusion as to the implications of prime. Due to periods of high interest rates and the growth of the commercial paper market, loans made below the prime rate have become commonplace.

As the banking environment experienced wide-spread deregulation, commercial banks could no longer depend on non-interest bearing demand deposits as a major source of funds. Certificates of deposit, interest bearing deposit accounts, repurchase agreements, and commercial paper have become the primary sources of funds. This has greatly affected the prime rate as is evidenced by the increased frequency which the prime rate has changed since 1950.

Two alternative sources of funds have emerged to seriously compete with commercial banks--commercial paper and foreign banks. Commercial paper has grown from \$1 billion in 1950, \$4 billion in 1960, \$33 billion in 1970 to over \$200 billion outstanding in mid 1984.

Domestic borrowers have also welcomed the entrance of foreign banks into the United States to the tune of 14% of U.S. commercial and industrial loans in 1980. A recent study found that 58% of the 1,905 largest companies in the U.S. now use foreign banks for domestic banking services.

A Federal Reserve survey shows that banks have been making short-term business loans below the prime rate for a number of years. There are several reasons for the high percentage of loans made below the prime rate for the years 1979-1981. First, banks were competing with the commercial paper market which was experiencing low interest rates. Second, when rates fell, banks delayed lowering their prime rate for fear of losing revenue on floating rate loans already on the books. Consequently, new "prime" loans were made at rates below the prime rate. Third, the popularity of loans based on the London Interbank Offering Rate (LIBOR) increased, putting pressure on domestic banks to match this rate which, at the time, was lower than the prime rate. There are also many kinds of loans that are expected to be below the prime rate at one time or another. These loans include student loans, government guaranteed loans, tax-exempt loans, workout loans or renegotiated loans, loans secured by certificates of deposit, loans committed before but made after a prime rate increase, and loans subject to interest rate ceilings.

A review of the prime rate would not be complete without acknowledging the existence of differing prime rates on a national, regional, and local level. The national prime is the base rate or benchmark set by the large money center banks. Although banks tend to follow the leaders when a change is initiated, regional and local differences do exist. The relationship of the rate, fees, compensating balances, and premiums for default risk and the term of the transactions vary widely from the nationally quoted prime rate.

Even though the prime rate may not be the barometer of the banking environment and a leading economic indicator that it once was, its usefulness as the benchmark for commercial lending rates still exists today.



## THE ECONOMIC EFFECTS OF OVERDOSE MORTALITY IN TEXAS

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Drug overdose mortality and its economic consequences are explored for ten different drug categories in this paper. Data on drug overdose mortality in Texas for the years 1980-1986 are examined and a cost of mortality analysis is presented using the human capital methodology. In addition, mortality rates per 100,000 population are presented for each drug category. The results indicate that the cost of drug overdose mortality has more than doubled over the six year period from \$69 million to \$145 million. In addition, the same dramatic increase is evident in the mortality rate. Of the drug categories examined, the greatest growth in mortality cost has been for narcotics (from \$8.7 million to \$40 million), with cocaine involved overdose ranking second (from \$2.6 million to \$26.9 million). The results indicate that mortality from commonly prescribed psychoactive drugs has remained fairly constant over the six year period. Overdose mortality cost was greatest for antidepressant drugs, ranging from a low of \$10 million to a high of \$17 million. The results suggest that men are at far greater risk of drug overdose than women with respect to illicit drugs. Women, however, appear to be at greater risk for overdose from commonly prescribed drugs. Overall, the results indicate that the illicit drug mortality problem has increased dramatically over the six year period and suggest that further effort is merited to reduce the problem. The findings also point out the substantial cost of mortality from commonly prescribed drugs. While not as dramatic as illicit drugs, continued examination of the risks and benefits of these drugs appears warranted.

Stability of the United States Import  
Demand Function: 1970-1985  
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The paper sets out to determine the structural stability of the United States import demand function with respect to three of its trading partners: France, West Germany, and the United Kingdom. The cusum and cusum-squares tests designed by Brown, Durbin, and Evans (Brown, Durbin, and Evans. "Techniques for Testing the Constancy of Regression Relationships Over Time." In Mathematical Centre Tracts: Selected Statistical Papers 1. Mathematisch Centrum Amsterdam, Amsterdam 1975) are employed to this end.

The study concludes that the import demand relationship has experienced a significant structural change in each of the cases studied. Further, the same culprit was named every time, that is, oil imports. Specifically, the U.S. income elasticity of demand for French goods and services rose (indicating imports from France became more of a luxury) during both oil crises. While the same was observed with U.S. imports from West Germany during both crises, it was true for British goods and services only during the first oil crisis; as British exports of oil rose the U.S. income elasticity of demand for those goods and services fell.

The paper concludes by suggesting that further research be done, especially disaggregating by both country and commodity, to either confirm or reject the findings of this study.



**EARNINGS OF NATIVE AND IMMIGRANT WORKERS  
IN THE PUBLIC SECTOR OF UNITED STATES**

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**ABSTRACT**

The workers belonging to different groups may not be paid the same wages on the average. The human capital, social, personal and structural factors taken together cause the variations in earnings of different groups of workers. The different workers possess different amounts of human capital (e.g. education, experience etc.). The workers may also vary in personal and social characteristics e.g. marital status, ethnic affiliation, race, sex, time spent on work etc. The structural factors (e.g. regional, occupational and industrial variables) may also cause the variations in earnings of different groups. All these factors taken together explain the differences in earnings of workers of different groups.

This paper analyzes the variations in the earnings of native (i.e. U.S. born) and immigrant (i.e. foreign born) workers working in the public sector of U.S. The data used for this analysis is 0.1 percent sample data of the 1980 U.S. Census of Population and Housing.

In the first part of the paper, we estimate the earnings equation which includes human capital related, social, personal and structural variables. The earnings equation is estimated separately for native and immigrant workers working in the public sector. The equation is also estimated for the pooled

data. Most of the variables included in the model are significant for native workers. However, the number of significant variables is much lower in the estimate of earnings equation for immigrant workers. For instance, the variables representing gender, southern residence, marital status, industries (e.g. public administration, transportation, communication, and other public utility services), occupations (e.g. farming, forestry, fishing, precision production, craft and repair) are significant in the estimate of earnings equation for natives but they are not significant for immigrants.

In the second part of this paper, we have decomposed the total difference in the average earnings of the native and immigrant workers into two portions - the portion which exists due to the difference in average endowments of two groups and the portion which exists because of the difference in pay structures of the two groups. The pay structure of the native workers is assumed to be the base pay structure in the decomposition. The geometric means of the earnings of native and immigrant workers are \$9,276.73 and \$8,288.30 respectively. Thus, the native workers earn \$988.43 more than the immigrant workers. Of this difference, \$575.86 (58.26%) exists because of the endowment differences and \$412.57 (41.47%) due to the pay structure differences among the native and immigrant workers. If both groups of workers are paid according to the pay structure of native workers, the immigrant workers will earn \$412.57 more than their current average earnings and the difference between the earnings of the two groups will be reduced to \$575.86 from \$988.43.

Our results contradict the findings of some earlier studies which concluded that the difference in the earnings of native and immigrant workers working in the public sector is very little and it favors the immigrant workers.



SOME THOUGHTS ON NEW AND OLD THEMES  
IN ECONOMIC DEVELOPMENT  
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Development economists generally agree that our knowledge about the causes of economic development contains a residual factor of ignorance. This realization has induced experimentation and change in theories and policies over the years. Some of these evolutionary changes or what might be called "swings of the pendulum" are discussed in this paper under the following headings: Theories of Economic Development, Economic Planning and Economic Development, Capital Formation and Economic Development, Agriculture, Industry and Economic Development and Global Interdependence and Economic Development. The discussion and analysis of these theoretical and policy issues of economic development warrant a number of conclusions including the following:

1. Economic development has economic and non-economic dimensions. They must be integrated if greater knowledge and relevance are to be attained. In this connection, the institutional framework must be given central attention.

