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Editor's Comment: The Publication of the Outstanding Paper Award;
The New Editorship, After 1989

W. Robert Brazelton, Ph.D.
University of Missouri-Kansas City

With this volume, I wish to announce two changes in The Southwestern Journal of Economic Abstracts. The first change is that the Journal will publish the complete paper of the "Outstanding Paper Award" to be carried out annually by the Southwestern Economics Association. This is a notable achievement for both the Association and for the Journal. This year, the first year, the winning paper was by Coldwell Daniel, III, Memphis State University, Memphis, Tennessee. It is published herein. I want to congratulate Dr. Daniel. I also want to thank the two readers who assisted me in the selection from eight contributed papers: Dr. Peter Eaton, University of Missouri-Kansas City; and Dr. David E.R. Gay, University of Arkansas, Fayetteville.

The second change will take place in 1990. After having started the Journal in 1979, I am, as of this Volume 10 (1989), relinquishing my duties as editor to the very capable hands of Ray Perryman, Baylor University, Waco, Texas. Dr. Perryman will begin his editorship as of the next volume, 1990. I congratulate him on his editorship and will work with him in any way that he desires. I hope that all of you will give him the cooperation that I have been given in the past decade. I thank the Association for its Achievement Award to me in 1989.

In the decade that I have served as editor and in my previous services to the Association, I have always been grateful for the help and cooperation that I have received. I have enjoyed also those friends from graduate school at the University of Oklahoma who have attended the Association meetings all these years. Also, I have enjoyed meeting new friends and colleagues and want to take the opportunity to thank them, too. As I have enjoyed the past contacts with the Association and its members, I look forward to many years of continued service, if desired. I look forward to seeing all of you in the years to come. Thank you for your past cooperation and for your past and future friendship.

THE GENERAL APPLICABILITY AND CONFORMITY OF THE CONSISTENCY OF
CONJECTURES EQUILIBRIUM CRITERIA

Coldwell Daniel III • Memphis State University

It is well known that the most general approach for describing non-cooperative oligopoly and for generating non-cooperative oligopolistic equilibria is that of conjectural variations.¹ In this approach, first-order conditions for the attainment of the objectives of product-market oligopolists and, perhaps, their reaction functions (or functions that are analogous to reaction functions) are derived, which, if they contain conjectures that are consistent, will permit the attainment of an equilibrium. In this paper, conjectures are said to be consistent if the conjectural variations of the participants are such that the above-cited first-order conditions (reaction functions) constitute a solvable simultaneous-equation system whose solution set is compatible with the behavioral assumptions of the model.²

However, Cournot intended for his conjectural variations approach to be generally, if not universally applicable for describing market structures and free-market processes in product markets (1960, chs. 5, 7, and 8). By removing a free-market barrier to entry, viz., the control of an essential raw material, Cournot was able to describe the transition from a monopoly to "unlimited competition."

Several contemporary authors have recognized that Cournot's position regarding the conjectural variations approach has considerable validity insofar as (a) the consistency of conjectures equilibrium criteria that was identified above does have broad

applicability and (b) these criteria conform with more conventional equilibrium conditions (see, for example, Daniel, 1970, ch. 8; Varian, 1985, pp. 102f; and Hahn, 1987, pp. 575-9). These two propositions are of sufficient importance to warrant emphasis through a separate treatment. It is the purpose of this paper to provide such a treatment.

The first step in accomplishing this paper's purpose will be to demonstrate the applicability of the criteria to classical types of conjectural variations models. Then, the implicit role of conjectural variations in conventional models that are not ordinarily considered as being conjectural variations type models will be discussed. At appropriate points in the discussion, the relationship between the consistency of conjectures criteria and conventional equilibrium conditions will be addressed.

1. Classical Conjectural Variations Models

The Cournot Model. In order to illustrate fully the nature of the conjectural variations, consistency of conjectures approach, consider a classical, Cournot-type model of a duopoly that is homogeneous in its product market in the long run and which faces a competitive demand for its product. The inverse market demand function of the duopoly can be specified as:

$$(1) \quad p = F^{-1}(Q) = \phi(q_1 + q_2),$$

where $Q = (q_1 + q_2)$ and $(dp/dq_1), (dp/dq_2) < 0$. In (1), q_1 and q_2 are the outputs of firms 1 and 2, respectively. Under the assumption that there is no formal agreement between the two firms, the long-run revenue functions of the duopolists are

$$(2) \quad R_i = q_i \phi(q_1 + q_2) = R_i(q_1, q_2) \quad (i = 1, 2),$$

where q_i is the output of the i th duopolist over which he alone has direct control. The long-run profit functions of the duopolists are

$$(3) \quad \pi_i = R_i(q_i, q_{\neq i}) - C_i(q_i) \quad (i = 1, 2),$$

where $C_i(q_i) \geq 0$ is the i th duopolist's long-run cost function.

Assuming that each duopolist behaves so as to maximize profits, then

$$(5) \quad (d\pi_1/dq_1) = [\partial R_1(q_1, q_{\neq 1})/\partial q_1] + [\partial R_1(q_1, q_{\neq 1})/\partial q_{\neq 1}] * (dq_{\neq 1}/dq_1) - [dC_1(q_1)/dq_1] = 0, \text{ and}$$

$$(6) \quad (d\pi_{\neq 1}/dq_{\neq 1}) = [\partial R_{\neq 1}(q_1, q_{\neq 1})/\partial q_1](dq_1/dq_{\neq 1}) + [\partial R_{\neq 1}(q_1, q_{\neq 1})/\partial q_{\neq 1}] - [dC_{\neq 1}(q_{\neq 1})/dq_{\neq 1}] = 0$$

must hold simultaneously when the market is in equilibrium. In addition to the conditions that each duopolist's marginal revenue is equal to its marginal cost (i.e., that $MR_i = MC_i$ [$i = 1, 2$]) as given by Equations (5) and (6), the sufficiency conditions for a duopolistic equilibrium are that $(dMR_i/dq_i) < (dMC_i/dq_i)$ ($i = 1, 2$) and $\pi_i \geq 0$ ($i = 1, 2$).

Since there is no formal agreement between the duopolists, the (dq_j/dq_i) ($i, j = 1, 2; i \neq j$), which is the j th duopolist's output response to a change in the i th duopolist's output, cannot be known by the duopolists prior to an equilibrium. Thus, the variation in the j th duopolist's output in response to the (any) change in the i th duopolist's output must be conjectured by the latter in setting $MR_i = MC_i$ ($i = 1, 2$).

The process of adjustment and the consistency of conjectures requirement for a conjectural variations equilibrium can be often illustrated through the use of reaction functions for each duopolist. When profit maximization on the part of both duopolists is

assumed, as in the present case, reaction functions are derived by substituting firm 1's conjectural variation, viz., (dq_2/dq_1) , into (5) and firm 2's conjectural variation, viz., (dq_1/dq_2) , into (6), and then solving (5) for q_1 in terms of q_2 and solving (6) for q_2 in terms of q_1 . The reaction functions for firms 1 and 2 can be written respectively as:

$$(7) \quad q_1 = f_1(q_2), \text{ and}$$

$$(8) \quad q_2 = f_2(q_1).$$

Clearly, (7) and (8) are independent and consistent in a simultaneous-equation sense; and if the solution set for (7) and (8) is such that $\pi_i \geq 0$ ($i = 1, 2$) then the solution set is defined here as one for which there is a consistency of conjectures.

By way of illustration, consider the actual model of Cournot where each profit-maximizing duopolist assumes that the other duopolist's output is fixed. Thus, the conjectural variations in (5) and (6) are zero, i.e., in (5), $(dq_2/dq_1) = 0$; and, in (6), $(dq_1/dq_2) = 0$. Moreover, the costs of each of Cournot's duopolist is zero.

Let the market demand function of the Cournot duopolists be

$$(9) \quad p = 600 - 2(q_1 + q_2).$$

Substituting (9) into (2), and then using the results in (3), gives, as necessary conditions for profit maximization by both duopolists,

$$(10) \quad (d\pi_1/dq_1) = (dR_1/dq_1) = [d(600q_1 - 2q_1^2 - 2q_1q_2)/dq_1] \\ = 600 - 4q_1 - 2q_2 = 0; \text{ and}$$

$$(11) \quad (d\pi_2/dq_2) = (dR_2/dq_2) = [d(600q_2 - 2q_1q_2 - 2q_2^2)/dq_2] \\ = 600 - 2q_1 - 4q_2 = 0.$$

Rewriting (10) and (11) as explicit functions of q_2 and q_1 gives

the reaction functions of firms 1 and 2 respectively:

$$(12) \quad q_1 = 150 - (q_2/2), \text{ and}$$

$$(13) \quad q_2 = 150 - (q_1/2).$$

Equations (10) and (11) (or, alternatively, Equations [12] and [13]) are independent and consistent mathematically, and their solution gives

$$(14) \quad q_1 = q_2 = 100.$$

When $q_1 = q_2 = 100$, $\pi_1 = \pi_2 = 2,000 \geq 0$; and each firm is maximizing profit, given that the conjectural variation of each firm is zero. The solution set $q_i^* = 100$ ($i = 1, 2$) are equilibrium values for the q_i^* in all of the traditionally theoretical senses: When $q_1^* = 100$ and $q_2^* = 100$, (1) each duopolist is maximizing profit given the actual behavior of its rival; (2) $\sum_{i=1}^2 q_i^* = Q_s = 200 = Q_d$, where Q_s is the quantity supplied and Q_d is the quantity demanded at the (equilibrium) price, $p = 200$, so that the market is cleared; and (3) there is a mutual consistency among the objectives of the participants and the values of the endogenous variables of the model. Thus, when conjectures are consistent, the resultant equilibrium can be described in conventional ways.

The Stackelberg Model. In von Stackelberg's (1952, pp. 194-204) leadership-followship model, where the cost functions of the duopolists are such that, say, firm 2 acquiesces in firm 1's acting as the leader, the conjectural variation of firm 2 will be zero; and the conjectural variation of firm 1 will be negative, i.e., $(dq_1/dq_2) = 0$, and $(dq_2/dq_1) < 0$. Using the market demand function given in (9) and assuming that $C_1 = .5q_1^2$ and $C_2 = q_2^2$, the necessary conditions for the simultaneous maximization of profits

by each firm are, for firm 1,

$$(15) \quad (d\pi_1/dq_1) = 600 - (13/3)q_1 - 2q_2 = 0,$$

and, for firm 2,

$$(16) \quad (d\pi_2/dq_2) = 600 - 2q_1 - 6q_2.$$

The reaction functions of the two firms are, for firm 1,

$$(17) \quad q_1 = (1800/13) - (6/13)q_2,$$

and, for firm 2,

$$(18) \quad q_2 = 100 - (1/3)q_1.$$

It follows from (18), that $(dq_2/dq_1) = -(1/3)$; and this fact was used in deriving (15). The conjectural variations of the duopolist are consistent and give the following equilibrium values for the endogenous variables of the model: $q_1 \approx 109.09$; $q_2 \approx 63.64$; $p \approx 254.55$; $\pi_1 = R_1 - C_1 \approx 27,768.59 - 5,950.41 \approx 21,818.19$; and $\pi_2 = R_2 - C_2 \approx 16,198.35 - 4,049.59 \approx 12,148.76$. Again, these are equilibrium values for the endogenous variables in the traditional sense that they are consistent with each other and the conditions, including the conjectural variations of the duopolists, of the model.

The Bertrand Model. J. Bertrand (1883) criticized the Cournot model for its use of quantity, rather than price, as its choice variable. If the choice variable of each duopolist is price, if the duopoly is homogeneous, if both duopolist have the same marginal cost, and if each duopolist conjectures that the other duopolist will hold price constant, i.e., if the conjectural variation of each duopolist with respect to the other's price response is zero, the market price will be equal to the duopolists' marginal cost, since both duopolist will have an incentive

to cut price if price is above marginal cost. If, however, the duopoly is differentiated, the output of the industry will depend upon the prices of both products. Let the demand for the the i th differentiated duopolist's product be $F_i(p_1, p_2)$, where p_1 is the price of the first duopolist and p_2 is the price of the second duopolist. The i th duopolist's profit function is

$$(19) \quad \pi_i = p_i F_i(p_1, p_2) - C_i[F_i(p_1, p_2)] \quad (i = 1, 2),$$

where $C_i[\cdot]$ is the i th firm's cost function. The first-order condition for the maximization of (15) with respect to p_i gives

$$(20) \quad (p_i - MC_i) [\partial F_i / \partial p_i + \partial F_i / \partial p_j (dp_j / dp_i)] + F_i(p_1, p_2) = 0 \quad (i, j = 1, 2; i \neq j),$$

where MC_i is the i th firm's marginal cost and (dp_j / dp_i) is the i th firm's conjecture about how the j th firm will respond to the i th firm's price change.

In this regard, consider the case of linear demand functions and nonzero marginal cost for both duopolists. Let $F_1(p_1, p_2) = 180 - p_1 + .5p_2$, $F_2(p_1, p_2) = 60 + .4p_1 - p_2$, $C_1 = .5Q_2$, $C_2 = Q_2$. Moreover, let firm 1 be a Stackelberg leader with respect to price, and let firm 2 be a Stackelberg price follower. The reaction functions for the duopolists are

$$(21) \quad p_1 \approx 123.3333 + .3426p_2,$$

for firm 1, and, for firm 2

$$(22) \quad p_2 = 45 + .3p_1,$$

so that firm 1's conjecture is that $(dp_2 / dp_1) = .3$. The consistent conjectures equilibrium values for p_1 , p_2 , q_1 , q_2 , π_1 , and π_2 are 154.644, 91.3932, 71.0526, 30.4644, 8,463.62, and 1,856.16, respectively. ³

2. Closely Related Models

The following models are not classical conjectural variations models since they were not originally developed using this approach. However, they could have been so developed; and their adaptation thereto demonstrates the general applicability and conformity of the consistency of conjectures equilibrium criteria.

The Kinked Demand Curve Model⁴. In the kinked demand curve oligopoly model, the subject firm (firm i) conjectures that if it increases its price, its (any) rival, firm j , will not follow, whereas if it decreases its price, its (any) rival will follow. In terms of conjectural variations, if $dp_i > 0$, $(dp_j/dp_i) = 0$; and if $dp_i < 0$, $(dp_j/dp_i) > 0$.

Suppose that firm 1 in the Bertrand equilibrium illustrated above, where $p_1 = 154.6644$ and $p_2 = 91.394$, suddenly becomes a kinked demand curve duopolist. For $dp_1 > 0$,

$$(23) \quad (dR_1/dp_1) = 180 - 2p_1 + .5p_2 \approx -83.591;$$

and, for $dp_1 < 0$,

$$(24) \quad (dR_1/dp_1) = 180 - .5p_1[4 - (dp_2/dp_1)] + .5(.3)p_1 \\ \approx -60.3944.$$

A comparison of (23) with (24) demonstrates the unique characteristic of the kinked demand curve model. The firm conjectures that, at the prevailing price, the variation in its revenue with respect to price is different for a price increase than it is for a price decrease. Moreover, if the variation is inverse for both increases and decreases (of course, the duopolist would never contemplate reducing price if it's conjectures were such that it

expected a direct relationship between price and revenue for a price decrease), the response of revenue to a change in price for a price increase is greater than its response to a price decrease.

In terms of a demand which is a function of the duopolist's own price alone, the absolute value of the own price elasticity of demand for the duopolist's product at the prevailing price is greater than one for both a price increase and a price decrease, if a price decrease is at all feasible.⁵ However, the absolute value of the price elasticity for price increases exceeds that for price decreases. Because of the kink in the conventional demand curve that is generated by the change in the firm's conjectural variation and, hence, the change in its own price elasticity (and the implied discontinuity of the duopolist's marginal revenue function), the demand for and the costs of the duopolist's product may change considerably without inducing a change in the price of the duopolist's product.

The model assumes that the conjectural variations of both duopolists are such that the demand curve of each is kinked. If so, their conjectures will be consistent since no other value for price (quantity) would be more profitable for either duopolist.⁶

The Market Shares Model. Assume that, in a homogeneous duopoly, one of the duopolists, firm 2, permits the other, firm 1, to set the price of the good, providing that it, firm 2, is permitted to sell a fixed proportion of the total amount that is sold in the market. Let firm 2 be able to monitor firm 1's output so that its share of the market can be set equal to the constant

percentage k (firm 2 may be considered a quasi-follower and firm 1 may be considered a quasi-leader). Firm 2's reaction function is derived as follows:

$$(25) \quad \begin{aligned} q_2 &= kQ = k(q_1 + q_2); \text{ so that} \\ q_2 &= f_1(q_1) = (kq_1)/(1 - k), \end{aligned}$$

where Q is the output of the industry, q_1 is the output of firm 1, and q_2 is the output of firm 2. From (25), the conjectural variation of firm 1 is

$$(26) \quad (dq_2/dq_1) = k(1 - k)^{-1};$$

and the conjectural variation of firm 2 is $(dq_1/dq_2) = 0$.

Let the inverse demand function for the industry and the cost functions of the duopolists be the same as those that were assumed above in the illustration of the Stackelberg model. Moreover, let firm 2's constant share of the market be forty percent. When firm 2's reaction function is substituted into firm 1's profit function, the first-order condition for the maximization of firm 1's profit becomes

$$(27) \quad (d\pi_1/dq_1) = 600 - (23/3)q_1.$$

The consistent conjectures equilibrium quantities of $q_1 \approx 78.26$ and $q_2 \approx 52.17$ clear the market at $p \approx 339.13$. $\pi_1 = R_1 - C_1 \approx 26,540.64 - 3,062.35 \approx 23,478.26$, and $\pi_2 = R_2 - C_2 \approx 17,693.76 - 2,722.12 \approx 14,971.65$.

Monopolistic Competition. In the conventional long-run model of monopolist competition, there is a large and variable number, n , of closely related (differentiated) particular goods, each one of which is produced by a single firm that produces no other good. N is variable because no barriers to entry exist and exit is

perfectly free. The variability of n assures a zero profit for the marginal firm in the long run.

The relevant demand conditions of the randomly selected i th firm may be specified as

$$(28) \quad p_i = H_i(n, q_1, \dots, q_n),$$

where n is large and $(\partial p_i / \partial n) < 0$; $(\partial p_i / \partial q_i) < 0$; and $(\partial p_i / \partial q_j)$ ($j = 1, \dots, n$; $j \neq i$) are positive, but imperceptible. The i th firm correctly perceives that the output response of any of the other $(n - 1)$ firms to changes in its output will be negligible and that it has no meaningful control over entry or exit. Accordingly, it ignores the effect of its behavior on entry and exit and sets its conjectural variation with respect to each of the other firms equal to zero. The first-order condition for the maximization of profit by the i th firm is

$$(29) \quad (d\pi/dq_i) = [q_i(\partial H_i / \partial q_i) + H_i] - (dC_i/dq_i) = 0,$$

where (dC_i/dq_i) is the i th firm's marginal cost.

A set of n reaction-like (reduced form) functions can be derived from the set of first-order conditions for the maximization of profit by the n monopolistically competitive firms:

$$(30) \quad \begin{aligned} q_1 &= q_1(n, q_2, \dots, q_n) \\ &\vdots \\ q_n &= q_n(n, q_1, \dots, q_{n-1}) \end{aligned}$$

A conjectural variations, consistent conjectures equilibrium exists when the q_i ($i = 1, \dots, n$) of (30) are such that each firm is maximizing its profit and n is such that (a) $\pi_i \geq 0$ ($i = 1, \dots, n$) and (b) the profit of the marginal firm is zero.

3. The Conventional Monopoly and Perfectly Competitive Models

The profit function of any firm in an industry whose product is homogeneous may be written:

$$(31) \quad \pi = H(Q)q - C(q),$$

where $p = H(Q)$ is the price of the industry's product, Q is the industry's output, q is the output of the firm, and $C(q)$ is the firm's cost function. The first-order condition for the maximization of the firm's profit is

$$(32) \quad p + q(dp/dQ)(dQ/dq) - [dC(q)/dq] = 0.$$

If the firm is a monopolist, and if, in choosing an output, the firm conjectures that it is a monopolist, i.e., if, in choosing an output, the firm treats $q = Q$, then (32) becomes

$$(33) \quad p + q(dp/dq) - [dC(q)/dq] = 0,$$

which is the conventional first-order condition for the maximization of profit by a monopolist.

If, however, the firm is a perfectly competitive seller, and if, in choosing an output, the firm conjectures that it is a perfectly competitive seller, i.e., if in choosing an output it, treats $(dp/dQ)(dQ/dq) = (dp/dQ) * 0 = 0$,⁷ then the firm will choose that output for which

$$(34) \quad p - [dC(q)/dq] = 0.$$

Equation (34) gives the conventional first-order condition for the maximization of profit by a perfectly competitive firm.

A reduced form of (34), where $q = f(p)$, may be generated by varying p over the relevant interval. The result is a behavioral function, viz., the supply function of the perfectly competitive firm, that is analogous to a conjectural variations reaction function.

The point to be made here is that the conventional monopoly and perfectly competitive equilibria may be described as being conjectural variations, consistent conjectures equilibria.

4. Summary

Here, conjectural variations were said to be consistent if the first-order conditions for the attainment of the objectives of sellers in product markets contain conjectural variations that permit the generation of a solution set which is otherwise compatible with the behavioral assumptions of the model. The purpose of this paper was to demonstrate that (a) the conjectural variations, consistency of conjectures equilibrium criteria has broad applicability and (b) these criteria conform with more conventional equilibrium conditions. The procedure that was followed in accomplishing the purpose of this paper was to apply the criteria to classical conjectural variations models, to some apparently closely related models, and to the conventional monopoly and perfectly competitive models. It was shown that the conjectural variations, consistency of conjectures equilibrium criteria are necessary and sufficient for conventional equilibria in all of these models.

Intuition suggests that the conjectural variations, consistent conjectures equilibrium criteria are equally applicable for modeling the demand side of product markets and the supply and demand sides of input markets.

Footnotes

¹The term, conjectural variations, is attributable to Ragnar Frisch (1923). However, the conjectural variations approach was originated by A. Cournot (1960).

²The definition of consistent conjectures that is being used here is one that was used earlier by the author (Daniel, 1970, ch. 8) and is significantly different from the one that was proposed by T. F. Bresnahan (1981, p. 936). According to Bresnahan, a consistent conjectures equilibrium for a duopoly is defined as a pair of quantities, (q_1^*, q_2^*) , and a pair of conjectural variations, $[r_{12}(q_1), r_{21}(q_2)]$, such that

$$(1a) \quad q_1^* = \rho_1(q_2^*), \quad q_2^* = \rho_2(q_1^*),$$

and there is some $\epsilon > 0$, such that

$$(2a) \quad r_{12}(q_1) = \partial \rho_2(q_1) / \partial q_1 \text{ for all } q_1^* - \epsilon < q_1 < q_1^* + \epsilon;$$

$$(3a) \quad r_{21}(q_2) = \partial \rho_1(q_2) / \partial q_2 \text{ for all } q_2^* - \epsilon < q_2 < q_2^* + \epsilon,$$

where $r_{12}(q_1)$ and $r_{21}(q_2)$ are the conjectural variations of duopolists one and two, respectively, and $\rho_2(q_1)$ and $\rho_1(q_2)$ are the reaction functions of duopolists two and one, respectively.

As was argued previously (Daniel, 1983), one advantage of the older criteria (definition) is that Bresnahan's criteria are not necessary for a conjectural variations equilibrium. In particular, the agent's conjectural variations need not be correct in order for there to be an equilibrium. The additional attributes of the older criteria, which may have been only implicit in this author's earlier work, are to be made explicit here.

³Note that the "similar," except for the variables to which the conjectural variations relate, Cournot-type and Bertrand models generate different equilibrium values for the endogenous variables. This fact is often cited as evidence that contemporary models of oligopoly markets do not yield determinant solutions.

⁴The kinked demand curve model was developed by Paul Sweezy (1939). The model seems to have considerable pedagogical appeal.

⁵Let $p = f(q)$. Then, $(dR/dp) = q(1 + \epsilon)$, where ϵ is the actual, i.e., correctly signed, value for the own price elasticity of demand. Since marginal cost is greater than zero in the example in the text, a decrease in price would be considered only if $\epsilon < -1$, i.e., only if the own price elasticity of demand were elastic.

⁶In this particular case, a correctness of conjectures is required for a consistency of conjectures equilibrium. See, however, Daniel, 1983, p.239.

⁷The formally correct interpretation of $(dQ/dq) = 0$ is that, at the equilibrium price, any reduction in the individual firm's output would be replaced. Other interpretations are plausible, however.

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AIDS: MEDICAL, LEGAL, AND INSURANCE IMPLICATIONS

**Robert J. Aalberts, J.D., M.A.
Harvey W. Rubin, Ph.D., CLU, CPCU
Louisiana State University - Shreveport**

**Alan B. Grosbach, M.D.
Louisiana State University Medical Center - Shreveport**

This paper has traced the history of AIDS including its cause, the features of the illness, and the epidemic's potential future course. Curative treatment of AIDS is not currently available. Until the disease can regularly be cured, public education and public health measures are our best defense. Controversy surrounds the subject of random AIDS testing. This is largely an emotional argument since worthwhile steps to follow-up on positive test results are available in only a few, limited situations. The greatest cause for future concern is lack of planning for the increasing impact on the healthcare delivery system from growing numbers of AIDS patients who have no resources to pay for their care. If this issue is confronted at a time when the number of patients is still small, patients will be benefited, the impact on institutions delivering care will be reduced, and the cost to the nation will be less.

Similarly, the nation's lawmakers, must also contend with the AIDS epidemic. This will be anything but easy as insurance companies fight to make a profit to stay in business, while state legislatures, regulators and judges figure out how AIDS victims are to be treated equitably with limited resources. Compounding the problem is the fact that AIDS victims are often from distinct groups which are now always the recipients of sympathy from the general population who feel victimized themselves by having to pay higher taxes and insurance premiums for their care.

In respect to individually written health policies, insurance companies have tried to minimize their risks in various ways. One has been to utilize existing provisions in the policies such as material misrepresentation and pre-existing conditions clauses.

The Impact of the Staggers Act on the
Financial Performance of Class 1 Railroads
Albert J. Allen and Albert E. Myles,
respectively, Department of Agricultural
Economics, Mississippi State University,
and Community Development, Mississippi
Cooperative Extension Service,
Mississippi State University

The objective of this study was to investigate the impact of the Staggers Act on the financial performance of a sample of Class 1 railroads in operation prior to the passage of the Staggers Act using financial ratios as indicators of financial performance.

The objective of this study was accomplished by focusing on the financial performance of a sample of Class 1 railroads in both the pre- and post-Staggers Act periods to determine whether there were statistically significant differences in the financial performance of the carriers as a group in the time periods. In addition to answering the question for Class 1 railroad firms as a group in the United States, the carriers were divided into three districts for purposes of examining changes in financial performance before and after the passage of the Staggers Act in each identified district. The districts were the Southern, Western, and Eastern, as classified by the Interstate Commerce Commission (ICC).

Statistically significant differences in the financial performance of the selected Class 1 railroads as a group and by districts before the Staggers Act (1975-1979) and after the Staggers Act (1981-1985) were based on the t-test of the difference in means. That test was employed to investigate the null hypothesis that there was no statistically significant difference in means between the pre- and post-Staggers Act periods. The alternate hypothesis was that there was a statistically significant difference in the means between the two time periods.

To empirically ascertain whether the Staggers Act has statistically contributed to the financial condition of the railroad industry at the national and regional levels, the following ratios were used: the operating ratio, transportation expense per revenue

dollar ratio, cash available per dollar of fixed charges ratio, debt ratio, liquidity ratio, profit per revenue dollar ratio, and the net rate of return on capital invested in transportation property. Those ratios were used as measures of operation efficiency, debt, liquidity, and profitability.

From the analysis of financial ratios, significant differences in means were found to exist between the pre-and post-Staggers Act periods for the following ratios: operating ratio, transportation expense per revenue dollar ratio, debt ratio, and profits per revenue dollar ratio. One of the results reveals that, for the firms considered in this study, operating ratios significantly increased in the post-Staggers Act period. This conclusion may reveal that Class 1 railroads as a group were spending more as a percent of their revenues on operating expenses than they were doing before the Staggers Act was enacted to continue their operations.

TRANSIT SYSTEM DATA MANAGEMENT: CONSIDERATIONS
IN APPLYING QUALITY CONTROL CHARTS TO RIDERSHIP DATA

John A. Austin, Jr.
Jerome Hatcher
Donna Mitchell

Louisiana State University in Shreveport

Decreasing transit ridership and increasing costs have resulted in data being reported more comprehensively. To make decisions on where to add, modify or delete service, measurements of a transit system's productivity, efficiency and effectiveness are used.

Surveys in the late 1970s and early 1980s indicated that almost all transit properties have initiated system and route service standards. Most agencies collect performance data system wide and route by route. Half of the respondents said they use performance standards. When routes do not meet these performance standards, they are subject to review. None of the respondents explained the basis for the established standards, and most of them had arbitrary pre-set values.

In dealing with route by route evaluations, use of explicit or formal evaluation techniques is not a common practice among small and medium properties, those with under 500 buses. Most large properties have developed some service criteria. The extent of evaluation programs is varied as is the level of detail of the decision criteria.

The types of data collected and the decision criteria used by small and medium properties include:

Data on the effectiveness of evaluating routes is limited, but several properties indicated that existence of standards has made it easier to gain support for management decisions. Some say efficiencies have been gained by adhering to standards.

Systemwide performance monitoring is conducted by nearly all transit properties and provides valuable management information. Agencies determine how they progress from one year to the next and compare their performance with that of similar properties. They do

not provide any means of evaluating individual route performance. The type of data necessary to perform analyses requires information about each route's ridership, revenue and operational costs. In order to conduct route evaluations, data collection for many transit properties will have to be expanded.

Because management is using performance indicators as a quantitative decision-making tool, the indicators selected should compare success of a route to cost of providing the route, i.e. a cost/benefit ratio for each route. Passenger miles would be the best measure of success, but they are difficult to obtain. They are calculated by multiplying the number of passengers at each stop times distance between stops and summing over the entire route. The most accurate performance indicators with good historical data available were passengers per bus mile and passengers per bus hour.

This methodology was applied to the Shreveport Transit System, SPORTRAN. Results within each functional group were used to develop upper and lower control limits for the group. The high and low performance routes were identified. If an individual month's point for a particular route falls outside of the control limits, this will act as a flag to indicate the route should be examined. There are several reasons for a point to fall outside of the control limits: 1. erroneous data point; 2. ridership is up--decide if "real" by observing another month; and 3. ridership down--this should be monitored. The group control limits need to be recalculated every six to twelve months. The majority of values should fall within three standard deviations from the average.

Additional route performance indicators need to be reviewed for the possibility of extending control chart methodology. The most favorable ones at this time would be revenue vehicle miles per hour and operating revenue to cost ratio.

Control charts are a good quantitative tool that have not been used very often. They could be very useful to the transit agency or transit management firm.

RICARDIAN EQUIVALENCE THEOREM AND

MODERN INTERGENERATIONAL TRANSFER. (ABSTRACT)

By Banji Babalola and Ayuba Sarki.
Hampton University, Hampton, Virginia.

This paper defines the Ricardian Equivalence Theorem as a derivation from the question "Is Public Debt Issue equivalent to taxation?" The paper explains that according to Robert Barro (1974), Government debt issue is equivalent to future increases in taxes and that it is not an addition to the stock of private wealth. Since generations are linked together by an operative intergenerational transfer, utility maximization from one generation to the other is a continuous process. If these generations are rational, bequeath provision will be made from the preceeding to the succeeding generations in order to alleviate a prospective burden of the increase in future taxes arising from any fiscal action of the lifetime of the preceeding generation.

Since neither Ricardo nor Barro was specific in his bequeath prescription, generational transfer can take the form of either the social security system, savings transactions in the conventional financial intermediaries or other form of investments.

In looking at the modern generational transfers however, there are differences in parenthood. Some parents do but other parents do not like their offsprings. As a result, a different kind of generational transfer has to take place. We look at the stability or the instability of the debt through the growth rate of the debt-income ratio, $\Delta b/m$ where Δb is a proxy for the growth rate of the debt and m the growth rate of the nominal income. If the growth rate of the debt is greater than that of the nominal income, there will be a debt instability or the possibility of its growth into infinity. On the other hand, if the growth rate of the economy is greater than the growth rate of the debt, the debt-income ratio will be declining.

The most important in modern generational transfer is a steady, healthy economy. Today, one may inter-generationally transfer not only by personal savings, other forms of financial

transactions or on other investment expenditures but also by one's increased consumption expenditures not necessarily on durable goods but even on non-durable goods. This kind of expenditure promotes nominal growth rate of the economy. This growing economy will serve a good bequeath provision that will be passed from this generation to the on-coming generations.

Strategy For The Financial Analysis of Electric Utilities

Charles M. Becker
Texas Christian University

Every electric utility can be effectively analyzed if it is broken down into its most basic theoretical form, that of an imperfectly competitive firm. Once this has been done the analyst needs to focus on four endogenous matters and two exogenous ones.

Endogeneous Variable I (Projected Price Elasticity of Demand): For modeling purposes what is necessary is to determine for each electric utility its ratio of residential plus small commercial to large commercial plus industrial sales. The higher this ratio the better should be the expected financial results in a period of price inflation and the worse should be the expected financial results in a period of price deflation.