2. Theories and policies have a time and place; hence, economists must be willing to depart from and/or amend orthodox approaches in the light of differences in institutions and value premises. In this regard, eclectically pragmatic rather than dogmatic approaches are needed.

3. International interdependence has increased greatly in recent years. A multi-polar model of interdependence is increasingly relevant and useful. This interdependence presents opportunities and dangers. To meet this challenge all countries and especially the developed and newly industrialized developing countries have the responsibility to implement macroeconomic policies which contribute to a stable global economy.

Can Economic Concepts Be Learned and Remembered?:  
A Comparison of Elementary School Students at  
Three Grade Levels

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The study sought to compare the learning and retention of selected economic concepts (i.e. scarcity and opportunity cost) at three grade levels (i.e. first, third, and sixth). Students at all three grade levels experienced deductive lessons on scarcity and opportunity cost. After each lesson, students completed an immediate posttest on their understanding of the concept and illustrated the concept with an original story and picture. Six weeks later, the students completed a delayed posttest (same test, different item order) and were questioned on their recall of the traditional concept label.

Data from the immediate posttests, delayed posttests, and a series of planned comparisons indicated that both economic concepts were learned and retained at a high level of mastery by third-graders and sixth-graders. First-graders initially learned both concepts at a high level of mastery, but retention of the concepts was more problematic for them as compared to the third- and sixth-graders, especially with respect to opportunity cost.

With respect to the generation of original stories and pictures on the two economic concepts, students at all three grade levels experienced more difficulty with opportunity cost than with scarcity; third-graders did better than first-graders, and sixth-graders did better than third-graders.

The traditional concept label for scarcity was remembered while the traditional concept label for opportunity cost was forgotten by a majority of students at the top two grade levels. A majority of first-graders forgot both concept labels, but the scarcity label was remembered somewhat better than the opportunity cost label.



An Examination of Size Distribution of Post-Tax  
Household Incomes (DPTHY) in Some Developed Countries

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Relatively comparable data on DPTHY for a sample of nonsocialist developed countries are used to examine the trend in the income inequality (YINEQ) of each country and also make cross-country comparisons of YINEQ. For these purposes, two simple measures of YINEQ, i.e., the Borda score of relative equality (BORDAS) and the relative income share of the poorest forty percent of households (SHP40) are constructed. BORDAS is sensitive to changes in the relative income share of all income groups and thus, in the absence of data on the Gini coefficient, serves as an indicator of overall YINEQ.

The ordinal and cardinal rankings of YINEQ in 15 countries based on the values of BORDAS and SHP40 respectively yield the following tentative results. First, irrespective of the measure employed DPTHY in Spain, the Netherlands, and Japan show improvements between the years observed. The opposite holds true of Australia and Norway. Second, no overall trend in DPTHY is discernable for the rest of the countries in the sample based on BORDAS. However, when SHP40 (a narrower measure) is used six other countries are found to have moved towards a more equal DPTHY albeit marginally in some cases.

Furthermore, comparisons of BORDAS across a sample of 13 countries over the period 1966-74 rank Germany, Italy, and France as the three countries with the most unequal DPTHY. These countries were replaced by USA, France, and Australia over the period 1975-81.

It is concluded that YINEQ may not necessarily decline at higher levels of per capita GNP as the "inverted-U" curve derived from cross-country studies suggests and caution must be exercised in interpreting the results of such studies along intertemporal lines. If true, the structural changes in employment and output which may lead to less YINEQ over the course of development should not be considered as substitutes for deliberate policies designed to reduce YINEQ. The adoption of such policies is a more urgent task particularly in the countries whose DPTHY were found to be relatively more unequal.



## Private Activity Tax-Exempt Bonds and the Inefficient Supply of Local Public Goods

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This paper addresses the issue of whether or not local governments behave in a manner consistent with a Pareto Optimal supply of local public goods when these goods are financed through the issue of tax-exempt bonds. Because tax-exemption is widely accepted as being an inefficient means of subsidization, the first conclusion reached is that local activities will be inconsistent with optimization at the national level. However, because tax-exempt financing is guaranteed by the Constitutional doctrine of "Reciprocal Immunity", there is no practical means to overcome this inefficiency. At best, policy at the local level can lead to a minimization of national efficiency loss by ensuring that tax-exempt bonds are used in a Pareto efficient manner at the local government level.

The first part of this study distinguishes between "public use" and "private activity" tax-exempt bonds - PUBs and PABs, respectively. The two types of bonds are distinguished by whether the bonds are secured by public agencies or private firms. PUBs are secured by public agencies and include general obligation and revenue bonds used to finance schools, roads and other "traditional" public goods. Because the issue of these bonds is tied to repayment, communities seek to maximize total (public and private) benefits subject to an effective constraint - either future tax revenues or receipts from a project financed with revenue bonds. A unique graphical model is developed and used to demonstrate that under these conditions, the use of PUBs is theoretically consistent with local optimization. The national efficiency loss associated with tax-exemption is therefore minimized.

PABs are tax-exempt revenue bonds issued to finance privately owned capital. Although issued by a local government or one of its agencies, PABs are secured only by the firm undertaking the investment project. The best known example of PABs are industrial development bonds, although PABs are used far more extensively to finance single and multifamily housing and projects for non-profit firms. The community encumbers no debt liability and issue and administrative costs are passed on to the private firm. Because there is no direct connection between issue and repayment, PABs are essentially free goods to the community and the constraints usually imposed by scarcity are not operative. The only operative constraints are those faced by the firm as it seeks to maximize its profit through the use of below market interest rates. The PUB graphical model is adapted and used to demonstrate that under these conditions, the use of PABs is theoretically inconsistent with optimization at the sub-national level. The national efficiency loss associated with tax-exemption is therefore not minimized.



Title: Multiproduct Production Choices and Technology in Texas  
Agriculture: A Disaggregated Approach

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Using a dual economic specification of the technology, the structure of agricultural production is tested for a comprehensive listing of Texas commodities (corn, cotton, rice, sorghum, soybeans, wheat, other crops and livestock). Tests are conducted to determine the extent to which consistent aggregation is possible when modeling Texas as a multicrop industry and the degree of output independence of producers when making production choices and input allocation decisions.

A disaggregated system of eight product supply and three input demand relationships is estimated using the normalized quadratic functional form. Nonjoint production is not rejected for four of the eight crops. Consistent aggregation is possible for three commodities and for the three variable inputs. An aggregated model consistent with these nonrejected structural hypotheses is estimated. This aggregated model is used to determine further evidence of complementarity and substitutability between inputs and between outputs. Consistency of the dual model with competitive, profit maximizing behavior as well as with other multicrop models of Texas agriculture is discussed.

## Affordability Projections of Model Private Long-Term Care Insurance Alternatives

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A major gap in health care financing is the dearth of financing mechanisms for protection of the elderly against the catastrophic costs of long-term care. Private alternatives are being developed and marketed with the most promising appearing to be private long-term care insurance, which currently covers only 1 to 2 percent of all nursing home costs. Over 40 percent of total nursing home expenditures are paid by Medicaid, but only after the elderly have impoverished themselves to meet stringent financial eligibility criteria. Most of the remainder is paid out-of-pocket by the elderly and their families, with only a small proportion covered by Medicare and other public programs.

The private long-term care insurance market is quite limited, with slightly over 400,000 policies reported in force. These are individual policies with restrictive purchase criteria and high marketing costs, making premiums high and limiting the market to upper income elderly with assets to protect.

This study presents projected income and assets of the elderly and an analysis of the elderly's affordability of four prototype long-term care insurance policies thirty years in the future. The objective is to answer the question: What will be the elderly's affordability of alternative private long-term care insurance options in the future, by different elderly demographic categories and income levels?