Endogeneous Variable II (Projected Changes in Demand): The following equation is embodied in the model as an initial step in resolving the growth/no growth question.

$$\text{Internal Growth Rate} = \frac{\text{Average* Rate}}{\text{Owners Equity}} \times \frac{\text{Average*}}{\text{Retention Rate}}$$

This equation is modeled (*) so as to include the average rate of return on owner's equity and the average retention rate for the most recent 15 year period (1972-1987). A second equation is now introduced into the model:

$$\text{Projected Growth/Decline} = \frac{\text{Internal Growth Rate}}{\text{Rate}} - 3 \frac{1}{2}\% \quad **$$

The second equation derives a projected growth rate (either positive or negative) by deriving this rate from the internal growth rate (calculated in Equation I) less 3 1/2%. In addition the double asterisk (**) in the equation indicates a cap of 7% (the twentieth century historical growth rate prior to 1970) shall be applied. Once a figure is derived if it is positive (no matter how small) the model assumes that demand will increase.

Endogeneous Variable III (Projected Slope of the Average Total Cost Curve): For modeling purposes dealing with individual companies two functions are utilized. Economics of Scale = f (Reserve Margins) and: Factor Scarcities = f (Fuel Mix). If reserve capacity is assumed to be high: I. a predominant nuclear and/or hydroelectric mix would tend to generate decreasing costs. II. a predominant fossil fuel mix would tend to generate increasing costs. If reserve capacity is assumed to be low: I. a predominant nuclear and/or hydroelectric mix would tend to generate increasing costs (this assumes that new generating capacity is brought on stream in such a pattern so as to maintain the existing mix). II.

a predominant fossil fuel mix would tend to generate decreasing costs (this assumes that new generating capacity is brought on stream in such a pattern so as to maintain the existing mix).

Endogeneous Variable IV (Projected Movement of Average Total Costs): Movements in average total costs are seen as a function of change in its major components (e.g. labor costs, fuel costs, construction costs, and taxes).

Exogenous Variable I (The Electric Utility in the Vertical Industry Structure): For modeling purposes the key rests with the ratio of residential to industrial demand for KWH. The larger this ratio the more downstream the electric utility and the more risk free its projected revenue stream. Conversely, the smaller the ratio the more upstream the electric utility and the less risk free its projected revenue stream.

Exogeneous Variable II (Regulatory Environment): A number of specifics enter into the appraisal of regulation as a positive, neutral, or negative influence impacting on an electric utility. These are listed below:

<u>Factor</u>	<u>Positive</u>	<u>Negative</u>
I. Commission Selection	Appointed	Elected
II. Rate Base	Fair Value	Original cost
III. Rate of Return	Above 16%	Below 13%
IV. Past Decisions	above 60% of Amount originally requested	Below 30% of Amount originally requested
V. Speed of Past Decisions	< 1 year	> 2 years
VI. Forward Test Year	Allowed	Not Allowed
VII. Take or Pay and Fuel Adjustment Clauses	Present	Not Present

Thus, a favorable regulatory environment would feature an appointive commission (providing a degree of political insulation), a fair value rate base formula (providing inflation protection), a historically high allowed rate of return over the past five years, a record of positive past decisions over the past fifteen years, a record of punctual decision making, the allowance of forward test year assumptions in rate applications, and the presence of take or pay and fuel escalator clauses in the tariffs of at least some regulated companies. Conversely, essentially opposite conditions would lead to the presumption of an unfavorable regulatory environment. The interpretation of these factors would be as follows: I. Any electric utility scoring a positive rating on five or more factors would be rated as having an above average regulatory environment. II. Any electric utility scoring a negative rating on five or more factors would be rated as having a below average regulatory environment. III. Electric utilities scoring between these extremes would be rated as having a neutral regulatory environment.

The Economics of Leon Keyserling and the Truman Era
W. Robert Brazelton, Ph.D.
University of Missouri-Kansas City

Leon Keyserling was largely responsible for both the Employment Act of 1946 and, as the second chairman of the Council of Economic Advisors, for the low unemployment level and low inflation level of the post-war Truman Presidency, 1946-53. During that time, the unemployment rate varied from 3.0% in 1952 to 5.9% in 1949 for an average, 1946-53, of 4.0%. The inflation rate varied from 18.1% (1946, the postwar inflation) to -2.1% (1949) for an average of 5.1%. Even the 5.1% figure is upwardly biased by the 18.1% of 1946 which declined significantly to 8.8% in 1947.

The Keyserling policy was based upon an actual growth rate approximating the potential growth rate of the economy -- an early version of the full employment budget concept of Walter Heller in the Kennedy-Johnson era. There were two main parts to Keyserling that are relevant herein: theory and policy.

In terms of theory, Keyserling was basically a Keynesian. However, Keyserling stressed both consumption and income distribution. Consumption (C) was a function of income (Y) so that, $f(Y)$. However, to Keyserling, this formula, ($C = f(Y)$), hid an essential truth that mainly consumption was a function of wages as wages (w) were the largest part of disposable income so that, in reality, $C = f(w)$. Thus, wages had to be sufficient to clear the market of goods (effective demand). If income distribution trends were such that profits were increasing more rapidly than wages or if the supply of goods were increasing more rapidly than the demand for goods, investors could not keep up investment as the relative share of consumption was dropping. It is possible that the government (G) could or would take up the slack but, if so, that makes investment a function of consumption and net government expenditures or, $I = f(C, G)$ where C is primarily determined by wages. Thus, a balance is needed between the growth of consumption, the growth in government, and the growth in investment. Economic balance and, thus, income distribution are important.

In terms of economic policy, the interest rate should be kept low so as to stimulate investment and to minimize the upward distribution of income to bond-holders. The money supply should be increasing at some rate generally, but must vary in the short-run due to varying economic and financial conditions. Keyserling, thus, was not a monetarist even though he recognized that money was relevant.

Keyserling also strongly believed that wages should be increased in relation to the increase in productivity so that the balance between supply and demand could be maintained. The root cause of inflation is shortage of supply, not an excess in

demand. In terms of inflation, Keyserling believed that to try to prevent an inflation by decreasing output increases inflation. The reasons are: firms cut output to operate to the left of the minimum costs, and so per unit costs increase; administered pricing allows these higher per unit costs to be passed on to consumers in terms of higher prices; and higher interest rates increase costs. Thus, inflation continues or worsens. Keyserling stressed that the periods of lowest inflation were not the periods of slowest growth, but of more rapid growth--1946-53; 1962-66. If an inflation should exist, selective controls are best. An increase in interest rates hurts the entire economy. Selective controls hurt only the guilty and spare the innocent. With selective controls plus low interest rates, the economy can continue to supply goods which, in the long-run, is the real answer to inflation, not decreasing demand. To Keyserling, the economic record clearly indicated that the economy performed best when actual output growth approximated potential output growth. Thus, the key to both his economic theory and his economic policy is the concept of balanced economic growth.

ABSTRACT

ADJUSTMENTS IN THE U.S. TRADE BALANCE WITH JAPAN

Heinrich Bruschke, Assoc. Prof.
Saint Louis University
Donald Westerfield, Professor
Webster University

I. INTRODUCTION

In the past few years, the bilateral trade imbalance between the United States and Japan has been widening, much to the dismay of those who are responsible for international trade policies in the United States [Martz, 1989; Lawrence, 1987; Bruschke and Westerfield, 1988]. The problem is far more complex than is obvious from trade statistics alone. Cultural and political considerations are thought to be major determinants of the widening gap in the United States imports from Japan versus exports to Japan [Westerfield and Bruschke, 1988]. This paper derives data which analyzes the "elasticities" and "absorption" approaches and then comments on the role of political/cultural factors in the trade imbalance scenario.

The Mundell-Fleming model has the exchange rate adjust so that it simultaneously clears both markets against each other [Ueda, 1988]. For given expected movements in exchange rates, capital will flow between countries in response to interest rate differentials.

In order to allow for the 'J-Curve' effect [Kreinin, 1987], the exchange rate EXCH in the following tables was lagged from zero quarters to four, six, eight, and ten quarters. Regressions of exports to Japan EXTJ and imports from Japan IMFJ on the exchange rates EXCH for the given lags are presented in the table below.

TABLE 1.
EXPORTS TO JAPAN V. IMPORTS FROM JAPAN
WITH LAGGED EXCHANGE RATES

PERIOD EXP/IMP	PERIOD EXCH RATE	REGRESSION EQUATIONS	RSQ.
88:3-83:3	88:3-83:3	EXTJ = 9.4-.0153 EXCH-0	52.5%
"	"	IMFJ = 30.8-.0660 EXCH-0	78.8%
"	86:3-81:3	EXTJ = 16.2-.0411 EXCH-8	71.6%
"	"	IMFJ = 29.1-.0428 EXCH-8	27.6%

The data indicate that Japan's imports from the

United States respond with a much lower sensitivity to changes in import prices brought about by exchange rate movements than do those of the United States imports from Japan.

The absorption approach is concerned with the dependency of import volumes on a country's total expenditures. GNP is used as a proxy variable for total expenditures. The observations in Table 2 below cover a period of 19 quarters, centered on 1985:Q4.

TABLE 2.

TRADE FLOWS RELATED TO U.S. GNP AND JAPANESE GNP

BILATERAL	QTR	RATIO	TOTAL	QTR	RATIO
IMFJ/USGNP	83:Q3	.013	USIMP/USGNP	83:Q3	.082
	85:Q4	.017		85:Q4	.087
	88:Q1	.018		88:Q1	.094
EXTJ/JGNP	83:Q3	.019	JIMP/JGNP	83:Q3	.107
	85:Q4	.014		85:Q4	.085
	88:Q1	.012		88:Q1	.063

TABLE 3.

EXTJ V IMFJ REGRESSED ON EXCH & JGNP (88:3-84:3)

EQUATION R SQ.

EXTJ = 3.98 - .0046 EXCH-0 + .0091 JGNP	68.7%
IMFJ = 30.6 - .0528 EXCH-0 - .0016 USGNP	95.6
EXTJ = 7.01 - .0136 EXCH-6 + .0068 JGNP	69.9
IMFJ = -32.4 + .039 EXCH-6 + .0400 USGNP	90.0
EXTJ = 10.3 - .0254 EXCH-8 + .0058 JGNP	81.0
IMFJ = -26.5 + .034 EXCH-8 + .0353 USGNP	86.6

The results in the table seem to imply that the J-Curve would be consistent with a six quarter lag on imports from Japan, and an eight quarter lag on exports to Japan.

From the United States side, the analyses of this paper have established that the persistent United States trade imbalance with Japan can be explained somewhat by higher United States absorption. From the Japanese side, even considering different lags on the exchange rate, the behavior of the Japanese exports versus imports cannot be explained by either the elasticities approach or the absorption approach. Economic theory suggests that a country's total imports should increase with increasing GNP, yet Japan's total imports as a percentage of its GNP "decreased" by over 40% in the observed period.

RECENT DEVELOPMENT OF AGRICULTURAL REFORMS IN CHINA

Ching Y. Chao

JACKSON STATE UNIVERSITY

The post-Mao leadership has realized that the prospect of rapid and broad based economic development and growth in China depends mainly on the ability to increase production in agricultural sector. For achieving the goal, improvement of rural life and changing the farm marketing system, broad change in rural economic policy took place in two stages. From 1978 to 1984, China engaged the first stage of the new agricultural reform which included raising farm prices, expanding private plots, diversifying rural economy, production responsibility system, and abandonment of commune system. Among them, the last two are very important. In 1985, China had entered the second stage of the reform which covered both pricing and marketing.

The production responsibility system is intended to provide the material incentives and give the peasants more scope in organizing and planning their own farming. The groups of team members, households, individuals, or a single household or a person are organized on a voluntary basis to make a contract in undertaking production with the production team. The contract sets a fixed output quota and defines rights and obligations. After fulfilling the contracted amount, peasants keep the rest of their production for their own use or sale. In case where the contracted quota is not met, there is a penalty. The forms of the system are responsibility to the work group, specialized producer, individual farm worker, and the household. The last one has become widespread form. It was reported that 97.89% of peasant households adopted this form in 1984.

The people's commune is similar to that of local government at the township level and has integrated government administration with economic activities since 1958. In recent years, with the implementation of production responsibility system, the commune revealed a contradiction of government administration and economic activities. The government completed the separation of political and economic authority from the commune in February 1985. Before the separation, the people's commune system composed of commune, production brigade, production team, and household. After the separation, the township governments of the early 1950's are revived to handle local administrative functions. The most significant change has been the establishment of all-township integrated cooperative which is made up of the three local specialized cooperatives.

The rapid growth of agricultural production exposed the weakness of agricultural marketing system. In China the government has monopolized on purchase of agricultural products, production quotas, and price control for agricultural products over last 30 years. The peasants now find it difficult to sell their grain and cotton to the government, while the production of some other agricultural and sideline products fail to meet the demands. The prices of many products neither reflect their true value nor the relationship between supply and demand. In these respects, China has launched a price reform. The basic measures of the reform are to abolish state monopoly of purchase and supply, decontrol non-staple food and sideline product prices and raise state retail food prices and railway rates.

The agricultural reforms contributed to the rapid agricultural growth, specialization, changing production structure, mechanization, application of new farming technology, reduction of farm imports, and better rural life. As a result, its over-all output value averaged an annual increase of 8.89% from 1978 to 1986. Livestock products also increased from 8.6 million tons in 1978 to 19.2 million tons in 1986. Under the price reform, agricultural production is now governed by the free market demands. Peasants are faced with major shifts in the relative profit of crops. A more rational ratio has been created among grain, industrial crops, fodder and other crops. The peasants' enthusiasm for production has led to a demand for farm machinery to raise productivity. Since 1979, the farm machinery in use has rapidly increased, especially the small and walking tractors which increased by 242.32% from 1978 to 1986. The number of farm machinery owned by peasants made up 8.8% of China's total. Since the peasants are eager to learn new farming techniques to raise yields, about 60,000 scientific and technical associations for the popularization of agricultural science and technology have been established in rural areas since 1982. In recent years, the abundant harvest of grain, cotton and soybeans has caused a change in Chinese agricultural trade with the U.S. China's imported agricultural commodities from the U.S. totaled \$57 million in 1986, down 97.48% from 1980. At the same time, China increased its agricultural exports to the U.S. to \$200 million in 1986, hence the United States was actually a net importer of Chinese agricultural products in 1986. Since the reforms, the peasant's per capita income had risen from 133.57 yuan in 1978 to 424 yuan in 1986. Averaged an annual increase of 27.17% from 1978 to 1986. It enables peasants to buy more clothing, furnishings, household items, bicycles, sewing machines, electric fans, radios, and watches to improve their living conditions. Now the higher income peasant households even buy washing machines, TV sets, tape recorders, and cameras. An important indicator of the improvement in peasants's living condition is the housing boom in rural areas. In 1986 alone, about 800 million square meters of new houses were built. The per capita floor space of rural households increased from 14.70 square meters in 1978 to 26.68 square meters in 1985.

THE IMPACT OF RECENT RURAL REFORMS IN CHINA

Ching Y. Chao

Jackson State University

From 1978 to 1984 China engaged the first stage of the new rural reforms which included raising farm prices, expanding private plots, diversified rural economy, production responsibility system and abandonment of commune system. Among them, the last two are very important. The production responsibility system enables peasant households to take production responsibility and to link their income to output. After fulfilling the contracted amount, they keep the rest of their production for their own use or sale. This is an incentive to greater production and better management. With the implementation of the acceleration of agricultural development, the commune reveals a contradiction of government administration and economic activities. China recently dismantled the communes and replaced them with local township government and cooperatives. The rapid growth of agricultural production exposed the weakness of agricultural marketing system. In 1985 China had entered the second stage of the reform which covered both pricing and marketing. The reforms provide strong incentives to peasants to raise output, minimize costs and maximize income. As a result, its over-all output value averaged an annual increase of 6.5% from 1978 to 1987. In 1987 output of grain, cotton, oil crops and meat increased 32.18%, 95.85%, 192.72% and 124.42% over 1978, respectively. Under the price reform, agricultural production is now governed by the free market demand. A more rational ratio has been created among grain, industrial crops, fodder and livestock. The peasant's per capita income had risen from 133.57 yuan in 1978 to 462.6 yuan (U.S. \$1=3.72 yuan) in 1987. Averaged an annual increase of 27.17% from 1978 to 1987. It enables peasants to buy more consumer goods and durables, and to build more new houses to improve their living conditions. For instance, their per capita floor space increased from 8.2 square meters in 1978 to 16.0 meters in 1987.

The new rural reforms are good medicines to cure for slow agricultural growth, but its side effects created new problems. In the course of price reform, a certain rise in price is inevitable. But China has experienced too rapid price rise in the past few years. China's official inflation rates were 8.8%, 6.0% and 7.3% in 1985, 1986 and 1987, respectively. Its rates over 20% were reported in the several major cities. At present, steep food price rises are turning out to be the major economic problem in China

in 1988. The averaged price rise in 32 large and medium-sized cities was 13.4%. Price for non-staple foods grew by 24.2% with a dramatic 48.7% rise in the price of fresh vegetables. Grain is China's most important food, but her grain production had failed for four consecutive years to fulfill its targets, and found difficulties in keeping up with the fast growth of consumption due to the low purchasing grain price and the reduced government investment in water conservancy projects. The new reforms have changed the collective agriculture into individual farming and led to income inequalities between rich and poor in rural areas. There are households that earn 10,000 yuan or more yearly, and low income ones with per capita income of 150 yuan or less. With the demise of commune system, funds to support rural health care system declined and some personnel of the system such as barefoot doctors left for more paying jobs in cities. These have crumbled the system. Under the responsibility system, the more work a family does the more it earns, this has tempted peasants to let children drop-out of school and go to work in the fields. Especially the poor and backward rural areas where the drop-out rate are higher. In rural China the population growth rate has rapidly dropped to 11 per thousand since the family planning program was implemented to limit couples to one child and to encourage late marriage and late child-bearing in the late 1970's. Due to the production responsibility system allocating the land to household is based on the labor force and the number of persons in the household, peasants tend to have more children as a guarantee of future labor power and the acquisition of more land. Hence the peasants ignored their pledges to limit couples to one child.

Recently government declared the stabilization of prices as the top priority and will take measures to solve the problems of high price and lagging grain production. The important ones are raising purchasing prices of agricultural products, controlling inflation and investment in non-agricultural capital constructions, increasing state investment and construction in agriculture, allowing peasants to purchase and transfer land-use rights, encouraging peasants to use better seed strains and more machineries in farming, stimulating commodity circulation, controlling excessive consumer demand, and subsidizing to consumers to cover food price rises.

The Theoretical Basis of State Development Plans: The
Case of Arkansas

Roger K. Chisholm

Ralph B. Shull

James F. Butler

University of Arkansas at Little Rock

The last ten years have produced regional changes in economic fortune and many states have responded with efforts to restore and increase economic growth. The intrusion of world economic conditions upon the economies of states has increased the desire to determine economic destinies on the part of the states. Much of the Sunbelt benefited from the restructuring of the U. S. economy but Arkansas did not receive the same boost as some of its neighbors. Economic development efforts have not been lacking in the state but the results have been disappointing.

This paper analyzes actions by the legislature over the past five years which were designed to promote economic development. The approach is taxonomic and no attempt is made to measure effectiveness. Economic development is defined as expanded economic activity as measured by increased earned income, increases in employment, increases in wages/salaries, new firms attracted and expansions of existing firms. Efforts were made to exclude pure transfer payments and purchase of amenities disguised as economic development activities. Transfers to lagging industries designed to assure survival and growth are included regardless of actual results.

The taxonomy of this paper follows R. Scott Fosler's categories which are: economic foundations; market failure correction; global integration; opportunities; life cycle; promote firm size diversity; emerging industries and synergistic approaches. We also use a catch-all category called industrial locators or the give-them-what-they-want approach.

The Arkansas legislature meets every two years and the 1985 and 1987 sessions were studied for this paper. Recognizing that there were previous economic development efforts, the pre-existing activities are noted. The Arkansas Industrial Development Commission, in cooperation with local governments and private industry, provides information to firms wishing to locate or expand. The Small Business Development Corporation does the same for small firm start-ups and

expansions and with help from the SBA also provides financing for eligible firms. In addition, business incubators are supported by the state as a means of assisting new businesses. Direct financing is available through revenue bonds, loan guaranties and general obligation bonds. Favorable tax treatment is offered through exemptions to sales and use taxes and by credits to corporate income taxes.

During the 1985 and 1987 sessions, the Arkansas legislature passed 42 acts related to economic development. The number and percentage of acts falling in each category are shown below.

Approach	Number of Acts	%
Economic Foundations	23	55
Global Integration	1	2
Opportunities	7	17
Promote Size Diversity	1	2
Emerging Industries	4	10
Synergy	*	
Industrial Locator	6	14
Total	42	100

* All of the emerging industry acts had synergy elements.

Over half of the acts were aimed at improving the economic foundations for development. Seventeen percent of the acts seized particular opportunities in the tourism, mobile home and oil well drilling industries. Ten percent of the acts were aimed at identifying and aiding emerging industries. All of the preceding may be viewed as positive and helpful. Fourteen percent of the acts were essentially tax benefits for favored firms or industries masquerading as economic development.

The 1985 legislature seemed more attuned to economic development issues than the 1987 session. The 1989 legislature has just concluded and the acts passed will be added to the data base. Further refinements in the analysis should assist in determining the extent to which a state may influence economic outcomes when world markets are a driving force.

ABSTRACT

PROSPECTIVE REIMBURSEMENT PLAN FOR LONG-TERM CARE: A STATE MODEL

Congressman Thomas Curtis, L.L.D.
Donald Westerfield, Ph.D.
Thomas Allen, J.D.
Allan Curtis, M.B.A.

I. INTRODUCTION

On August 16, 1988, the Department of Social Services, Division of Medical Services (DSS/DMS) of the State of Missouri proposed a prospective reimbursement plan for long-term care in nursing homes [Rehagen, 1988]. This proposed plan contains some twenty three sections and two appendices outlining the method by which Medicaid rates should be calculated and implemented for nursing homes in the State of Missouri.

The proposed State of Missouri plan was designed to replace an existing prospective reimbursement plan which has been in effect in Missouri since October 1982. The existing plan was supposed to be a "temporary" plan, and established a data base using individual long term care providers' cost reports from 1981.

Presently, in the State of Missouri, there are approximately 528 nursing home facilities, of which about 390 participate in the Title XIX Medicaid program. Of the approximate 49,000 nursing home beds in Missouri, about 35,000 beds are Medicaid certified and are used by about 22,000 actual Medicaid patients. The federal government contributes about 60 cents of every \$1 spent in the State of Missouri on the Medicaid program.

II. STATE PLAN FEATURES

The prospective reimbursement plan has several features which were designed to streamline the previous State of Missouri plans. The main features of the plan are given below.

1. Rebased Procedure using cost adjustments based on the Gross National Product Implicit Price Deflator (GNPIPD) for the most recent eight quarters.
2. Facility costs are separated into four Cost Centers:
 - a) Patient Care - This cost center includes nursing and ancillary services.
 - b) Health and Subsistence - This cost center includes dietary, laundry, housekeeping and plant maintenance.
 - c) Capital - This cost center includes rent, depreciation, interest, insurance, and

taxes. d) General and Administrative - This cost center includes administrative salaries, management fees, owners, compensation, other administrative costs, and an incentive allowance.

3. Cost Center Per Diem Percentile Limitations which are set at the 85th percentile of all Medicaid beds for full reimbursement for patient care. The other limitations are: a) Patient Care - 85th Percentile, b) Health and Subsistence - 80th Percentile, c) Capital - 65th Percentile, d) General and Administrative - 60th Percentile.

4. Incentive allowances up to 25% of the dollar amount by which the facility's per diem cost in the general administrative cost component is below the 60th certified bed percentile of per diem general and administrative cost for all providers.

5. Proposed Reimbursable Rate Structure per patient day is: a) Patient Care - \$25.19, b) Health and Subsistence - \$15.28, c) Capital Costs - \$ 7.41, d) Administrative Costs - \$ 6.22, for a total maximum rate of \$54.10.

III. SUMMARY AND ANALYSIS

The plan is based on past data and does not consider varying size and location of facilities. The plan does not design in release to Home Care, which is a vital part of our national health care system. The plan was designed to be "budget neutral", but it is really a form of "cost shifting" from the State to the private sector. There is little or no room for resource reallocation when necessary. Critics of the plan say the plan has "service rationing" as its major foundation.

Despite the foregoing limitations, the plan could be used as a model for other states. There is always the conflict regarding the proper use of federal and state funds. The full-length paper analyzes several economic and social welfare issues associated with the proposed reimbursement plan for the State of Missouri.

THE TORT REFORM MOVEMENT:
WHAT HAS BEEN ACCOMPLISHED?

Thomas O. Depperschmidt
Memphis State University

The "tort reform" movement which occurred in the mid-1980's was a reaction to the abused legal principles and excessive damage awards in personal injury, wrongful death, and product liability litigation that occurred over the previous three decades. That movement, as measured in state legislation adopted, seemingly peaked in 1986 and 1987, with relatively minor adjustments and revisions continuing in 1988.

Caps on non-economic damages of one type or another (including medical malpractice and punitive damages) were enacted by 34 states. The 10 states that legislated general caps set damage award limits ranging from \$875,000 in New Hampshire to a low of \$177,000 in Washington, although special qualifications limit the application of some of these caps. The outcry by physicians, hospitals, and medical care providers against rising insurance rates due to higher tort damage awards led 17 states to enact caps on medical malpractice awards in 1986-1988, with \$1 million a typical limit. Increasingly common are limits of liability for each medical provider, with an overall cap per occurrence. Punitive damages in tort awards also attracted a good deal of legislative attention, with 23 states acting either to cap these awards or toughen the standards under which they can be awarded.

Joint and several liability rules typically state that once a plaintiff proves injury through the acts of several defendants, each defendant is liable (however small the individual liability) to the full extent of damages awarded if one or several other defendants cannot pay. Legislatures in 30 states abolished or modified the rule in 1986-88. With limitations through case law and with earlier abolitions in some states, there are effectively 35 states that have acted to limit the rule in some fashion in the last decade.

A total of 28 states made some modification in the collateral source rule, of which seven apply only to medical malpractice suits. The general rule states that defendants cannot benefit (i.e., have damage liability reduced) by the plaintiff being paid for damages from other sources such as insurance or public programs. Any limitation on the rule, therefore, diminishes the amount of the defendant's damages otherwise owed. Evidence of

collateral sources was simply made "admissible" in ten states, ostensibly to provide the court information to allow reduction of the defendant's damage amount. Other states adopted mandatory offset of all payments from a collateral source explicitly or by implication in other court procedural rules.

Attorney contingency fees have been limited by legislation in 24 states in the 1980's (of which 13 laws apply only to med-mal damage suits) in the form of sliding scale limits on the general attorney fee structure, as sanctions in "frivolous" suits, by allowing the court to review/approve the reasonableness of contingency fees charged, or by tying fees to the law on structured settlements.

All but four states acted in some way on one or more of these four major reform areas in the 1980's. Approximately half of all states enacted broad-scale, substantive changes in tort law.

Restoring the tie of liability to fault provides the legislative direction most suitable to resolving the "liability crisis". The specific reforms adopted in the 1980's, including changes in casualty insurance law, settle into place on that foundation. The alternative to a strict fault standard tied to liability may be a larger range of no-fault resolutions of disputes. That alternative may be very drastic for the United States in view of its common law heritage, but one that, because of its predictability, may become more attractive if the present liability crisis is not resolved effectively through current reform legislation.

The Macrodynamics of Advanced Market Economies: The Post-Keynesian Perspective of Alfred Eichner.

Johan Deprez
Texas Tech University

This paper examines the comprehensive post-Keynesian perspective of the late Alfred S. Eichner. In his attempt to provide a thorough alternative to the neoclassical orthodoxy, Eichner incorporated ideas from a variety of heterodox perspectives, including Institutionalism, (post-)Marxian, and behaviorist, with post-Keynesian foundations. As such his broad-reaching work won the praise from a wide circle of heterodox economists and, obviously, the scorn of many orthodox ones.

Methodologically, Eichner emphasized an approach based in the phenomenological nature of the economy and had little use for theory that is not empirically based. Empirical verification is seen as the catalyst for progress in science and the lack of this process in economics is seen as the reason for scientific stagnation in this discipline. Eichner's approach is also broad in that it draws from all social sciences. The economic dimension shares with the normative dimension, the political dimension, and the anthropogenic dimension the stage of explaining human activity.

The central causal element in Eichner's economics is the megacorp -- the archetypical oligopolistic, industrial-sector firm that dominates advanced capitalist economies through its investment and pricing decisions. The market power of this firm makes it a price-setter. The second distinguishing feature of the megacorp is that its direct per unit costs are seen not to vary with the scale of production. A further crucial and unique feature is that an explicit interrelationship exists between the megacorp's long-period investment decisions and its short-period pricing decision. The megacorp is thus concerned with its market share and the purpose of the mark-up is to generate the internal funds required to finance investment.

Eichner's analysis of the macroeconomic impact of this megacorp is carried out in terms of a Leontief input-output model. This model is able to deliver a Keynes-type determination of output and employment based on an exogenous value of aggregate demand, and includes mark-up and technological coefficients consistent with the megacorp microfoundations. Final prices from this model are cost-based and include wage costs, intermediate goods costs, and the gross mark-up. Eichner explains both the trend and cyclical movement in output and employment on the basis of fluctuations in investment, changes in the composition of demand, and technological progress.

In contrast to neoclassical theory that puts the household as the generator of funds for investment in Eichner's theory it is the megacorp which serves this function. This view is complemented with the monetary theory perspective of Kaldor and Moore which emphasizes

the credit-money nature of the modern economy and the endogeneity of this money. This means that money does not possess scarcity and the monetary authority can only control the rate of interest.

The endogeneity of the money supply means that it cannot be the determinant of the aggregate price level as the Monetarists would have it. For Eichner the price level and inflation is explained by the wage bargain between the megacorp and its unions, the mark-up decision of the megacorp, and the impact of technical change on per unit costs. Not only is an inflation theory diametrically different than that provided by the Quantity Theory of Money, but it also lead to Eichner dismissing the Phillips curve trade-off between inflation and unemployment as a barbaric hoax. With incomes policies, if needed, high employment and low inflation are mutually consistent goals.

The distribution of income is not technically determined, as in neoclassical economics, but is socially determined. The technical aspects of production give the output possibilities, within which income distribution is determined by the social struggle between wage-earners and profit-receivers and by expenditures. The pricing decision of the megacorp adds the final aspect of income distribution. In that there is no "natural" distribution of income, incomes policy may also be used to obtain politically-determined distributions of income.

Eichner's analysis of the labor market takes a human developmental or "anthropogenic" approach. He rejects the orthodox view as labor as just another commodity and replaces it with a view of the uniqueness of labor based on the active nature of the people that are the providers of labor. People are seen as deriving positive feelings from work. The availability of work, the development of people, and career ladders are fundamentally tied in with the megacorp. It is a social theory of the labor market that incorporates ideas on segmented labor markets.

Eichner understood the dynamic nature of the advanced market economy and its institutions. In his later work, Eichner analyzed the dynamics of structural change and latched on enthusiastically to the multi-sector structural change model of Pasinetti. It allowed Eichner to discuss uneven technological progress between industries, and Engel curve/product life cycle notions on the changing composition of demand.

Eichner's work resulted in a key synthesis from which heterodox economists of all kinds can learn and which they can extend to even a better synthesis.

The Israeli Kibbutz Ulpan: A Critical Look at a Unique Method of
Immigrant Orientation and Absorption

By Barry L. Duman
T. Boone Pickens College of Business
West Texas State University
Canyon, Texas 79016

ABSTRACT

Since the late 1940's, the Israeli government has tried a variety of techniques to stimulate Jewish immigration to Israel with the intent of enhancing that country's economic development and providing a haven for displaced and persecuted Jews. Perhaps the most interesting and certainly most unique is the kibbutz ulpan program. Located on agricultural collectives, it is designed to provide a learning-working experience that ultimately leads to productive integration, both economically and culturally, into Israeli society. The physical makeup of a kibbutz ulpan is akin to a summer camp. Students reside in dormitories and take meals communally with kibbutz members. They also intensively study Hebrew language and Israeli culture. Students support themselves by working half a day alongside kibbutzniks in jobs ranging from unskilled to basic service provision.

The purpose of this paper is to analyze the experiences of one class of participants, American Jewish women. This group is highly recruited by the Zionistically motivated Jewish Agency on behalf of Israel and represents an interesting mix of religious, socio-ethnic and economic traits. The study was conducted through the use of a lengthy questionnaire as well as numerous interviews in Israel with many ulpan participants.

The results of this study were provocative in that almost all respondents indicated that the ulpan experience prepared them for a highly structured and somewhat sheltered life on a kibbutz but did not prepare them for integration into mainstream Israeli life. Numerous reasons were offered including the view that acquired jobs and interactive skills were limiting in light of the present status of Israeli economic development. Although the cost to the participating kibbutz is nominal in a direct sense, the opportunity cost of the development policies foregone is certainly significant. This aspect must be considered given Israel's current precarious economic situation. As is true in all such studies, much further investigation is warranted; perhaps next time, focusing on the degree of short term economic benefit to the kibbutz as a result of its ability to employ ulpan members at very little cost.