### Methodology and Data.

The Brookings/ICF Long-term Care Financing Model was used to generate simulation data for four private long-term care insurance alternatives. Rivlin and Wiener present a detailed description of the parameters and assumptions of this complex model. The Model has six major component sections: 1) a nationally representative population data base from the 1979 Current Population Survey which was merged with actual Social Security earnings and retirement histories; 2) a demographic simulation of labor force activity, changes in family structure, family assets and income for each individual; 3) a simulation of disability of the elderly population, including entry into and recovery from disability; 4) utilization of long-term care services, including nursing home and non-institutional services; 5) individual's sources and levels of payment for long-term care, based on provisions and eligibility for Medicaid and Medicare; and 6) calculation and tabulation of public and private expenditures for long-term care for each individual by source of payment for each year.

Four prototype private long-term care insurance policies are used to test the affordability of different insurance strategies. HIGHBEN and LOWBEN are freestanding, individually marketed long-term care models, representative of virtually all existing policies. The MEDIGAP policy is assumed to be purchased with the



same prevalence as acute care private insurance supplements to Medicare, based on data from the National Medical Care Expenditure Survey, so that its purchase is not determined by affordability criteria. The fourth policy, 30+INS, tests the affordability effects of purchase by working age individuals and the effects of an extensive period of prefunding.

#### **Income and Asset Projections of the Elderly**

Median family income of the elderly is projected to almost double over the next thirty years in constant 1987 dollars, increasing from \$9,134 in 1988 to \$17,210 in 2018. Family income growth for the elderly is highly unequal across age groups. Median household financial assets of the elderly almost double from \$13,799 in 1988 to \$26,518 in 2018. By 2018, housing assets much more than double for those age 85+ and only increase by 18 percent for those age 65-74. These projections present evidence that substantially larger numbers of the elderly will afford private long-term care insurance and increase interest to protect assets from spenddown.

#### **Demographic and Income Characteristics Projections of Insurees**

The 2018 microsimulation data suggest substantial differences in affordability under different options. The proportion of elderly projected to purchase private long-term care insurance in 2018 ranges from 23 percent for HIGHBEN to 65 percent for 30+INS, with 40 percent purchasing LOWBEN and 59 percent purchasing MEDIGAP. HIGHBEN, with the greatest nursing home coverage protection and lowest affordability indicates the trade-off between coverage and affordability. While LOWBEN has over 70 percent wider purchase than HIGHBEN, it still is projected to cover only 40 percent of the elderly in thirty years. In contrast, 30+INS covers the largest proportion of the elderly, as premiums are lower.

Affordability is found to be considerably less for the unmarried, for women, and for the eldest groups who have the highest risk of institutionalization, since they have lower incomes and assets. Thus, those groups at greatest risk of using nursing homes have about 20 percent less likelihood of private long-term care insurance purchase under each option. Only 18 to 32 percent of elderly 85+ are projected to be covered by private long-term care insurance in 2018, without MEDIGAP assumptions.

The income level distribution of elderly households insured under the four policy options in 2018 is also analyzed and is especially important for policy considerations. Freestanding options, such as HIGHBEN and LOWBEN, dependent upon retirement-age income, will not be generally affordable to lower income elderly, even by the year 2018. In contrast, a long-term care insurance option based on pre-retirement family income, such as 30+INS, will result in much more equitable distribution. While all four long-term care insurance models are found to be affordable by a wide majority of elderly in income groups over \$30,000, this is still considerably higher than projected median income levels for the elderly in 2018.

## MONEY DEMAND: HOW REAL IS IT?

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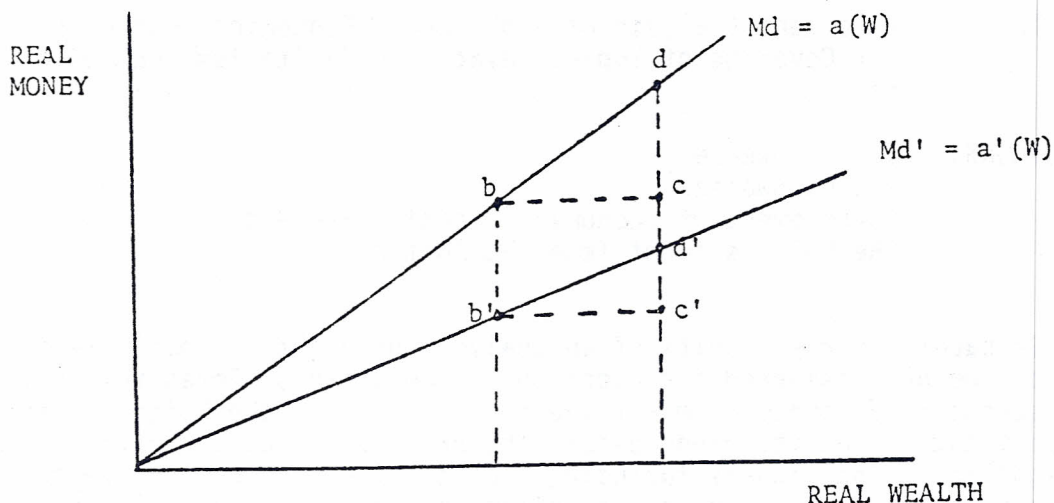
The implicit assumption in the standard approach to money demand is that the elasticity of money demand with respect to the price level is unitary. This assumption is consistent with the standard transactions demand for money. If prices of all goods and incomes rise by a uniform 10%, then money demand would rise by 10% to facilitate the same level of transactions, and the real money demand would be unchanged.

In a world where inflation did not alter any relative values, the preceding analysis would be correct. However, the introduction of nominally valued assets (fixed payment mortgages, auto loans, nominal bonds, etc.) implies a wealth effect for the individual asset holder or debtor from inflation. The justification for ignoring these wealth changes is that the net effect is zero. That is to say that a 10% increase in the price level reduces the wealth of a bond holder by the exact amount that the bond issuer has seen the value of his real debt reduced. If there is no change in net wealth, then there is no change in money demand. Such reasoning is not necessarily correct. In fact, it depends critically on a quite restrictive assumption. It requires the decline in the quantity of money demanded by the bond holder (due to the decrease in wealth) to be exactly equal to the increase in the quantity of money demanded by the bond issuer, who has realized an increase in wealth. Such a result implies a that the relationship between wealth and money demand be linear and uniformly held. There is no reason to expect this to be the case.

In order for a price increase to have no effect on money demand resulting from an inflation induced redistribution of wealth from the lender to the borrower, the borrower's money demand must increase by an amount exactly equal to the decrease in the lender's money demand. To obtain this result, it is not sufficient to assume that the money-wealth demand function have constant unitary elasticity. It is also necessary that the lender and the borrower have the same money-wealth demand function, as can be demonstrated.

In the graph below,  $M_d$  represents the lender's money-wealth demand function and  $M_d'$  the borrower's. Both demand curves have constant unitary elasticity, but they have different slopes.





Assume an inflation induced redistribution of wealth from lenders to borrowers. Since there is no net change in wealth,  $cb$  must equal  $b'c'$ . However, allowing the money-wealth demands to differ among individuals produces demand curves with different slopes. Since  $dc$  is greater than  $c'd'$ , real money demanded decreases. Thus, a regression estimating real money demand will over estimate the demand and give an impression of "missing money". This misimpression will result even if wealth is included as a dependent variable in the regression.

If the inflation induced redistribution of wealth is to leave real money demand unchanged, the lender and the borrower must be on the same linear demand function. There is no reason to expect this uniformity to be the case. Uniformity of money-wealth demand across individuals requires that we all have the same indifference maps. There is neither theoretical nor empirical support for this assumption. This result should not come as a surprise. Economists readily assume that a tax transfer from one income group to another will not leave net spending unchanged. Why should we assume that a transfer of wealth will leave money demand unaffected? Quite the contrary, we should expect net money demand to fluctuate even though net wealth has remained constant.