EXAMINING THE VALIDITY OF A TEST OF FUTURES MARKET EFFICIENCY

Emmett Elam and Bruce L. Dixon
Texas Tech Univ. and Univ. of Arkansas

The efficiency of futures pricing has been examined using the model:

$$S_{t+1} = a + bF_{t+1} + e_{t+1} \quad (1)$$

where S_{t+1} is the spot price at $t+1$; F_{t+1} is the price at t for the futures contract maturing at $t+1$; e_{t+1} is a random disturbance with mean zero and variance σ_e^2 ; and a and b are fixed parameters. Pricing is considered efficient if $a=0$ and $b=1$. However, empirical estimates of the a 's have mostly been positive and the b 's less than one, at least for futures contracts several weeks before maturity. From these results it has been concluded that futures prices provide inefficient (or biased) estimates of the futures (or spot) prices at contract maturity.

Maberly shows that the results from pricing efficiency tests may be misleading ("Testing Futures Market Efficiency--A Restatement," Journal of Futures Markets, 5(1985): 425-32). He believes this is due to using ordinary least squares with censored data. To the contrary, this paper has argued that the misleading results are due to biases in the estimates of a and b in eq. (1) resulting from the regressor in eq. (1) being the lagged value of the dependent variable. Based on simulated data for different sample sizes we show that as the sample size increases, the biases decline (see table below). However, for sample sizes encountered in practice (25-35), the biases can be quite large.

Estimated a and b-values for Eq. (1) for Selected Sample Sizes

Sample Size	Weeks to Maturity (i)					
	1	3	6	13	20	24
26:						
a	0.06	0.13	0.30	0.68	0.99	1.21
b	0.98	0.96	0.90	0.78	0.68	0.60
50:						
a	0.04	0.07	0.15	0.32	0.47	0.57
b	0.99	0.98	0.95	0.90	0.85	0.81
500:						
a	0.00	0.01	0.01	0.03	0.05	0.06
b	1.00	1.00	1.00	0.99	0.98	0.98

From Elam E., and Dixon, B.L. "Examining the Validity of a Test of Futures Market Efficiency," Journal of Futures Markets, 8(1988): 365-72.

A SUPPLY-DEMAND MODEL OF QUALITY TEACHING SERVICES

Kenneth E. Galchus
Department of Economics and Finance
University of Arkansas at Little Rock
Little Rock, Arkansas 72204

In the past, supply-demand models of teachers' services have had to rely on such variables as 'number of years of teaching experience' and 'percentage of teachers with a masters degree(or doctorate)' in attempting to measure the amount of quality teaching demanded and supplied in a school district. This was the case since the obvious lack of data made the use of such variables mandatory. Recently, however, a set of data has become available that obviates the need for such proxy variables.

These data come out of a legislatively mandated program in Arkansas designed to test the reading, writing and mathematical competency of all incumbent public school teachers. The testing of some 25,000 teachers in Arkansas during the period 1985-87 has provided a set of data that gives some indication of the competency and so quality level of the stock of public school teachers by county in the state.

The quality of teaching in a school district is determined by the interaction of supply-demand forces that, among other things, will ultimately determine how 'good' or 'bad' a school district really is. These forces will depend on how much quality teaching a district is willing or able to pay for and the degree to which quality teachers are attracted to certain districts. On the demand side, the demand for quality teaching in a county will depend on the school property tax rate, assessed value of property in a county, income level, state and federal funds per student, price and taste for education. The supply of quality teaching to a county will depend on location, amenities of the area, student characteristics and price.

The supply-demand model as set out above was estimated using two-stage least squares. The pass rate on the Arkansas basic skills examination was used as a proxy for the average competency level of teachers in a county. All the variables in the demand equation have the correct sign, but the R^2 value is fairly low at .08. The three dominant variables in the demand equation are price, area income and the school property

tax rate. The results indicate that a one percent increase in the salary level will lead to a decline in the level of quality teaching by approximately 1.2% . The income elasticity for quality teaching is approximately 0.36 while the similar measure for the tax rate is 0.05. The relatively low income elasticity reflects the fact that wealthier counties make educational expenditures, not only for better qualified teachers, but also for greater numbers of teachers, more buildings etc. The relatively low elasticity for the tax rate shows the difficulty of increasing teacher quality by simply raising tax rates. It may be that increased tax revenues generally go for obvious changes such as new facilities and a greater number of teachers rather than for the more subtle problem of poor quality teaching. The results also indicate that present state and federal spending plans have little effect on teacher quality in Arkansas.

The adjusted coefficient of determination for the supply equation is about nine times the same statistic for the demand equation. The most important variable is a proxy for student characteristics which shows that variables' importance in teacher location decisions. The only other important variable in the supply equation is the unemployment rate which is a proxy for the area amenity level.

Various plots and regressions run on the residuals suggested that median income was causing at least some nonrandom changes in residual variance. Using this evidence as a basis, median income was used to adjust the supply-demand model for heteroskedasticity. The adjusted results show a marked improvement in t-values and coefficients of determination. However, no new variables become important in the demand equation with the removal of the heteroskedasticity. Price is the one new important variable in the supply equation. The coefficient on this variable indicates that it would take a \$10000 increase in the price offered for quality teaching to raise the pass rate in a county by about 20 percentage points. Since the pass rate on the Arkansas competency test was as low as 65% in some counties, a \$10000 salary increase would still not be enough to put those counties on the same footing as those that had pass rates approaching 95%.

The empirical results found in this study indicate that it will take a large infusion of resources to improve the quality of teaching in Arkansas. And at this time these resources do not seem to be forthcoming.

An Income-Based Synthesis of Responses to
Alternative Dairy Policy Options
For Three Hypothetical Types of Dairy Farms

Wayne M. Gauthier

Associate Professor of Agricultural Economics &
Agribusiness, Louisiana State University Agricultural
Center, Louisiana State University, Baton Rouge, La.
70893

Over the years, many instruments of dairy policy have been used to cope with conflicting objectives of maintaining farm income, insuring adequate supplies of milk, minimizing the cost to the treasury of the milk price support program, and assuring consumers of an adequate supply of milk at reasonable cost. Dairy policies seek to accomplish defined objectives by altering the incomes from dairy farming.

Dairy farms are unique entrepreneurial entities. Distinctions between types of dairy farms can be made in terms of the lengths of their planning horizon, levels of capital investment, and levels of indebtedness. Their uniqueness influences their individual and collective responses to a given instrument of dairy policy. This paper develops a synthesis between the determinants of income and dairy policy options. This synthesis is then used to develop an explanation for the divergent responses to a common instrument of dairy policy by three hypothetical types of dairy farms.

In this paper, net income is defined as $Y = (P - AC)Q$ where Y is net income, P is the price received by the producer, AC is the average cost of production and Q is the quantity of product sold. The three key variables determining the level of income are P , AC , and Q . Thirteen different instruments of dairy policy are considered in terms of their first order micro impacts upon either P , AC or Q as well as their first order macro impacts upon the budget or level of dairy stocks. A central thought is that by impacting income the instrument alters the opportunity cost of dairy farming which influences resource allocations (numbers of dairy farmers). Both the targeted micro variable and the choice of policy instrument are important because of their influence upon the type of dairy farm that bears the brunt of resource allocation essential to the achievement of the macro objective.

**RESPONDING TO THE OIL SHOCK:
THE U.S. ECONOMY SINCE 1973**

Rodolfo Alejo Gonzalez and Roger Nils Folsom*

*U.S. Naval Postgraduate School, Administrative Sciences Department
San Jose State University, Economics Department*

Many remember the U.S. and world economies in the 1970's and early 1980's only as an era of problems: severe inflation, high unemployment, excess capacity, slow real economic growth, low saving rates, huge government budget deficits, extraordinarily high nominal and then real interest rates, and large foreign trade "deficits" together with a very high international exchange rate value of the dollar. From the left, these problems often are viewed as the unfortunate consequences of a wild business cycle generated by an inherently unstable capitalist economy in which government "stabilization" interventions and controls have been inadequate. From the right, these problems often are viewed *simply* as the consequence of "bad" government policy, where bad sometimes means too interventionist and sometimes means not interventionist enough (as when some monetarists and supply-siders argue for more rapid monetary growth).

Neither Keynesians nor monetarists have been able to supply a consistent explanation for the macroeconomic behavior of the U.S. economy since the first oil shock in 1973. But the main economic events of this period can be explained by assuming that private decision makers responded rationally to the energy "crisis" while government policy makers, particularly the monetary authorities, did not. This analysis combines recent ideas from different schools of thought (rational expectations, supply side economics, etc.) to provide a coherent explanation of employment and investment decisions, and argues that the U.S. economy's current prosperity is the result of intertemporal resource reallocations.

Private decision makers acted as if they foresaw the oil cartel's decline, and responded rationally to the energy "crisis" by reallocating labor effort, leisure, and capital use over time. Government policy makers, particularly the monetary authorities,

*Although solely responsible for the views expressed here, as well as for any errors, the authors greatly appreciate comments by J. Paul Leigh, Tim Sass, and David Saurman.

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acted as if they did not foresee the cartel's decline.

In terms of aggregate economic output, energy is a complementary resource to both labor and real capital (including other natural resources). The shocks that decreased the availability of oil to the U.S. in the 1970's must have greatly decreased the (marginal) productivity of labor and also capital at that time. In contrast, if labor and the owners of real capital both believed that the energy crisis was temporary, and that energy would once again be plentiful, the oil shocks may not have significantly depressed the expected future opportunities for labor and capital in the 1980's.

Workers and capitalists may have been unimpressed by the argument—advanced by many energy "experts" in the 1970's—that the rise in oil prices was a sign of dwindling worldwide energy sources. Instead, they may have realized that high oil prices almost certainly would induce energy conservation and the discovery and development of new oil supplies not controlled by the cartel, and might stimulate the development of alternatives such as solar power. If they correctly perceived the energy situation as a temporary disruption caused by the OPEC cartel, they should have assigned a high probability to a recovery of energy supplies in a not-too-distant future.

Cartels rarely prevail for long against competitive market forces that move investment to the activities expected to be most profitable. Moreover, even if a profit maximizing oil cartel had a perfect and unassailable monopoly it would not reduce oil production permanently, but would merely shift production to the future.

Suppose that the suppliers of labor and capital did expect the oil shortages and resulting declines in productivity to be temporary. Their rational response to the difference between existing and expected future opportunities created by the oil crisis—and by government policies that were at least partly reactions to the oil crisis—would be to increase their leisure and postpone their labor effort and capital use until energy supplies returned to normal.

The assumption that private actors in the U.S. economy anticipated the return of more plentiful energy supplies, while government policy makers acted as if they did not, can explain all of the U.S. economy's significant features in the 1970's and early 1980's, listed above. It can explain also the reversal of many of these significant features, and the unusually long economic expansion, that followed in subsequent years.

The Role of the Federal Reserve Bank of New York
In Central Bank Cooperation Prior to 1975
Dr. Kristin Howell
University of North Carolina at Wilmington

Increased international interdependence, growing trade volume and liquidity demands, large capital flows, and balance of payments problems characterized the 1960's, the last decade of the Bretton Woods exchange rate system. During this time, the Federal Reserve Bank of New York (FRBNY) exhibited increased efforts to cooperate with the European central banks and the Bank for International Settlements (BIS). One example of this involvement was the creation and international use of the Federal Reserve Reciprocal Currency Agreement System (RCA's). This innovative financial tool was to be used as a short-run mutual credit facility to allow the central banks to "swap" foreign exchange. These additional reserves were to be used by the banks to officially intervene to defend the par value of their currencies against growing speculative attacks. Increased international policy coordination and a degree of short-run monetary stability were the results. This paper describes the role of the FRBNY in such a cooperative activities under a fairly rigid exchange system. The effects are interesting in light of current concerns over financial stability, possible alternative exchange regimes, and degrees and methods of international monetary cooperation.

Keynes' Finance Demand for Money

Michael J. Gootzeit and Donald R. Wells
Memphis State University, Memphis, TN 38152

Keynes neglected to mention the finance motive as one reason for holding cash in his General Theory, but attempted to correct this oversight in some articles he wrote in 1937 and 1938. However, Keynes was not able to bring lasting attention to this motive; it was not even mentioned by Leijonhufvud in his famous 1968 book on Keynesian Economics.

The finance motive was discussed in Keynes' Treatise on Money in 1930 but in that work it referred to bank hoarding of funds in anticipation of a slump. Thus, it was part of the store of value function, and a possible forerunner to the asset demand for money.

In the 1937-38 articles, however, the finance demand was halfway between active and inactive balances; it referred to the short-term financing a firm must arrange during construction of a capital project. The cash that the ex-ante investor needed could not be supplied by current saving, but only by newly created money or the transfer of some existing money. This cash, which is temporarily held while financing new investment, is passed on in a self-renewing fund to new business borrowers. It is held by firms during the time lag between inception and execution of the decision to invest. Keynes generally listed it with the demand for active balances; this demand rose with income, even before the transaction demand, but could "fall away" after the investment project achieved permanent financing.

One rare example of Keynes' finance demand in macro text was in John Henderson's 1961 National Income - Statics and Dynamics which used the definition found in the post 1936 articles, rather than that of the Treatise.

Keynes' finance demand is one more reason for money to be demanded, and therefore, a factor to be considered in determining the interest rate. Keynes obviously thought it to be important, because he spent a good deal of time discussing it in those articles published after 1936, and expressed regret that he neglected it in The General Theory.

Variations in Anxiety/Attitudes of Black Highschool Teachers Towards Computers

Raja R. A. Issa¹ , Robert L. Lorentz²

With the proliferation of personal computers in the home and in the workplace, there is an ever increasing demand for the integration of computers into elementary and secondary school curricula. Invariably, the approach taken to satisfying such demands involves the training of the current staff of educators in the use of personal computers as both a teaching and a research and administrative tool. The purpose of this paper is to study the differences in attitudes and anxiety levels between black highschool teachers.

A survey was taken of forty highschool educators. The first group, consisting of twenty teachers, was without any prior training on the computer. The second group of twenty educators, consisted of those who have had "regular" exposure to microcomputers. For the purposes of this paper, regular exposure to computers is being defined as a minimum of one hour or more daily use of the computer. Statistical studies were conducted on the survey data to determine the significant differences in attitudes/anxiety among the two groups of highschool teachers.

Two major findings emerged from this study. First, the analysis of the attitudinal variables showed marked differences among the exposure and no exposure groups. Differences among those who had exposure included reversal from the no exposure groups' believe that computers are difficult to use, that computers are complicated machines, and the lack of understanding of the many applications possible with a computer. Both groups disagreed with the statement that it is more troublesome to do something on the computer than by hand, with the no exposure group disagreeing to a slightly greater (4.3 vs. 4.1) yet statistically

¹ Associate Professor, Computer and Information Sciences,
Mississippi Valley State University, Itta Bena, MS 38941.

2
Assistant Professor, MBA Program, Mississippi State
University, Meridian Branch, Meridian, MS 39304.

significant amount. No exposure educators did indicate increased levels of anxiety towards computers as shown in questions 11 (Using computers is very stressful, i.e. frustrating), and 13 (I have a good understanding of the many applications possible with a computer). Second, discriminant functions did discriminate differences between a priori defined groups. The discriminant functions correctly classified group membership at a level much beyond the chance level of 50 percent. Ninety percent of the "exposure" and "no exposure" group members have been correctly classified.

No individual study provides the definitive answer to any research question. The findings in this study will take on additional meaning with replications and extensions. Therefore, recommendations for future research are as follows:

1. Replication of the study should be made with the following modifications:
 - a. the groups should be proportionately stratified random samples, thus overcoming the shortfall of the non-homogeneous structure of the exposure and no exposure groups in the present study.
 - b. the number of group members should be enlarged to reduce the non-random assignment of highschool teachers in both groups.
 - c. a larger population sample would provide a larger data base for additional statistical analysis.
 - d. the study should be extended to other sub-cultural groups, including but not limited to, Hispanics and Orientals.
 - e. extension of the study should be made to a comparison of teachers to students and staff members.

As this study indicates, both attitudes and anxiety levels of black educators towards computers can be expected to improve with regular exposure to computers.

The Validity of Using Gravity Flow Models in the Evaluation of G.S.P.

S. Hussain Ali Jafri
Southwest Texas State University

The Generalized System of Preferences (G.S.P.) is an arrangement under which duties on imports from developing countries in developed countries are waived or reduced, but maintained on goods imported from other countries. All developed countries presently offer G.S.P. programs.

I. PROBLEM:

Several studies have been made in evaluating the impact of G.S.P. In the studies conducted by Murray (1973), Iqbal (1974), and Baldwin and Murray (1977), the "real" or "actual" effect of G.S.P. is not captured as they were all based on 'ex-ante' estimates. Sapir (1981) and Pantelides (1983) use gravity flow models which produce estimates of Gross Trade Creation (GTC) resulting from G.S.P. that are over biased when compared to the actual coverage of the programs. The over biasedness stems from a failure to adjust for the various "exclusions" within the G.S.P. program in the sample, and from the simple models chosen for obtaining the estimates. The evidence presented by the studies under review is not conclusive. Moreover, there appears to be a need for strengthening the methodology and to generalize the models that are used in evaluating preferential agreements. An attempt in this direction was pursued in this paper.