TITLE: A Content Analysis of High School Economics Textbooks  
For Coverage of Topics Related to Capitalism and Communism

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This paper reports results of an analysis of eight economics textbooks being considered for adoption by the state of Texas for their discussion of economic impact and implications of the United States Constitution and its predecessor, the Articles of Confederation, and significant individuals including Thomas Jefferson and Adam Smith, who have impacted the economic philosophy of capitalism. These results are compared with content coverage of topics related to the philosophy and development of communism, Marx, Lenin, Das Kapital, and the Communist Manifesto.

As part of a major school reform package, the Texas legislature mandated a one semester high school course in economics with an emphasis on the free enterprise system. The essential elements under this course indicate students should be able to competently identify the characteristics, benefits and goals of the American free enterprise system. It also asks students to compare various types of economic systems, including capitalism, socialism and communism.

This study determined the lack of content coverage included in texts related to the historical underpinnings of capitalism. Whether students will be able to compare or understand the characteristics, benefits or goals of the American free enterprise system is questionable, especially if students are to gain an understanding of the relationship between ideas such as economic freedom and current economic policies under either communism or capitalism.



## FRACTALS, CHAOS THEORY, & THE LIMITS OF ECONOMIC FORECASTING

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Economic forecasting is one of the mainstays of the profession because businessmen, government officials, and stockmarket analysts consider an informed view of the future essential for policy making. Since the recession of 1982-83, forecasting has fallen on hard times. Some have attributed this to rapidly changing parameters in national and international economies. Others have attributed the problem to the Heisenberg effect of physics which tells us there are limits to the accuracy with which data can be measured. Still others have striven to refine and more rapidly update the indicators used in traditional forecasting techniques, which grew out of methods employed in meteorology.

These traditional methods depend on the concept of Determinism introduced by Simon Laplace the 18th C. French mathematician who once boasted that given the position, direction, and velocity of every particle in existence he could predict the future for the rest of time. It thus became the business of Physics, chemistry, meteorology -- and economics, to gather as much detail as possible about the materia of the discipline to reduce forecasting error.

An inherent problem has been the difficulty in dealing mathematically with the "curves", the usually discontinuous and abruptly changing pattern of the data. Within the past ten years there has emerged a new mathematics known as fractal geometry which enables mathematicians to manipulate far more effectively such discontinuous series. For a time this held out considerable hope for better forecasting.

At almost the same time, however, there emerged another new mathematics known as Chaos Theory which seems to undermine the progress promised by Fractals. Chaos Theory, growing out of attempts to refine weather forecasting, tells us that simple deterministic systems with as few as three variables can within a few cycles generate random behavior which defeats all efforts at predictability. The traditional approach of economics to gather more data or process it more elaborately does not reduce this random unpredictability. In principle, therefore, while the future depends on the past, in practice, even the smallest of uncertainties (called "sensitive dependence") are so quickly amplified that they present fundamental limits to predicting even the short-term future. In popular terms, this has been called "the butterfly effect", i.e. that the movement of a butterfly's wings in China can be amplified within a few days, to result in a tornado in Kansas. How many foresaw the tiny variances in the operations of a basically sound national economy in the United States resulting in the worldwide crash of stockmarkets on October 19th?



Mathematics has traditionally known two "attractors": the "point attractor" (i.e. a pendulum at rest), and the "boundary attractor" (the decorative case of the grandfather clock limiting movement beyond a certain point even in an earthquake). In 1960 Edward Lorenz of MIT discovered a new and unexpected attractor which has come to be known as the Lorenz Attractor. Lorenz found that when the small variances inherent in nature start to be magnified by the multiplier effect of the system variables, they alternate between point and limit attractors in a not-quite random swing that soon takes the shape of two doughnuts crammed together. Orbits wing from doughnut to doughnut, with no two paths ever quite coinciding.

A biologist, Robert May, found that beyond a certain point the curves always bifurcated, with the data alternating between the extremes which become further and further apart. An American mathematician named Feigenbaum, tinkering with his new personal computer, discovered a hitherto unknown constant controlling the transition from one bifurcation to another. And shortly thereafter, a French mathematician named Michel Henon applying Feigenbaum's constant to the orbits of stellar galaxies on a time scale of 200 million years, unearthed another unexpected event: the orbits proved to be somewhat irregular, with total chaos eventually emerging and data points seeming to shift around the screen in an apparently random fashion. It could never be predicted where the next data point would show up. But when multiplied enormously beyond any trials previously attempted, a new quasi-order began to emerge taking the shape of a three dimensional torus. Eventually the torus again broke down into chaos, reemerging at a subsequent point as another torus. Indeed, it appears that randomness is an ineradicable aspect of nature, but that quasi-order is an inherent aspect of randomness. or mathematical "noise".

Any number of sciences are currently exploring the applicability of Fractals and Chaos theory. Medicine has found an explanation for heart fibrillation which carries great hope for timely treatment. Biology has found explanations for a number of environmental phenomena. Kenneth Arrow and a group of noted economists recently held a meeting with Chaos theorists in Albuquerque to explore applications to cycle theory and stockmarket performance.

What holds much interest for philosophers is that chaos theory appears to offer an explanation and defense for the ancient doctrine of Free Will, i.e. the indeterminism operating within the quasi-deterministic bounds of the three "attractors" described above. While, for the moment, this seems to add up to the best explanation so far for the failure of economists' significantly to reduce forecasting error, and to set fundamental limits to our ability to forecast accurately beyond the shortest of short-terms, the further study of the elements of quasi-order in the longest of long term cyclical swings appears to offer some hope for a meaningful generalized look at the future as well as any number of research papers from the rising generation of young economists.



## The Theory of Transnational Free Trade Areas

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The Theory of Free Trade Areas is quite well developed. In general, however, the theory has been applied only to entire countries entering into such agreements as a whole. There have been notable exceptions, e.g. the Post WW-II European Coal and Steel Community under which only certain provinces of France, Germany, and Belgium participated. The Canadian economist Robert Mundell, some years ago, also wrote a provocative article called "Optimum Currency Areas" in which he raised the notion that country boundaries are not necessarily coterminous with optimum trade zones. Mundell suggested that it might increase economic efficiency for large nations such as the United States and Russia to introduce regional currencies to permit more flexibility in monetary policy.

A treaty creating a new US-Canada Free Trade Area has just been signed. Some have urged the inclusion of Mexico in this new Free Trade Area. There is considerable opposition to this treaty in Canada, and it is evident that there would be even more should the government of Mexico seriously consider joining. There is, however, an alternative to an all-inclusive Free Trade Area for which entire nations are not yet ready.

Combining the Mundell concept of multiple regions within one nation enjoying considerable autonomy in directing their own monetary policy with the ECSC experience in extending such autonomy across national frontiers to entire natural resource areas, one can conceive of a Trade Zone limited to adjoining provinces, themselves consisting of a natural economic region artificially divided by national borders imposed by the accidents of history, e.g. Sonora, Arizona, Baja California, and California in the case of the US and Mexico. Similar bi-provincial free trade zones could be considered for Chihuahua/Nuevo Leon and Texas/New Mexico.

At an appropriate moment in the evolution of such a Transnational Free Trade Zone, the free movement of labor as well as capital and raw materials could be considered -- though this would present national immigration problems. The solution might lie in devolution of border control and initiative on nationality decisions to the participating provinces, somewhat along the lines of the overriding authority of Swiss Cantons in this regard. Permission for this could be granted by Treaty, overriding Constitutional problems.