II. APPROACH:

An application of the gravity flow model to U.S. data of total manufactured goods for a sample of developing countries will be conducted and analyzed to assess the effectiveness and validity of using these models in the evaluation of the G.S.P. If these models prove to be ineffective, then an alternative methodology will be suggested in evaluating G.S.P.

III. DATA:

Data for forty countries, over the period of 1970 to 1981 are used in this study. Developed countries included in the sample act as a control group--the non-beneficiaries. The sample in this study of both developed and developing countries represents more than 95% of the total manufactured goods imported by the United States from all countries. The commodities covered are manufactured goods in the SITC 5 to SITC 8 categories. Data sources include U.N., World Bank, OECD and U.S. Government publications.

IV. RESULTS:

The application of the gravity flow model confirmed the hypothesis about the

effects of predictor variables on the dependent variable. The coefficients are generally stable. The G.S.P. coefficient (dummy variable) is positive for all years, but is significant at the .05 level for only 1981. Estimates of Gross Trade Creation as a proportion of actual trade flows of developing countries averages around 47%. This compares with Sapir's (1981) 40% for the E.E.C.'s G.S.P. and Pantelides (1983) estimates of 28% for the U.S.'s G.S.P.

How do these estimates compare with the actual coverage of the G.S.P.? In the case of the E.E.C. system the actual coverage of G.S.P. as a proportion of dutiable products is about 28%. Likewise in the case of the United States' system the actual coverage of G.S.P. is almost 15%. The apparent overestimation of GTC in this paper and in Sapir's and Pantelides' studies stems from two primary sources - (a) Failure to exclude non-eligible products (b) Omission of heterogeneous country effects in the regression equations (assumption of single intercept).

A least squares dummy variable model was used which allows the intercepts to vary across countries. An F-test confirms that the intercepts are different across countries. The G.S.P. coefficient in the least-squares dummy variable model was negative and was also insignificant. Further analysis to test the effectiveness of G.S.P. was conducted by dividing the data into two groups--the developed and developing countries. These data were subjected to the Chow tests. Although a difference in the levels of exports of developing and developed countries was detected, the tests failed to show that a structural break occurred in 1976 (the year G.S.P. was implemented). An examination of the data for only developing countries supports the above conclusion that a structural break did not occur in 1976.

V. CONCLUSIONS AND IMPLICATIONS:

The results of this study as well as those of Sapir and Lundberg (1984) and Pantelides (1983) suggest that G.S.P. alone will not lead to a significant increase in the exports of developing countries. The various exclusions and other provisions in the programs reduce the effectiveness of G.S.P. The developing countries must examine their own economic policies to achieve the maximum advantage in the foreign markets. By gradually removing their own trade barriers they will force the domestic producers to become more efficient and competitive. An improvement in efficiency combined with export-promotion, market development, and "realistic" exchange rate policies, may provide a greater impetus for expanding exports of developing countries, than does reliance on the G.S.P.

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THE EUROPEAN ECONOMIC COMMUNITY:
THIRTY YEARS LATER

Alex J. Kondonassis
University of Oklahoma

There is no doubt that the establishment of the European Economic Community in 1958 has meant increased cooperation for Europe. It has attained some of the goals of the Treaty of Rome for an integrated Europe but not others. It certainly has become a loose customs union, that is one with several frontiers rather than one. Its common agricultural policy has been a boost to the incomes of the European farmers but has encouraged large agricultural surpluses and has also imposed a great burden to the EEC budget. The enlargement of the EEC to 12 members has increased the size of the potential market but also the economic, social and political diversity of the EEC.

The Single European Act, which was ratified in 1987, represents a recommitment to the general goals of the Treaty of Rome and a concerted effort to amend it in order to attain an integrated Europe. The potential benefits of the Single Market, both on the micro and macro levels, may be substantial. However, these potential benefits are premised on a number of changes and/or reforms in areas such as agricultural policy, fiscal harmonization and international competitiveness. In turn, the implementation of these changes depends on the political will of the members to act in unison. If there are differing perceptions in the distribution of these benefits among the member countries, national concerns may dominate European initiatives. If this proves to be the case, the establishment of a Single Market and of an integrated Europe may continue to be an elusive goal. In that event, the Europeans may have to be satisfied with a half loaf rather than a full loaf, at least in the short run. Thus, a loose customs union or free trade area may continue until Europe attains greater social and economic cohesion and learns to embrace and practice supranationalism.

Earnings- vs. Events-Conditioned Migration:
New Evidence and Theory

Randall Krieg and Mahmood Yousefi
University of Northern Iowa

In the migration literature, it is argued that individuals decide to migrate in order to maximize the present value of earnings differentials between their place of origin and destination. It is implicit that the earnings differentials more than offset both the pecuniary and psychic costs of relocating. The adjustment process facilitates the equilibration of earnings in different regions for labor of given quality and productivity. In addition to earnings differentials, the migration decision is influenced by various migrant-specific characteristics. These characteristics include age, employment status, educational attainment, sex, race, and marital status.

In general, studies of interstate migration have neglected to make a distinction between various demographic groups of migrants, i.e., those whose migration is event-conditioned (e.g., retirees) and those whose decision is earnings-conditioned. To overcome this deficiency, this study employed microdata from the 1980 United States Census Public Use Sample A to re-examine the empirical validity of existing migration theory. Data were disaggregated by demographic classification in order to compare and contrast the migration decision of event-conditioned and earnings-conditioned migrants. Using logit analysis, this study attempted to determine whether the results were consistent with earlier studies. Our preliminary results support our hypothesis that the migration behavior of different age groups and individuals of different background (various levels of schooling) is not similar. Evidence provided suggests that there is a significant difference in the response of different demographic groups to location-specific economic conditions.

"The Use of the Assumption of Money Supply Exogeneity in Macroeconomic Models: The Developing Country Setting." written by Paul J. Kubik, Assistant Professor, Arkansas State University.

The assumption of money supply exogeneity is a commonplace element of macroeconomic models. These models have been utilized to specify policy in both the developed and developing country setting. The exogeneity assumption, however, has been persuasively challenged by central bankers and a number of economists, most forcefully by those in the Post Keynesian group [see, for example, Davidson and Weintraub(1973) and Moore(1979, 1983, 1984)]. The criticisms of the Post Keynesian group have been based on the institutional pattern found in Western market economies. The purpose of this paper, in contrast, is to examine the realism of the money supply exogeneity assumption in the developing country setting.

In order to address the intended question the author focuses on an individual developing economy. This is necessitated by the fact that the money supply creation process is determined by the precise interplay between the domestic monetary authority, central bank, commercial banking system and domestic enterprises. This paper focuses on the South Korean economy in the period 1961-78. The South Korean economy was chosen for two reasons. First, some econometric research on the exogeneity/endogeneity issue has already been done for South Korea. Secondly, data on financial activity in the regulated and unregulated money markets in South Korea is both long and detailed.

It is the contention of this paper that a significant degree of endogeneity exists in the money supply creation process in South Korea. This is a result of the use of the financial sector, by the South Korean government, as an instrument of development policy. The paper proceeds to discuss in greater detail the ways in which the domestic monetary authorities acquiesce to the demands of domestic enterprises, which strive to achieve the goals of economic development, and thereby lose control of the domestic supply of money.

The assumption of money supply exogeneity is a key element in macroeconomic models applied to developing economies. If this assumption is unrepresentative of the money supply creation process in the developing country setting then the policy conclusions derived from macroeconomic models incorporating this assumption are called into question.

Economic Conditions and Crime: A Microscopic Approach

Bin-Shan Lin
John A. Austin, Jr.
Department of Business Information Systems
Louisiana State University - Shreveport
Shreveport, LA 71115

The diverse empirical findings reported in the literature can be partially explained by several factors. Generally, the data set used falls into one of two categories: macroscopic or microscopic. The macroscopic approach involves using aggregated annual time series data at the national level. The microscopic approach is consistent with the findings that local economic conditions are a critical factor in local property crime. Bias is introduced by the macroscopic approach for three reasons: (1) the bias occurs because several non-economic factors are potentially correlated with crime across cities and states; (2) every jurisdiction or police office may have different data collection and reporting schemes; and (3) a given level of economic condition means quite different things in different regions.

A prerequisite to developing a microscopic approach to investigating the relationship between economic conditions and crimes is the adoption of a process orientation. Basically, a process orientation means that events are represented as taking place sequentially in real time (Langlois, 1986). By its very nature, both crimes and unemployment can be viewed as an ongoing sequence of several socio-economic factors. This view is employed as opposed to a static orientation. It directs economic thinking away from static equilibrium conditions to questions such as how crime and economic conditions interactions appear to evolve into patterns over time.

The macroscopic approach implicitly assumes that relationship between economic conditions and crime involves a relatively stable phenomenon. Consequently, the macroscopic approach is not sensitive to short term fluctuations in the independent variables. This study suggests using the microscopic approach to avoid these problems.

Shreveport, Louisiana, has been a prosperous city with a rapidly growing oil and gas industry. However, economic prosperity began to decline somewhat with the change in oil and gas in 1982. One aspect of the microscopic approach was to see if any possible causal relationship existed between the various types of crimes and the unemployment rates in Shreveport. The police-reported crimes data for each of the seven FBI Index Crimes of homicide, rape, robbery, assault, burglary, larceny, and auto theft, was provided by the Shreveport Police Department from January 1980 to December 1987. This time series data at the community level would minimize both the problems of discontinuity and bias in the use of the data. Unemployment rate data was

obtained from the Bureau of Economic Research at Louisiana State University in Shreveport.

Pearson's correlation coefficient was calculated for each of the seven crime indices versus the unemployment rate by month. The coefficient of correlation between unemployment and robbery, assault, and larceny crimes is positive and statistically significant at less than the 1% level of significance. Even though the correlations are positive, the correlations are not high enough to imply that these crimes serve as an immediate alternative to employment. For each of these crimes, data on the unemployment status of those persons who committed these crimes is being studied in more detail.

Statistical Processing Control (SPC) has been widely used in industrial quality control as a means of monitoring the quality of manufactured products and service, and can be used in the microscopic approach. Consider the number of burglaries per week in the Shreveport area over the period from October 1987 to June 1988. Since there are many businesses and residences, burglaries are assumed to have many opportunities to occur, and there is a small constant probability of occurrence at any given opportunity. Therefore, the Poisson probability distribution for the number of burglaries can be assumed and the C-chart can be used. Using \bar{c} as the average number of burglaries per week, the approximate 3σ control limits become:

$$UCL = \bar{c} + 3\sqrt{\bar{c}}$$

$$LCL = \bar{c} - 3\sqrt{\bar{c}}.$$

As the Poisson is not a symmetric distribution, the upper and lower 3σ limits do not correspond to equal probabilities of a point on the control chart falling outside limits even though there has been no change in the population, as is the case in the X-bar charts. Once the data has been charted, the identification of assignable causes of variation for "out-of-control" points can be reviewed with the crime analysts. This review would include a detailed analysis of all variables affecting burglaries to see what changes occurred above the 3σ limits. An "out-of-control" chart does not automatically indicate where the problem may be located and what the appropriate corrective action must be.

This paper suggests a microscopic approach to investigate the relationships between crime variables and economic conditions. Several bias factors can be eliminated. A process view of crime and economic conditions is discussed. A statistical tool, SPC, for monitoring crime variables and economic conditions is considered. Any crime control system of a police agency can be based on SPC and monitoring limits for each crime index among/in each zone. Whenever it is unclear as to whether to investigate the crime/economic relationships, SPC could serve as a useful strategic guide.

MANUFACTURING IN THE EIGHTIES

Betty MacKnight
AT & T Shreveport Works

Jerome M. Hatcher
John A. Austin, Jr.
Louisiana State University in Shreveport

Prior to 1984, AT & T had one primary customer for its products --- the Bell Companies. Following the breakup of the Bell system in 1984, AT & T suffered an erosion of market share in its telephone manufacturing operations at the Shreveport Works.

In a move to offset lost sales, the top management at Shreveport moved in 1986 to create a "world class" telephone manufacturing facility. Management set as a goal an eighty percent reduction in the size of inventories, cost of quality, cumulative lead times, and number of design changes after product release for manufacture. At the same time, it sought an eighty percent improvement in process yield rates. The company initiated its "ADVANTAGE for the Future" program to develop the gains it hoped to achieve.

The ADVANTAGE program represented a series of continuous improvement projects that were designed to allow the firm to compete effectively for market share. ADVANTAGE was designed to rest upon the foundation of Shreveport Work's two greatest strengths - its people and the research and development strengths of Bell Labs. The firm's stated goal was to become the world's best manufacturer of electronic products.

The ADVANTAGE program consisted of three main efforts. The first involved a complete factory rearrangement, the second consisted of the building of a new computer manufacturing software system, and the third involved a cluster of improvement programs.

The Shreveport Works factory is over twenty years old. Over time numerous new products have been introduced, and old products have dropped from production. The material flow had become inefficient. The decision to move to a Just-in-Time (JIT) philosophy

required that every machine in the facility be relocated to create a linked flow of product. "Focused factories" were created.

The second phase of ADVANTAGE involved the creation of a new software system to marry the Materials Requirements Planning system (MRP) and the JIT system at the shop floor level. Plant personnel designed and built the system.

The third phase of ADVANTAGE consisted of the development of seven different improvement programs. The first program involved the preparation of the shop floor employees to actively engage in the analysis and solution of manufacturing problems as they occurred. Each employee was encouraged to learn, change and innovate within their work environment.

The issue of product quality was given a high level of importance. Employees were trained to analyze quality problems by looking for root causes. Once identified, the causes were to be eliminated and their influence removed from the system.

Another improvement activity was created through the establishment of vendor partnerships. The former method of pursuit of suppliers based strictly on lowest bid was eliminated to include the concepts of delivery reliability, quality, and cost competitiveness.

Prior to the implementation of ADVANTAGE the Bell Labs group designed new product without consulting the manufacturing group. This has now changed. Engineers from Bell Labs are now stationed at Shreveport to learn the manufacturing capabilities of the processes in place at the plant.

The final three improvement strategies involved a plant wide preventive maintenance program, establishment of new interfaces to gain customer feedback, and the cessation of manufacture of products or components that did not fall within the prime expertise and capabilities of the plant.

Ten months after beginning the new program the results were obvious: a 50 % reduction in rework, a 50% reduction in customer complaints, a 100% reduction in product recalls, a 72% reduction in total factory inventory, and a 57% reduction in leadtimes.

An Arima Hybrid Approach
to U. S. Crude Petroleum Production

Michael P. O'Neill
Benjamin N. Matta, Jr.
Daniel K. O'Neill

Wright State University
New Mexico State University
Thomas Jefferson University

Earlier studies demonstrated the complexities involved when estimating short run crude oil production. This study is to re-estimate the short run crude oil production relationship in light of additional data and change in fundamental market conditions, such as, declining crude prices. One of the most sophisticated attempts of econometric modeling of the petroleum industry is the work of Patricia Rice and Kerry V. Smith in the work "An Econometric Model of the Petroleum Industry."

However, problems arise in obtaining satisfactory forecasts from econometric models. The U. S. Department of Energy argues for a Box-Jenkins approach to energy modeling because accurate data on explanatory variables may be difficult to find. They conclude that "it is important to realize that in short term forecasting, model simplicity has been the dictum."

Unfortunately, a major shortcoming of this type of technique has been its inability to allow for policy changes and thus its limited usage for policy as a result of it being policy insensitive. Anthony E. Bopp attempted to remedy this shortcoming by developing a mixed econometric and time series model. He first attempted to project by a Box-Jenkins technique and then to try to explain the residuals as a function of price. The Bopp research included only 72 observations.

The present study defines crude petroleum production as total monthly production, while in Bopp's original paper he used million barrels a day. The Bureau of Labor Statistics have moved the base year from 1967 to 1982 = 100 for the producer price index of crude petroleum. The sample period is monthly data from 1970 to 1987. Hence there are 216 observations.

In ARIMA modeling the simplest is preferred, however there may be a trade off with forecasting say the supply of crude rather than to estimate a change in supply brought about by real world events and policy change. In ARIMA modeling there may be more than one appropriate model, i.e. a family of models.

An ARIMA model with two autoregressive parameters and one 12 month seasonal moving average was estimated. Then following Bopp and B.O.P., the residuals of the ARIMA model was regressed against the price of crude petroleum prices. The equations estimated were more significant than Bopp's, but the sign of the price variable was opposite of Bopp's. More than likely, there have been significant structural changes, this suggests that Bopp may have jumped to an inappropriate conclusion.

The main point from this study is that Box-Jenkins estimated parameters do change over time. Remember there is no economic theory behind any ARIMA model. An econometric methods might be more appropriate if one is trying to analyze the impact of various policy changes.