There has been recent movement in this direction in the Alpine-Adria area of Yugoslavia, Austria, and Italy, anticipating -- as so often occurs in the real world -- the development of economic theory to explain what has happened. Economic theory can already tell us however that there would be no losers in such a development. All participating provinces within such a natural economic region would benefit, and the nations of which they are a part would share in the additional prosperity created -- another example of the economic positive-sum game.

# "An Examination of Total Charges in the Long-Term Health Care Industry"

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Literature relating to the costs of providing nursing home care in the United States has been fairly well developed over the last decade. Whereas there has been significant work done on the costs and determinants of costs of long-term health care, there has been virtually no work done to date concerning factors underlying the variation in the amounts charged residents by long-term health care facilities. The intent of this study is to provide initial insight into the determinants of the variation in total charges for long-term health care. For purposes of determining those factors a model is estimated of the form

$$TC/Month = a + \sum_{i=1}^n b_i FC_i + \sum_{j=1}^m c_j RMC_j + \sum_{k=1}^p d_k RSE_k$$

where:

TC/Month = Total monthly resident charge  
a = constant term

$\sum_{i=1}^n FC_i$  = a vector of characteristics relating to the facility  
providing resident care

$\sum_{j=1}^m RMC_j$  = a vector of characteristics relating to the resident's  
medical characteristics

$\sum_{k=1}^p RSE_k$  = a vector of characteristics relating to the resident's  
socio-economic characteristics

Facility characteristics incorporated in the analysis include ownership of the facility, size of the facility, regional location of the facility (as a proxy for labor and capital cost differences), and the number of beds in the resident's room. Medical characteristics and level of debility of individual residents are proxied by the activities of daily living index. Resident socio-economic characteristics incorporated in the regression equation include the resident's age, sex, ethnic background, marital status, living situation prior to entering the facility, and the primary source of payment for the nursing home care.

Data used in this study came from the 1977 National Nursing Home Survey, a national sample of 1481 long-term health care facilities and a derived sample of 7,034 residents within these facilities. The average monthly charge by the facilities in the sample was \$689.61 with a range from 0 (charity cases or those who had transferred assets over to the facility), to \$2,947.00. Individual's own income was the primary source of payment for nearly forty percent of the residents and Medicaid was the primary source for nearly fifty percent of the individuals in the sample.

Regression analysis utilizing ordinary least square regression analysis was undertaken. The regression equation was statistically significant (F - statistic of 112.69) and explained approximately 43 percent of the variation in total charges amongst residents ( $R^2 = .427$ ). Variables reflecting facility characteristics that entered with statistical



significance included i) facility location (as a proxy for labor-market and capital market cost differences), with facilities in the northeastern United States reflecting the highest charges; ii) facility size with facilities of large size charging more than smaller facilities; iii) the number of beds in the resident's room, with a larger number of beds generally causing a reduction in charges, though monthly charges were not monotonically decreasing; and iv) facility ownership characteristics, with government facilities charging, on average, \$17.09 more per month ( $p < .10$ ) and non-profit facilities charging, on average \$42.95 more ( $p < .01$ ) than proprietary facilities, ceteris paribus.

With respect to the medical characteristics of the residents, coefficients for the activities of daily living index indicate that, when compared to residents characterized as independent in daily living, residents requiring additional levels of assistance, a reflection of both medical needs and levels of disability, generally were charged significantly more per month, though charges were not a monotonically increasing function of the number of resident debilities. With respect to resident length of stay, there was a statistically significant inverse relationship between monthly charges and the resident's length of stay. This may reflect both a learning curve of the staff with respect to the resident, as well as increased medical stability of the resident over time.

Turning attention to the socio-economic characteristics of the residents, it was found that married and widowed residents had significantly higher charges associated with their care. It may be that married and widowed residents had greater financial resources to draw from than those previously living on their own. If, indeed, charges reflect in part, ability to pay, then this would offer an explanation for such a pattern in charges, though this would also indicate a certain degree of price discrimination. Female residents were charged more than male residents.

Where the resident was housed prior to entering the current facility had a significant effect on the charges as well. This variation may reflect financial status as well as an indication of the level of medical need. The resident's primary source of payment also impacted significantly on total monthly charges. When compared to those paying primarily with their own private resources, Medicaid-skilled nursing facility patients were charged \$114.80 more per month ( $p < .01$ ), Medicaid-intermediate care facility patients were charged \$49.85 less per month ( $p < .01$ ), and Medicare patients were charged \$370.14 more per month. Those supported primarily by other government funds were charged \$120.52 less per month ( $p < .01$ ). Those who were not charged saved, on average \$708.92 per month ( $p < .01$ ), and those under lifecare contracts saved \$420.92 per month ( $p < .01$ ). Differences in total charges may partly reflect differences in medical need. It is conceivable that differences in charges may also reflect, in part, the ability to pay and would, as such, indicate a certain degree of price discrimination.

In conclusion, the intention of this paper was to provide initial insight into the relationship between various factors associated with the provision of long-term health care and the total charges for care. Facility characteristics, resident medical characteristics, and resident socio-economic characteristics were examined with indications that all three sets of factors have important implications for differences in total charges.

Elasticity of Export Demand for U.S. Rice:  
An Analysis by Length of Grain  
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The world rice market can be decomposed into numerous submarkets distinguished by dissimilar characteristics of rice in trade. These characteristics include grain length (long, medium, short) and degree of processing (rough, milled, parboiled). As a result, rice cannot be considered a homogeneous product in which all forms of rice are perfect substitutes for one another. It is therefore more appropriate to distinguish among markets, particularly those differentiated by grain length.

This distinction has not been recognized in previous quantitative studies which have attempted to model international rice trade. Rather, rice has been considered a homogeneous product, an assumption which may lead to inapplicable results. The need for research to accurately reflect actual market conditions has gained greater importance as the U.S. struggles to maintain its competitiveness in the rice export market.

To test the hypothesis that it is more appropriate to segment the rice market, this paper attempts to estimate the export demands for U.S. long grain and medium/short grain milled rice in Latin America. The period analyzed is from 1974 to 1985. Explanatory variables included are the U.S. long grain and medium grain price ratio, GNP in Latin America, exchange rates, and Latin American rice production. Income and exchange rate data are trade weighted by the share of U.S. rice exports received to reflect differences among the countries and thereby present a more accurate picture. Ordinary least squares is utilized to perform estimation of the export demand functions. Principal components is used to facilitate estimation of several of the functions due to limited degrees of freedom.

Differentiating rice by length of grain appears to be justified by overall results. Long grain rice is indicated to be a superior good compared to medium/short grains in Latin America. Further, imperfect substitutability between lengths is indicated by coefficient and elasticity estimates of the price ratio variable. Thus, the validity of assuming that rice can be regarded as a homogeneous product is questionable.



Rice Imports in Sri Lanka:  
Direct, Residual and Reduced Form Models

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Rice import decisions in Sri Lanka are essentially made under a political economy framework. This calls for evaluation of alternative import demand models with variables to include public policy.

Three conceptual models of import demand were evaluated: the direct import demand model conceptualizes rice imports as a simple demand specification responding to border prices and aggregate income; the residual model determines imports as a residual of separately estimated demand and supply equations; and the reduced form model is a single equation reduced form specification of both demand and supply variables.

Effects of government policy on imports were incorporated by estimating supply and demand equations with seemingly unrelated regressions (SUR) hypothesizing that these policies influence across equations, by using an output input price ratio, a technology index and by including separate producer, consumer and import prices in the models. Structural stability of the functional relationships were tested by using additive and multiplicative dummies.

Equations with structural instability provided statistically more significant results and better forecasts. Instabilities were observed in income, producer and consumer prices. Price policies and technology incentives were found to be viable options for self-sufficiency. Income elasticity was negative indicating the strong effect of domestic supply on imports. In terms of forecasting efficiency the reduced form and the direct models were better than the residual model. SUR estimates provided better forecasts than OLS. Further studies and research evaluating selected estimation techniques and policy variables are necessary before reaching significant conclusions.

Attitudes of Hospital Employees:  
A Comparison of Occupational Groups

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Although there are numerous studies of work related attitudes of Registered Nurses, there is little published information which compares attitudes of different types of employees in the patient-care occupations. This study, which took place in a 487-bed, 1,200-employee private hospital located in South Texas, compares the work-related attitudes of RN's, LVN's, and nurses' aids.

The respondents were asked to rank the degree of satisfaction with their job and with their pay. In addition they ranked, from the following, what they most preferred in a job - high income, no danger of being fired, working hours short with much free time, chances for promotion, and work important and gives feeling of accomplishment.

Global job satisfactions vary between the three occupations in the patient-care group. Because of their increasing loss of patient contact, we suspected that RN's would not be as satisfied with their work as LVN's or nurses' aids. The percentages, 74, 83, and 80, respectively, bore this out. They were, however, more pay satisfied than the other two groups by percentages of 54, 31, and 48, respectively. This was also expected.

Preferences for the five job characteristics vary considerably among these groups. For RN's, the importance and meaningfulness of work is by far the most desired job characteristic, whereas this job characteristic is not nearly so strong a preference among LVN's and nurses' aids. In sharp contrast with



RN's, LVN's and nurses' aids are especially concerned that a job offer the opportunity for promotion. RN's are not concerned about the danger of being fired or about having short working hours, but they apparently feel less job security since many of them value "no danger of being fired". For more than half of the LVN's involved in direct patient care, the "importance and the meaningfulness of work" is not the most important job characteristic.

These results suggest a number of implications for motivating employees in each of the categories. Hospital administrators could respond to these potential problems through interpersonal communication and in a variety of other forms such as positive feedback, citations for merit, annual awards, merit raises, and advancement possibilities.

## AN EMPIRICAL RE-EXAMINATION OF DEFICITS AND INFLATION

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A great deal of controversy surrounds the issue of federal deficits, both at the theoretical and empirical levels. At the theoretical level, the conventional wisdom holds that a substitution of debt for tax financing, *ceteris paribus*, increases consumption and aggregate demand due to increases in the wealth of the private sector. Challengers argue that the public perceives the implied future taxes of debt finance. If so, the discounted present value of future taxes offsets the current taxes avoided. Eclectics in the deficit debate contend that both deficits and surpluses are undesirable only if they are "too large" or "too small" to promote economic efficiency.

The empirical evidence concerning government deficits is fraught with contradictory results as well. Several studies conclude that deficits, *per se*, do not cause inflation. Other studies, however, find a positive link between inflation and deficits. The evidence concerning the relationship between interest rates and deficits is inconclusive as well.

The present study points some of the underlying reasons for the inconclusive empirical evidence. These reasons include a failure to adjust deficits for inflationary and interest rate changes or failure to focus on a relative rather than absolute measure of deficits. Additionally, the present study develops a simple open-economy model which allows for an analysis of the impact on inflation of federal deficits, foreign trade, money supply, and interest rates. The preliminary empirical results suggest that deficits do affect prices once allowance has been made for the aforementioned variables.



"Simulation of High - Tech Medical Technology Costs Over The Next Decade, with Special Attention to End Stage Renal Disease Problems of Transplantation or Dialysis Selection,"

L. O. Dittrich

"Comment"

Albert Ade. Okunade  
Assistant Professor of Economics  
Memphis State University

The paper focuses on the use of Monte Carlo Simulation (experiment) for estimating the present value of costs incurred in the treatment of End Stage Renal Disease (ESRD) patients with dialysis only or with a mixture of dialysis and transplantation procedures under ten alternative scenarios. These scenarios include changes in policy decisions, variation in external environment, and alternative cost developments for ESRD. The probabilistic distribution of present value of ESRD costs are obtained for the 1986-1996 decade. Results show that the treatment mix comprising both kidney dialysis and transplantation is preferred to dialysis only treatment, significant cost savings can be realized by changing the modality of treatment "without" limiting the number of transplants, and the AIDS scenario drastically increase costs.

The author addresses a health care issue of current interest to private individuals and policy decision makers. The three broad classes of scenarios incorporated into the stochastic simulation are relevant. However, instead of analyzing ESRD as a tertiary health care issue the author could find it more appropriate to model it as "high-cost" illness. In particular, following Wyszewianski (1986), a "high-cost" medical treatment expenditure is one with total dollar outlay exceeding a set minimum, while a "financially catastrophic" case involves a condition whose out-of-pocket medical expenditure exceeds 15% of annual family income. In particular, prior to 1973 ESRD was both high-cost and financially catastrophic; and policy attention focused on the adequacy of third party coverage for the illness. However, in 1973 Medicare provided an essentially comprehensive coverage for most ESRD patients; and policy attention shifted to cost containment strategies. The distinction between "financially catastrophic," "high-cost" and "financially catastrophic and high cost" is relevant if effective policy implementations are to be made to reduce the projected Medicare program cost of ESRD of \$4 billion for about 110,000 patients in 1990.

References

- (i) Wyszewianski, Leon "Financially Catastrophic and High-Cost Cases: Definitions, Distinctions, and Their Implications for Policy Formulation," Inquiry 23:382-394, Winter 1986.
- (ii) United States House of Representatives, Committee on Ways and Means, Medicare, Health Care Expenditures, and the Elderly, Washington, D.C.:USGPO, 1985

## REGISTRATION REQUIREMENTS AND ELECTIONS OUTCOMES

Michael D. White

- A Comment -

Rodolfo A. Gonzalez  
San Jose State University

This paper presents a model for estimating the impact of voting registration requirements on the percent of votes received by an incumbent. The model assumes that lowering the cost of registering would bring persons out to vote whose expected benefit from voting is low relative to voters not affected by the change in requirements. The new voters are thought to be less informed, and to have weaker preferences with respect to candidates and parties. The possibility that these voters may simply differ from the others in having a higher opportunity cost of meeting the prior requirements is ignored.

It is not clear a priori, as the paper admits, how incumbents would be affected by an influx of peripheral voters who are less informed but also less attached to parties than the regular (core) voters. Therefore, the paper can not predict how incumbents will be affected by a change in registration requirements. The empirical work is supposed to provide the answer. However, the empirical results give no consistent answer.

The empirical section is the least satisfactory part of the paper. One of the explanatory variables in the model is the ratio of spending by the incumbent to spending by the challenger. This ratio presumably depends on the ability of both to raise funds which in turn may depend on the expected percent of votes for the incumbent. Therefore, using an OLS model may not be appropriate. Another problem is that important variables may have been omitted. For example, regional binary variables may belong in the model since voter participation in some regions may be affected by the results in other areas where the polls close earlier.

In conclusion, this paper offers several interesting ideas, but the empirical analysis needs to be substantially improved.



Minutes of the Annual Business Meeting  
Southwestern Economics Association  
March 25, 1988 Houston, Texas

The annual Business Meeting of the Southwestern Economics Association, meeting with the Southwestern Social Science Association, was called to order by the President Lewis Hill of Texas Tech University at 5:30 on March 25, 1988. It was moved to dispense with the reading of the Minutes of the 1987 annual meeting, which were approved and accepted as written.

The Treasurer's Report, by Rose M. Rubin, University of North Texas, showed a current balance of \$4,036.81. The balance brought forward in March 1987 from the Dallas meeting was \$4,153.19, with total income of \$1,389.45 and total expenses of \$1,505.83. The Treasurer's Report was accepted as presented.

President-Elect and Program Chairperson, Kirker Stephens, University of Oklahoma, reported that participation was somewhat down at this meeting. He thanked the Program Committee members for their work and sessions organized.

Ray Battalio, Texas A & M University, Vice-President and Chair of the 1988 Student Paper Awards Committee, announced that there were two student paper sessions and that awards would be made by the June 15 date established at last year's meeting.