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The People's Republic of China¹
An Estimated Money Demand Function

Michael P. O'Neill, Ph.D.
Department of Economics
Wright State University

This paper attempts to examine the monetary sector of the People's Republic of China. Specifically, it attempts to estimate a money demand equation. This task is particularly challenging since prior to 1976-78, development planning was accomplished via a command economic system through economic plans. However, after the death of Mao, China moved away from the command economy system to more of a market system and made economic development its number one priority. Institutionally, this was almost a complete reversal of past policies and required significant changes in the economic system and its financial system.

A rapidly changing institutional framework and financial system provides a formidable challenge. Despite this, scarcity and reliability of data adds an additional dimension. The bottom line is not only there are few data, but the data that exists is poor in quality. The implication is that no matter what one tries to estimate, there is a high probability of measurement errors.

The sample period is from 1952-1985. Ordinary least squares was used without any correction for autocorrelation.

Gregory Chow's paper "Money and the Price Level Determination in China"² provides the backdrop for this paper.

$$\begin{aligned} \text{Eq 1} \quad \ln M/P &= \ln k + \ln Y \\ &\quad -4.54 + 1.27 \quad \bar{R}^2 = .917 \quad \text{DW}.66 \\ \text{T-Scores } &(-9.24) (19.07) \quad \text{SE} = .2209 \end{aligned}$$

These estimates are consistent with Chow, yet the income elasticity of the demand for money is greater than unity, hence the Qt-Theory of Money is apparently contradicted. Naturally the low DW suggests the presences of significant positive serial correlation and a loss of efficiency of the estimators.

$$\begin{aligned} \text{Eq 2 adds a lagged dependent variable (M/Pt-1).} \\ \text{Eq 2} \quad \ln M/P &= \ln k + \ln Y/P + \ln M/Pt-1 \quad \text{SE} = .1069 \\ &\quad -1.41 + .324 + .785 \quad \bar{R}^2 = .980 \\ \text{T-Scores } &-3.57 \quad 3.54 \quad 10.32 \quad \text{DW} = 1.86 \end{aligned}$$

Interest rate data was not readily available so a price expectation variable was used as a proxy and the results are shown in Eq 3.

$$\text{Eq 3 } \ln M/P = \ln k + \ln Y/P + \ln M/P_{t-1} + \ln P_t/P_{t-1}$$

$$1.56 + .399 + .724 + 1.23$$

$$\text{T-Scores } 4.18 \quad 4.28 \quad 9.60 \quad 2.35$$

$$\text{SE } .0966 \quad \bar{R}^2 = .982 \quad \text{DW} = 2.03$$

All variables are significant at the 5% level. By adding the Goldfeld price expectation variable the income elasticity of the demand for money rises. This variable adds additional explanatory value to the model since it is quite significant positive and its inclusion raised the income elasticity. Moreover, it suggests that there is immediate adjustment of price expectations hence it speeds up the adjustment.

What does all of this mean? The Quantity theory may provide a good starting point for explaining price level changes, but it may very well be deficient in explaining short run changes in money demand and the resulting inflationary expectations are likely to frustrate the monetary authorities. With velocity declining and not stable, combined with the significant institutional changes, the monetary authorities are likely to have their hands full in implementing monetary policy. Velocity and money demand need to be stable so monetary policy can be implemented and be predictable. This is probably a good example which the central bankers must use the science of economics as well as the art of rational policymaking, because LDC's do not necessarily follow the textbook answers.

¹ This is a revised title of my paper. The former title was "Developmental Implications for the Money Demand Function for the People's Republic of China."

² Chow, Gregory C., "Money and Price Level Determination in China," Journal of Comparative Economics (1987): 319-333. M = Currency in Circulation Million Yuan; Y = National Income in Current Yuan; Y/P = National Income in 1952 Yuan; k = M/Y; V = Velocity = Y/M; P = Implicit Price Deflator for National Income; P_t/P_{t-1} = Goldfeld's Inflationary Expectations; ln = Natural Log; M/P_{t-1} = Past Period Real Money Balances.

Dynamic Pricing Policies in the Equine Breeding Industry: A Model and Case Study

Margaret A. Ray
Texas Christian University

A unique aspect of the equine breeding industry is the way in which the current year's demand for stud services depends on the previous year's production levels. In a monopolistically competitive market, product differentiation and product promotion and advertisement are important aspects of industry conduct. A stallion's reputation and therefore demand for his services depends on the stallion owner's ability to differentiate the product.

The price a stallion owner charges depends on the quality of the stud himself, and also on the quality of his offspring. The producers output (foals) become advertisement for the stallion when they are raced, shown, etc. They also can become substitutes for the stallion, since they are an alternative source of the stallion's genes. Stallion owners are in the special position that they need to prove their stallions' ability to sire quality offspring, while bearing in mind they are producing possible substitutes. Outstanding offspring will generate demand for the parent's services if they are successfully shown, raced, etc. Conversely, progeny who compete unsuccessfully will decrease demand by contributing to a poor reputation for themselves, their breeder, and their sire. But, outstanding individuals eventually become breeding stock and therefore offer an alternative source for the "winning genes."

This intergenerational dependence has led to pricing policies and practices in the equine breeding industry which have important implications. Common practices include, incentives to compete, rebates for gelding male offspring, price discrimination in favor of quality mares, limited bookings, and other policies. These policies illustrate aspects of industry conduct commonly discussed in industrial organization literature such as first degree price discrimination, non-linear pricing, and non-price competition. The use of artificial insemination and other new breeding technologies and thus the potential for a stallion to breed larger numbers of mares, further compounds the extent and results of such practices.

This paper investigates pricing policies in the equine breeding industry, using a case study approach. A model of industry pricing policies is developed and tested using data for American Quarter Horses.

INCOME AND ASSET DIFFERENTIALS BETWEEN ONE EARNER
AND DUAL - EARNER HOUSEHOLDS: 1972-83 AND 1986

Rose M. Rubin and Bobye J. Riney
University of North Texas

Following over a quarter century of unprecedented economic growth, two important and interrelated economic trends occurred during the fifteen year period 1973 to 1986: the continuing dramatic rise in women's labor force participation and the general stagnation of wages in the United States. This study explores the income effects of the concurrence of these two major trends, by comparative analysis of the inflation-adjusted differentials between the pretax income, after-tax income, wage and salary earnings, and select financial assets of one-earner families with a non-employed wife (NWW) against dual-earner households in which the wife works full-time (FWW) and those in which the wife works only part-time (PWW) and compare these with the patterns for the economy as a whole.

The questions analyzed in this study are: 1) Does wife's work status influence income and assets of married-couple families? 2) Do wife's age, family composition and home ownership influence income and assets of married-couple families? 3) If these variables are found to influence income and assets, has the effect changed between 1972-73 and 1986?

The data base contains eight data files derived from the Consumer Expenditure Survey (CEX) Interview tapes for 1972-73 and 1986. The data files compiled for 1972-73 and for 1986 are: the entire CES sample data base with incomes from \$10,000 to \$99,999, and three categories of married-couple households in which the husband worked full-time, and the wife worked part-time or full-time or did not work, but in which there were no other workers.

Two statistical tests were applied to the data sets. First, regression analysis was applied to determine the impact of four independent variables of wife's work status (W), wife's age (A), family composition (F), and home ownership (H) on the dependent variables of pre-tax income, after-tax income and assets, at the .05 level of significance. The general form of the regression model is: $Y_i = f(W, A, F, H)$, where: Y_i = pre-tax income, if $i = 1$; after-tax income, if $i = 2$; household assets, if $i = 3$.

The detailed regression model, with all independent variables of each period recoded as dummy variables, is:

$$Y_i = a + b_1W1 + b_2W2 + b_3W3 + b_4W4 + b_5A1 + b_6A2 + b_7F1 + b_8F2 + b_9F3 + b_{10}F4 + b_{11}F5 + b_{12}F6 + b_{13}H1 + b_{14}H2 + b_{15}H3 + b_{16}H4 + u$$

The research hypothesis is that the independent variables have no impact on pre-tax income, after-tax income and assets of married-couple families. If an impact is found, the second hypothesis is that the effect is the same for the two study periods, 1972-73 and 1986. The results of regression analysis lead to rejection of the first null hypothesis for all four independent variables at the .05 level of significance for pre-tax income.

The second test statistic used is analysis of variance (ANOVA)

to determine the different impacts of wife's work status on income and assets. ANOVA was used to compare means of income and assets data for different groups. If significant differences were found at the .05 level, the Scheffe multiple range test was employed to determine the significant pair. The results supported the results of regression analysis for FWW and PWW. For NWW households, wife's work status is found to significantly influence pre-tax income in 1972-73 and 1986 and after-tax income in 1986. As with FWW and PWW, NWW did not significantly influence assets.

Overall, we find pre-tax income declined for all household types from 1972-73 to 1986, and after-tax income declined for PWW and NWW, but not for FWW households. The pre-tax earned income data are significantly different between full-time and part-time, and also between full-time and non-working wife households, in both 1972-73 and 1986. The case is not so clear-cut between part-time and non-working wife households, where income before tax and household earnings differed significantly in 1972-73, but not in 1986, indicating greater income comparability between these two household types in 1986 than in 1972-73.

Income after tax differed significantly between the three types of households in both 1972-73 and 1986. FWW households differ significantly from both PWW and NWW households in total tax paid in both 1972-73 and 1986; but PWW and NWW households do not differ significantly from each other in either time period. This may indicate that dual-earner households with full-time working wives, the only group to have increases in mean after-tax income over this period of stagnant wage growth, will continue to pull further from either PWW or NWW households over time.

The only significant differences in assets found between household types were in 1972-73, when FWW had significantly higher checking account balances than PWW, and when NWW households had significantly higher savings accounts than the PWW households, but not than FWW households. In 1986, the three types of households appear more similar in their holdings of these four major assets, as there were no significant differences between households. This appears to imply that wife's work status is not the determinant of household assets.

One of the most interesting findings of the study is the substantial decline in assets of all three types of married-couple households from 1972-73 to 1986, declining more for FWW and NWW than for PWW households. This asset decline may reflect the income declines associated with reduced productivity and declining real incomes over the study period and the attempts of families to maintain standards of living, in the face of slower economic growth and even stagnation by reducing their marginal propensity to save. The decline in assets seen as family size increases for all household types, especially the large decreases as you move from childless couples to those with any number of children, may indicate that childless couples save rather than consume more.

These study findings have implications for policy decision making, in particular for tax policies which impact on married-couple households and on savings. They appear to support the cases of those currently calling for increased policy support for families and policies to promote savings.

Use of Computer Simulation in Teaching Economic Concepts

Patricia Sanderson, Ph.D.
Associate Professor of Economics
Department of Economics, Finance and
Applied Legal Studies
Mississippi State University
College of Business and Industry

Bob Ellis
Counselor, Small Business
Development Center and BISQUA
Department
Mississippi State University
College of Business and Industry

Although just about all Principles texts are accompanied by software, few attempt to develop simulation software. One simulation software package used to teach macroeconomic concepts is MACROSIM, which accompanies the Byrns & Stone ECONOMICS text. The paper to be discussed here presents decision criteria students and educators can use to evaluate simulation software in Economics. In a very competent manner, The Sanderson & Ellis paper then applies these criteria to, and then evaluates, MACROSIM.

Existing software packages present an already developed model, or system of equations, which the student can manipulate, and evaluate on a theoretical basis, policy options mentioned in the text. Consequently, the student can see how models are used to plan and forecast. The failure of MACROSIM and other simulation packages is to help students creatively and independently think about real-life situations and problems they encounter daily. For example there could be a program which prompts the student to take a real-life problem and extract from it, elements which the textbook says are important on the basis of theory. Then in a manner similar to artificial intelligence, the student, on the computer, can discover the best model to use for the real-life problem.

My final criticism of simulation software is more general in nature, but MACROSIM can be used as a case in point. There is a dearth of simulation package which can be used to teach applications of Microeconomics concepts. It is important to be able to run simulations in courses such as MANAGERIAL ECONOMICS, which is an applied micro-theory course.

TITLE OF PAPER: "KEYNES' NOTES ON A TRADE CYCLE AND NEW KEYNESIAN BUSINESS CYCLE THEORY"

AUTHOR'S NAME: KUNAL K. SEN

AUTHOR'S AFFILIATION: DEPARTMENT OF ECONOMICS, UNIVERSITY OF TENNESSEE, KNOXVILLE

ABSTRACT: In mainstream macroeconomics, New Keynesian Business Cycle (henceforth, NKBC) Theory has received the most critical support in recent years. The reasons seem to be fairly clear. NKBC theory can explain the three main features of the business cycle - its origin, propagation and aperiodicity - and at the same time making assumptions about the real world that seem to hold true (such as wage and price rigidity). Little attention has been paid, however, to the methodology of NKBC theory. The first purpose of the paper is to critically examine the methodology of NKBC Theory. Little attention has also been paid to the similarities and dissimilarities between the methods of the New Keynesians and Keynes himself as regards the modelling of business cycles. While Keynes never developed an elaborate theory of the business cycle, he sketched out what he considered an appropriate method of the cycle in his Notes on the Trade Cycle, which is Chapter 22 of The General Theory. The second purpose of the paper is to compare and contrast the method of the cycle in NKBC theory and in Keynes' Notes on the Trade Cycle.

The first idea in NKBC theory that is critically examined is in its explanation of the origin and aperiodicity of the cycle. According to NKBC theory, the origin and aperiodicity of the cycle lie in a sudden and unpredictable shock to nominal demand. One important factor that might cause the shock in NKBC theory is a random and exogenous change in expectations. The New Keynesians justify their conceptualization of expectations by invoking the notion of "animal spirits" that is there in Keynes. It is argued in the paper that a conceptualization of expectations that take the latter to be exogenous and random is open to the criticism that: a) it is scientifically unsound for it makes the theory unverifiable; and b) it is oblivious of the fact that the entrepreneur has a social role to play in the accumulation process and that, therefore, his expectations must have a material basis and be endogenously determined. The paper also argues that the notion of "animal spirits" in Keynes is open to an alternate interpretation, where expectations are endogenous and qualitatively deterministic. This interpretation of animal spirits is, at the same time, true to Keynes' views on expectations for it stresses both the nonquantifiability of expectations and the active role that expectations play in a macroeconomic theory.

The second idea in NKBC theory that is critically examined is

in its explanation of the propagation of the cycle. According to NKBC theory, the propagation of the cycle lies in the stickiness of prices and wages. The New Keynesians claim that if prices were completely flexible, then there would be no business cycle. Once a demand shock has taken place, the cycle gets propagated from one period to another because of the gradual adjustment of the price level to its new market-clearing level. The paper argues that to maintain that complete price flexibility implies no business cycle, the New Keynesians need to assume that the elasticity of expectations is equal to zero - i.e., the New Keynesians need to assume that any disappointment over previously held expectations will not make individuals revise current expectations. This assumption effectively reduces NKBC theory to static theory.

In Notes on the Trade Cycle, Keynes sketches a theory of the cycle where the dominant role in explaining the cycle is given to the marginal efficiency of capital. Yet, the marginal efficiency of capital is in turn dependent on expectations. Therefore, to Keynes, cycles are expectations-driven, fluctuations in expectations causing fluctuations in economic activity. On this point, there is a similarity between Keynes and the New Keynesians. Yet, in Keynes, expectations not only explain the origin of the cycle but also its propagation. As output falls, leading to a fall in expectations and consequently, a further fall in output. The movements in expectations, are therefore, cumulative across the cycle. Therefore, unlike NKBC theory, Keynes allows expectations to change across the cycle. Moreover, Keynes takes the origin of the cycle to be caused by an endogenous change in expectations, in part caused by the movements of certain economic variables (such as the rate of profit and the rate of interest) and in part caused by the "overoptimism" and "overpessimism" that one sees in the boom and the recession respectively. The path of expectations across the cycle can, therefore, be explained both by objective (i.e., the rate of profit and the rate of interest) and subjective factors (i.e., "overoptimism of the boom" and "overpessimism of the depression"). Keynes gives subjective factors the predominant role in explaining the movement of expectations across the cycle. Interestingly, Keynes' conceptualization of expectations in his Notes on the Trade Cycle supports the alternate interpretation of Keynesian "animal spirits" that has been presented in the paper.

In conclusion, one finds, when comparing the methods of Keynes and the New Keynesians with respect to the modelling of business cycles, that the theory of the cycle in Chapter 22 of The General Theory avoids the methodological pitfalls of New Keynesian Business Cycle theory, yet, at the same time, adequately explaining the main features of the business cycle.