Kathie Gilbert, Mississippi State University, Chair, presented the report of the special Ad Hoc Committee on the Southwestern Journal of Economic Abstracts, composed of David Gay, University of Arkansas, Joe Davis, Trinity University, and Tom Carroll, University of Nevada - Las Vegas. The results of the questionnaire sent to the membership indicated concern with whether the Journal should print papers or just abstracts, whether it would be refereed, and that the cover and binding should be upgraded. Gilbert reported that at the SSSA Executive Meeting it was proposed that each subsidiary Association provide a Distinguished Paper Award. David Gay indicated that he would obtain external funding from a publisher to provide a plaque or other suitable award for the winning economics paper.

The Ad Hoc Committee called for a Southwestern Journal of Economics which would be coordinated with the outstanding paper competition. It was suggested that participants submit a 250 word abstract by the usual date of October 1, with a \$10 submission fee. This would allow the abstracts to be prepared between October 1 and the meeting in March. Papers submitted in full by November 1 would be evaluated in an Outstanding Paper Competition by a committee of three or four judges, who would select the Distinguished Paper of the Southwestern Economics Association and

three or four others deemed worthy of publication in the Journal. Referee comments would be provided to the authors and the meeting program would designate the Distinguished Paper and also the others selected. Final editing of the Journal would be completed prior to the meeting, and the bound Journal would be distributed to all members at registration.

Gilbert noted that the Ad Hoc Committee was also charged with helping the Nominating Committee select the Editor of the Journal. She noted that Bob Brazelton has indicated his desire to retire in 1989 and asked for expressions of interest in the editor position with indications of institutional support.

Bob Brazelton, University of Missouri - Kansas City, Editor of the Southwestern Journal of Economic Abstracts, indicated his support of the expanded role of the Journal. He reported the Journal has a current balance of \$1,832.43 and indicated that the cost of distribution to all members would generate a profit of only \$20, if there is no charge and if the Editor's institution covers the mailing charges.

Lewis Hill read the report the Resolutions Committee for the Chair, Abdul Turay of Mississippi State University, and commented on the Distinguished Service Award given at the Plenary Session to John Wortham of Texas Christian University. Lewis expressed thanks to Kirker Stephens for organizing and putting on the program splendidly.

Ray Perryman of Baylor University presented the report of the Nominating Committee, composed of Perryman, Kathie Gilbert, and Dick Leftwich of Oklahoma State University, the three immediate Past Presidents. The following slate of officers was presented:

President: J. Kirker Stephens, University of Oklahoma  
President-Elect and Program Chair: Luvonia Casperson,  
Louisiana State University at Shreveport  
Vice President: Chuck Becker, Texas Christian University  
Secretary-Treasurer: Rose M. Rubin, University of North  
Texas  
Editor, Southwestern Journal of Economic Abstracts: Bob  
Brazelton, University of Missouri at Kansas City.

Mona Hersch of Texas Women's University moved acceptance of the slate by acclamation. This was seconded and passed.

Zena Seldon of the University of Wisconsin - LaCrosse moved that the Constitution and Bylaws be amended to create automatic succession of officers. She moved and Bob Brazelton seconded:



A PROPOSED AMENDMENT TO THE CONSTITUTION

To Article IV of the Constitution, add: Section 4. The Vice President from the preceding year shall be nominated for President-Elect, and the President-Elect from the preceding year shall be nominated for President.

A PROPOSED AMENDMENT TO THE BYLAWS

To Article III of the Bylaws, add: Section 3. The Nominating Committee shall nominate for President the President-Elect from the preceding year and for President-Elect the Vice-President from the preceding year.

In the ensuing discussion, Bob Brazelton questioned what occurs if someone declines the order of succession? Kirker Stephens suggested that the Nominating Committee consider that those who have been Vice President and not proceeded up the chain be considered for reappointment as Vice-President. Dick Leftwich suggested that this amendment adds rigidity to the procedure. Ray Perryman suggested that we might have the opportunity to nominate someone of outstanding repute, and that asking for a four year commitment to the organization might preclude this. Kathie Gilbert suggested that this process would give the Vice President a year to plan toward being Program Chair and developing the Program Committee. Mona Hersch called the question, which was passed unanimously, so that a formal amendment vote will be mailed to the membership, as stipulated in the Constitution.

John Wortham made a motion of recognition of past recipients of the Outstanding Service Award, Wendell Gordon, UT Austin, Ken Cochran, University of North Texas, Dick Leftwich, and Jack Davis of Mississippi State University. Kirker Stephens made a motion of commendation of Lewis Hill. David Gay presented a commendation from SSSA to the Program Chair, Kirker Stephens. David Gay made a motion to accept the committee report on the Journal and that it be implemented; this was seconded and passed unanimously. The meeting was adjourned.

Respectfully submitted,

Rose M. Rubin,  
Secretary-Treasurer

REPORT OF THE RESOLUTIONS/DISTINGUISHED SERVICE COMMITTEE  
DISTINGUISHED SERVICE CITATION

John L. Wortham, former Professor of Economics and Chairman of the Department of Economics at Texas Christian University, has distinguished himself as an economist and educator. As a leader in his profession, he has served as President of the Southwestern Economics Association and charter member of the Dallas Economics Club. As an innovative, concerned and effective teacher, he has successfully shared his wisdom, knowledge and dedication to the discovery of truth with students for more than 40 years.

John Wortham's service to his country in World War II as a pursuit pilot and to his community as a church leader and political participant; his dedication to the cause of the non-destructive use of our natural surroundings through the application of an effective, functional resource policy; and his current efforts to establish a national foundation which would enable the adult emotionally and physically handicapped to live independently, all testify to his love of humanity and society.

In order to recognize and to express our appreciation for his long and faithful service to the economics profession in general and to this Association in particular, we, the membership of the Southwestern Economics Association, are privileged to present this Distinguished Service Citation to John L. Wortham.

For the Southwestern Economics Association by the  
Distinguished Service Committee:

Linda de la Vina  
Alex J. Kondonassis  
Abdul Turay, Chairman



SOUTHWESTERN ECONOMICS ASSOCIATION  
CONSTITUTION AND BY-LAWS

Article I. Name

This Association shall be known as the Southwestern Economics Association.

Article II. Purpose

The purpose of the Association is to promote economic theory and analysis within, but not limited to, the southwestern states through the encouragement of research, discussion, conference, and the publication and dissemination of research.

Article III. Membership

Any person interested in the purpose of the Association shall be eligible for membership by joining the Southwestern Social Science Association as set forth in SSSA By-Laws, Article I.

Article IV. Officers and Executive Committee

Section 1. The Officers of the Association shall consist of a President, President-Elect, Vice-President, Secretary-Treasurer, and Editor of the SWEA Journal.

Section 2. Each officer of the Association shall hold office for one year and thereafter until a successor takes office. The officers of the Association, shall be elected at the annual meeting.

Section 3. The Executive Committee shall consist of the President, President-Elect, Vice-President, Secretary-Treasurer, the Editor, and the last two Past-Presidents.

Article VII. Meetings

Section 1. The annual meeting of the Association shall be held at the annual meeting of the Southwestern Social Science Association.

Section 2. For the purpose of conducting any business a quorum shall consist of those members who are present at the annual business meeting of the Association, and a majority of the Executive Council shall be deemed to be a quorum for its meeting.

Article VIII. Amendment

The Constitution and By-Laws may be amended by a two-thirds vote of the members by a mail ballot provided the proposal shall have been approved by a 2/3 vote at the annual business meeting, after at least three months notice prior to the consideration at the annual business meeting.

## BY LAWS

### Article I. Membership and Dues

- Section 1. The membership requirements and dues in the SWEA are those set by the SSSA.
- Section 2. Participants in the annual meeting, except for guests of the Association, as determined by the SWEA Program Chair, must pay the SSSA registration fee.

### Article II. Duties of Officers and Executive Committee

- Section 1. The President shall preside at all business meetings of the Association and shall also preside at the Executive Committee. The President shall appoint all committees except the nominating committee. The President, along with the immediate Past-President, shall represent the SWEA on the Executive Council of the SSSA.
- Section 2. The President-Elect shall serve as the SWEA Program Chair and publicize and organize the program for the annual meeting.
- Section 3. The Vice President shall preside at any business meeting of the Association or of its Executive Committee in the absence of the President and shall chair the SWEA Student Paper Awards Committee and shall succeed to the office of President in case of vacancy.
- Section 4. The Secretary-Treasurer shall record and preserve the minutes of all business meetings of the Association and the Executive Committee and shall deposit in an Association account all fees collected for the SWEA and allocations from the SSSA to pay all properly incurred Association expenses, keep a complete and accurate record of all financial transactions and submit those financial records for audit at a time designated by the President or the Executive Committee.
- Section 5. The Editor shall be responsible for all details incident to the publication of the journal of the SWEA but shall be guided by overall publication policies, established by the SWEA.
- Section 6. The Executive Committee shall be empowered to act on behalf of the Association during the period intervening between annual meetings, to approve the proposed budget of the SWEA and to conduct other business.

### Article III. Committees

- Section 1. The standing committees of the Association shall be:
- (a) Student Paper Competition
  - (b) Nominating
  - (c) Resolutions
  - (d) Plenary Session
  - (e) Budget and Financial Policies
  - (f) Publications
- Section 2. The Nominating Committee shall consist of the three most recent Past Presidents. Other standing committees of the Association shall be composed of at least three members.



1988-1989  
SOUTHWESTERN ECONOMICS ASSOCIATION. (SWEA)

President	J. Kirker Stephens Department of Economics University of Oklahoma 307 W. Brooks, Room 306 Norman, OK 73019	Office: (405) 325-2861 Home: (405) 329-4326
President- Elect and Program Chair	Luvonia Casperson Department of Economics LSU at Shreveport 8515 Yourie Drive Shreveport, LA 71115	Office: (318) 797-5241 Home: (318) 798-3150
Vice President	Chuck Becker Department of Economics Texas Christian University Fort Worth, TX 76109	Office: (817) 921-7550 Home: (817) 921-4646
Secretary- Treasurer	Rose M. Rubin Department of Economics University of North Texas Denton, TX 76203	Office: (817) 565-3337 Home: (817) 924-0113
Editor, SJEA	W. Robert Brazelton Department of Economics 205 Haag Hall University of Missouri-Kansas City Kansas City, MO 64110	Office: (816) 276-1314 Home:
Past President (1987-1988)	Lewis E. Hill Department of Economics Texas Tech university Lubbock, TX 79409	Office: (806) 742-2201 Home: (806) 792-1583
Past President (1986-1987)	M. Ray Perryman Center for Advancement of Economic Analysis Suite 212, HSB Baylor University Waco, TX 76798	Office: (817) 755-3492 Home: (817) 776-5476
Past President (1985-1986)	Kathie S. Gilbert Department of Economics P.O. Box JE Mississippi State University Mississippi State, MS 39762	Office: (601) 325-2341 Home: (601) 323-6348

## 1988-1989 SOUTHWESTERN ECONOMICS ASSOCIATION COMMITTEES

### NOMINATING COMMITTEE

Lewis Hill	(C)	Texas Tech University
Ray Perryman		Baylor University
Kathie Gilbert		Mississippi State University

### PUBLICATIONS COMMITTEE

W. Robert Brazelton	(C)	University of Missouri, Kansas City
J. Anderson Davis		Mississippi State University
Daniel J. Slottje		Southern Methodist University

### STUDENT PAPER COMPETITION COMMITTEE

Chuck Becker	(C)	Texas Christian University
Zena Seldon		University of Wisconsin, La Crosse
David Gay		University of Arkansas
Ray Perryman		Baylor University

### RESOLUTIONS/DISTINGUISHED SERVICE COMMITTEE

Lewis Hill	(C)	Texas Tech University
Abdul Turay		Mississippi State University
Alex Kondonassis		University of Oklahoma

### PLENARY SESSION COMMITTEE

J. Kirker Stephens	(C)	University of Oklahoma
Luvonia Casperson		Lousiana State University, Shreveport
Chuck Becker		Texas Christian University

### BUDGET & FINANCIAL POLICIES COMMITTEE

Rose Rubin	(C)	University of North Texas
Joe Davis		Trinity University
Betsy Jane Clary		College of Charleston



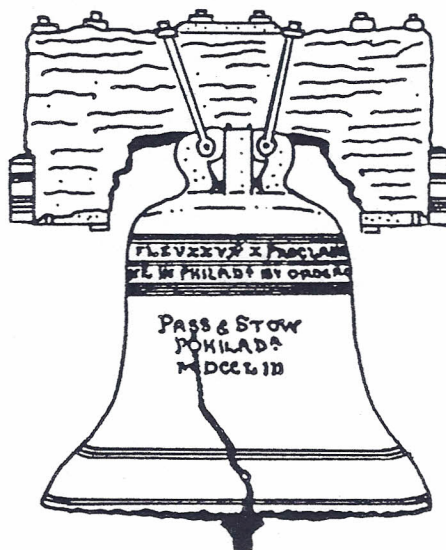
**Past Presidents, Southwestern Economics Association\***

1948	Morris M. Blair, Oklahoma State University
1949	Jim Reese, Oklahoma University
1950	R.B. Melton, North Texas State University
1951	Alfred Chalk, Texas A&M University
1952	Carey Thompson, University of Texas-Austin
1953	Clay Cockran, Oklahoma University
1954	Frederic Meyers, University of Texas-Austin
1955	John P. Owen, Houston University
1956	Wendell Gordon, University of Texas-Austin
1957	Joe E. Brown, Texas A&M University
1958	Maurice Erickson, Southwest Texas University
1959	John B. Giles, Rice University
1960	Sydney C. Reagan, Southern Methodist University
1961	John N. Fry, Houston University
1962	Billy Hinton, Baylor University
1963	L.H. Merzbach, Southwestern University
1964	John L. Wortham, Texas Christian University
1965	Stephen L. McDonald, University of Texas-Austin
1966	Kendall Cochran, North Texas State University
1967	Joel W. Sailors, Houston University
1968	Richard W. Poole, Oklahoma State University
1969	Gaston Rimlinger, Rice University
1970	Thomas Beard, Louisiana State University
1971	Paul Brinker, Oklahoma University
1972	Carter Murphy, Southern Methodist University
1973	Jared Hazelton, University of Texas-Austin
1974	Ralph T. Green, Federal Reserve Bank, Dallas
1975	Frank Steindl, Oklahoma State University
1976	Robert Rouse, Texas Tech University
1977	Gloria Shatto, Georgia Tech University
1978	James Hibdon, Oklahoma University
1979	William C. Adams, Eastern Texas State University
1980	Rufus Waters, Oklahoma State University
1981	Clint Johnson, Central Arkansas University
1982	David Gay, Arkansas University
1983	Charles Maurice, Texas A&M University
1984	Joe Davis, Trinity University
1985	Richard Leftwich, Oklahoma State University
1986	Kathie Gilbert, Mississippi State University
1987	Ray Perryman, Baylor University
1988	Lewis Hill, Texas Technological University
1989	J. Kirker Stephens, University of Oklahoma

\*Compiled from the Social Science Quarterly and its predecessor, 1948-1985. Prior to 1966, this office carried the title of Economic Section Chair, Southwestern Social Science Association.

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SOUTHWESTERN JOURNAL OF ECONOMIC ABSTRACTS

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