PRICE COMPARISON OF HCFA AND VA DIAGNOSIS RELATED GROUPS (DRG'S)

Authors: Mary E. Smith, Dr. P.H., Associate Director
Michael Kashner, Ph.D., Health Economist

Regions 3 & 7 HSR&D Field Program
John L. McClellan Memorial Veterans Hospital

Abstract

A comparison was made of the Veterans Administration (VA) Department of Medicine and Surgery's Diagnosis Related Groups (DRG's) acute care resource allocation prices with the Health Care Financing Administration's (HCFA's) DRG-based reimbursement prices. Major price disparities are reported between individual DRG's and Major Diagnostic Categories (MDC's) common to both systems. Overall, HCFA mean prices are 47.4 percent higher than comparable VA mean prices.

The HCFA mean prices of all MDC's were higher than those for the VA. High volume VA discharges with high percent increases in mean prices of HCFA over the VA exist: 63.6 percent higher for respiratory DRG's (MDC 18); 57.9 percent higher for the hepatobiliary system and pancreas (MDC 7); and 66.0 percent higher for the digestive system (MDC 6). Although the HCFA allocation for MDC 14, pregnancy, childbirth, and puerperium was 300.7 percent higher than the VA's, it accounted for only 41 of the 1,055,251 VA discharges in Fiscal Year (FY) 1986. Other low volume VA discharges with much higher HCFA reimbursement means were: 93.9 percent higher for burns (MDC 22); 9.5 percent higher for female reproductive diseases/disorders (MDC 13); 101.3 percent higher for blood forming organs and immunological disorders (MDC 16); and 279.7 percent higher for newborns and other neonates (MDC 15).

These VA high volume discharge DRG price differentials seriously devalue the work produced in the VA, which unlike HCFA, covers the costs of the physician care providers. Other indirect costs are similar in both systems and are "pass-throughs," reimbursed at reasonable costs outside both prospective payment systems. DRG price differences have occurred primarily due to less resources available within the VA system and its allocation of these fixed, limited resources among all 172 hospitals versus HCFA's reimbursement of all submitted claims at a predetermined price. The result is a very price-competitive VA system when compared to the private sector hospitals care of comparable Medicare patients under HCFA DRG reimbursement.

SURVIVORSHIP TEST FOR FEDERAL CREDIT UNION
SCALE ECONOMIES

L. S. Scruggs and
Dominique Vacheron
Memphis State University

Several recent articles have addressed scale economies among credit unions (Taylor 1972, Flannery 1974, Koot 1978, Murray & White 1980, Wolken & Navratil 1980, Murray & White 1983, and Kim 1986). The methodology has been multivariate regression analysis applied to cross-sectional cost-output data. The data set has been sometimes small, sometimes limited in scope, sometimes Canadian, and is now old. Results have been mixed, but most of the evidence indicates at least mild overall scale economies exist.

This study applies the survivorship test (Stigler 1958), relating size and growth, to NCUA data on all U. S. Federal CUs. Shares of industry assets in each asset-size-class are compared for every pair of years, 1980-1987. The results are mixed, with scale diseconomies indicated in about half of the 28 pairs of years.

The authors plan to extend the research to include state CUs, and other output proxies, such as earning assets.

USING AN ARIMA MODEL TO IMPROVE
QUALITATIVE MARKET FORECASTS

J.Bert Stine
Stephen F.Austin State University
Charlotte A. Jones
Louisiana State University - Shreveport

Market timing refers to the strategy of shifting a portfolio's mix between common stocks during bull markets and a safe asset such as U.S. Treasury bills during bear markets. A market timing strategy does not require the ability to forecast the precise value of an index of market return, or even the index's direction of change. What is required is a forecast of whether the market rate of return will exceed the risk-free rate of return next period. Since the occurrence of this event is presumably characterized by less randomness than variations in the exact value, or even the direction of change of an index, a "qualitative" market forecast should provide enough accuracy to improve the market timing decision. The purpose of this paper is to provide a specific and objective procedure for forecasting qualitative market conditions from readily available economic data. To illustrate the procedure, a naive model using data available at the time of the forecast is developed and then extended by using an ARIMA model to forecast the upcoming quarter's value of that data in an attempt to improve upon the model's predictive power.

The basic empirical relationship to be modeled is the categorical state of the upcoming quarter. For this study, the state of the market is categorized as being either "good" when the total return on the S&P 500 exceeds the risk-free rate ($R_M - R_F > 0$) or "bad" whenever the opposite state occurs ($R_M - R_F < 0$). A probit analysis using a dichotomous categorical dependent variable (good market =1, bad market =0) is employed to determine which economic variables are jointly and individually significant in determining the probability of the state of the market in the upcoming quarter.

Probit analysis produces estimates that possess statistical properties that enable testing hypothesis on the individual coefficients. In particular, an "asymptotic t" test is used to test the statistical significance of certain economic variables found to have predictive content in previous studies. The primary dictum employed in selecting the variables was that they

be obtainable from readily available published sources. Every effort was made to allow for reporting lags and publication lags to assure that the selected variables would have been available to the portfolio manager for processing at the beginning of a calendar quarter.

The data were systematically evaluated with probit analysis over 112 consecutive calendar quarters beginning January 1, 1960 and ending December 31, 1987. Certain macroeconomic variables relating to investor speculation, money supply and a composite economic indicator were identified as being statistically significant in determining the probability of the state of the market in the upcoming quarter.

The model classified correctly 71 percent of the quarters. The hit rate achieved by this model is superior to a forecast based solely on chance. However, this is a naive forecast in the sense that information collected on the economic variables for the current quarter is used to represent the state of the market next quarter. The efficient market hypothesis suggests that successful market forecasts require knowledge of variables that influence stock market movement as well as a superior projection of movements of those variables. In an attempt to improve the hit rate of the probit model, Box-Jenkins methodology was employed to project next quarter's values of the explanatory variables. The newly created variables were then evaluated with probit analysis resulting in an overall predictive rate of 76.7 percent. The hit rate of this model was also tested with a twenty-four quarter hold out sample (1982-1987). The model correctly classified seventeen of the twenty-four quarters for an overall hit rate of 70.8 percent. It should also be noted that this model predicted the fourth quarter of 1987 to be a "bad" quarter. History records that this was indeed a very bad quarter.

The model developed in this study is not necessarily the "true" specification of the relationship between readily available data and the future state of the market. However the predictive accuracy of the probit model suggests that there is a statistically discernible relationship between the economy, proxied by various macroeconomic indicators, and the relative performance of a riskless asset and a market index. Further, the study suggests that predictive accuracy can be improved by using forecast values of the explanatory variables in the probit model.

The Artificial Separation of Economics, Government, and History: Results
of a Content Analysis of Fourteen High School Textbooks

JoAnn Sweeney and Alan W. Garrett
Advancement of Economic Education
The University of Texas at Austin

The organization of instruction in secondary schools has changed little since the late nineteenth century. Instruction in most high schools, like that in most colleges and universities, is centered around the academic subject. The fact that such an organization of the curriculum has continued to thrive in spite of many calls for change is in no small part due to the numerous benefits it provides, but such a curriculum structure is not without its problems. Rather than providing a useful means for storage, retrieval, and transfer, of the accumulated knowledge of mankind, the subject, especially in public schools, too often becomes an impenetrable membrane, including and excluding, thus disallowing any flow of the contents of one subject to another.

History and economics provide an excellent example of this phenomenon. History courses tend to focus on the political and military history of any period or nation under scrutiny. Economic factors influencing decisions and the economic implications of those decisions are generally overlooked. Likewise, high school economics courses tend to consider the American free enterprise system as an eternal given to be studied, devoting little attention to the political ideals and structures which have allowed it to flourish for over 200 years.

Prior studies have indicated that textbooks provide the major, if not only, source of curriculum content in many classrooms. A study of the contents of textbooks thus provides a useful insight into what is actually being taught in a large number of classrooms. For this research, the five 8th grade United States history texts (discovery through Reconstruction) and the eight senior-level economics texts adopted by the state of Texas were analyzed at the paragraph level for specific references indicating the interaction between the fields of economics and history. References to both governmental and private economic problems influencing the Constitution, specific references to antecedents to the Constitution, and economic implications of the Constitution were sought in the history books, while references to Thomas Jefferson, Adam Smith, The Articles of Confederation, and the Constitution, were sought in the economics texts.

The number of economic references in the history texts which satisfy the above descriptors ranged from a low of 11 to a high of 71 per text surveyed, with a total for the five books of 180. The ranges and means of the individual descriptors were:

State or national economic problems	5-28	13.6
Individual or group economic problems	2-18	10.2
Historical antecedents	0-4	1.0
Economic implications	4-23	11.2

Historical references in the economic texts which satisfied that set of descriptors ranged from a low of 5 to a high of 36 per text surveyed, with a total for the eight books of 83. The ranges and means of the individual descriptors were:

Thomas Jefferson	0-2	0.375
Adam Smith	4-21	8.125
Articles of Confederation	0-2	0.250
The Constitution	0-11	1.625

In an attempt to simplify curriculum through disciplinary bounds, the textbooks surveyed have compartmentalized the world into narrow, well-defined subjects. Such an organization conveys to students neither the real order of the world around them nor the ways in which scholars and problem solvers view the world and use the disciplines to confront new issues. Some students will eventually understand how all fields, such as history and economics, are interrelated. Many, unfortunately, will not. The textbooks currently in use do not seem to promote a realistic, well-rounded view of the world of knowledge and its uses.

DE-INDUSTRIALIZATION, THE WELFARE BURDEN,
AND THE CONCEPT OF SUMP INDUSTRIES

D. B. Timmins, PhD

Monterrey Institute of Technology

Americans are wont to think of themselves as free, upwardly mobile, but essentially middle-class folk. Unfortunately, the laws of nature dictate that about 18 per cent of any population will be one standard deviation above or below the norm, with another 2 per cent two standard deviations away. This means that fully 20 per cent of the American public are below the normal levels of grace, athletic ability, beauty, intelligence, and job performance. Inasmuch as not all of these attributes are distributed together, those who are outstandingly intelligent, or athletic, or who possess extraordinary musical talent or beauty, can gain handsome livings, despite the fact that they may be moral reprobates, or fall well below the median in terms of other important attributes.

Today, with less than 2 per cent of the US population working on farms, and with the disappearance of much mining, logging, and smokestack industries where many such persons traditionally found employment, and with a population five times what it was in 1900, we are talking about a number of disadvantaged individuals reaching perhaps 40 millions, several times the size of many nations.

It has been estimated that persons belonging to this disadvantaged 20 per cent account for as much as 80 per cent of welfare recipients, with welfare, in turn, accounting for a substantial portion of the budget deficit.

Traditional economic theory is presented in terms of perfect competition, little attention being paid to the Hechsher-Ohlin model of multiple qualities of labor and other factors of production. But if anything has been established, it is that government spending and protracted budget deficits have little effect on reducing unemployment among the seriously socially and genetically disadvantaged.

We have adopted the practice of "sheltered workshops" for the most seriously handicapped two percent. Perhaps the time has come to look at the creation of "sump industries" to provide assured employment for the remaining 18 per cent of the disadvantaged. We reserve coastwise shipping, much of banking, and a number of defense industries for domestic business. Perhaps there is a role for some "second best" departure from the free market norm to assist the development of such industries to provide "workfare" for those demoralized by long-term unemployment. This might provide a work ethic model which welfare children now lack and even serve to keep some families together where the temptation now is for the father to leave to make the mother eligible for welfare payments.

The Interest Equalization Tax and the Domestic International Sales Corporation legislation fall into such "second best" departures from the Free Trade/Perfect Competition model. And both proved GATT-able. Perhaps imposition of a "Competitiveness Equalization Tax" could provide financing for such a program.

Clearly this paper does not provide a blueprint for a "Sump Industry" policy. But if it provides a theoretical framework and stimulates some thought on the issue its purpose will be gained. Franklyn Roosevelt saved Free Enterprise in America by his willingness to take new policy directions at a critical moment. Charles DeGaulle, a profound Conservative, saved French democracy by adopting revolutionary tactics. Perhaps it is time for the second incarnation of the most conservative American government in fifty years to adopt some extraordinary measures to salvage the American economy.

THE BOSTON TEAPARTY REVISITED: A REEVALUATION OF
STAMP TAXES AS A REVENUE SOURCE

David B. Timmins, PhD
Monterrey Institute of Technology

The United States has had an historical bias against the use of stamp taxes as a result of schoolroom teaching about the instrumentality of the Townshend Act in setting off the Revolutionary War.

The fact is, however, that stamp taxes are a highly efficient revenue source and are used in many modern economies.

One of the major problems of small businessmen in the United States is the prevalence of bad checks. Local police forces have little interest in pursuing writers of bad checks when there are so many more pressing crime problems. Moreover the courts have severely curtailed the steps that private agencies can take to collect on bad debt.

One of the peripheral benefits of the British system of applying stamp taxes to personal checks (they are pre-printed/embossed on each check and checkbooks are sold by banks, with the tax receipts turned over to the government) is that a Crown Stamp on a check, will, deed, or contract makes misuse or fraud a Crown offense. It is thus a worthwhile quid pro quo for the user to pay the tax as a form of user insurance.

An informal, but extensive, poll of small businessmen has found many enthusiastic, and all but a very few eager, to adopt a stamp tax on checks to ensure federal government follow up on bad checks.

Shirtcuff calculation suggests that a ten cent tax on personal and business checks alone would raise \$20 billion per year in revenue. This would provide the funds Congress is presently looking for to close the Gramm-Rudman gap. If more money is needed, now or in the future, the stamp concept could readily be extended to deeds, wills, contracts, earnest money payments, court transcripts, and virtually all other legal documents, either on a one stamp per document or one stamp per page basis. Regressivity could be reduced by exempting or setting a limit on essentials purchased by the poor, while higher rates could be imposed on luxury goods, e.g. titles to cars costing over \$15,000; homes costing more than \$150,000 etc.

In Congress's search for "revenue enhancers", the time may have come for a new look at the possibility of stamp taxes, looking at them from the new perspective of a "fee for services". Revenues could, in part, be devoted to increased law enforcement. This would keep many small businesses operating which might otherwise close by reason of unrecoverable bad check losses and might even attract a few failed small businessmen to try again.

REFLECTIONS ON PERESTROIKA, OSCAR LANGE, & POINT OF SALE TECHNOLOGY

David B. Timmins, PhD
Monterrey Institute of Technology

It is a pity that Karl Marx died in 1873, before Carl Menger's development of the marginal product theory of value. Marx thus left his followers the false and pernicious labor theory of value which has led Marxism down a false path for over a hundred years.

Repelled by the excesses of Nineteenth Century Robber Baron Capitalism, but cognizant of the failings of crude, first generation Marxist theory, Oscar Lange, a Polish economist then teaching at the University of Chicago, devoted considerable thought to developing a theory of market socialism. Lange thought that even with social ownership, the demands of efficiency would require planners to take into account market signals with respect to quantity, style, and price to guide factory production, and enable the planning process to maintain full production without the periodic downturns of Capitalism.

Critics of Lange countered that there was no way in the real world to factor so many hundreds of thousands of signals into the planning process. Indeed, Joseph Schumpeter thought that periodic recessions were essential to keeping the production process cleaned out and operating efficiently, calling the process "creative destruction".

Following the war, Lange returned to Warsaw to act as Economics Minister. Crude Stalinism was the order of the day and Lange was unsuccessful in implementing his plans for market directed socialism. He soon resigned a disappointed man.

Events were taking place in the West, however, which give Langeianism a second chance. During the war Wassily Leontieff came up with the idea of Input-Output analysis to eliminate wartime bottlenecks. Linear programming and matrix analysis has now been developed to the point where there exists a 300 x 300 matrix of the American economy. With a further thirty-five year delay, business machine producers have developed electronic point of sale technology to the point where it is possible, at least theoretically, to enter sales and design data directly into a national accounts matrix. And with the almost simultaneous development of overnight deliveries of costly to hold in inventory replacement parts and just-in-time production, there is no conceptual barrier to putting Lange's socialist-planning-using-market signals model into operation.

Secretary Gorbachev faces strong internal opposition to his "perestroika", or economic restructuring program, which to many appears an abandoning or at least watering down of socialism. His salvation might be to adopt the Langeian model, using up-to-the-minute point of sale technology and zero inventory production methods to preserve central planning. Unfortunately for him, the Soviet Union appears too far behind the technology curve to be in a position to do this. And it appears as if Capitalism may be first to introduce planning (at firm level) by up-to-the-minute market signals -- done, to be sure, in the name of a more efficient Free Enterprise System and with little acknowledgement of the contribution of enlightened socialist Otto Lange.

ABSTRACT

COBRA'S "HIDDEN TAX" ON EMPLOYERS: COMPLIANCE STRATEGIES

Donald Westerfield, Ph.D. - Webster University
Paul Wilson, C.P.C.U. - Benefit Administrators

The Consolidated Omnibus Budget Reconciliation Act (COBRA) was signed into law April 7, 1986, by President Ronald Reagan. This federally mandated employee benefit law requires private employers with 20 or more employees to carry former workers and their dependents on company group health plans for specified periods. The original intent of Congress was to extend employer health care coverage to those employees and dependents who had become disenfranchised from employer group insurance by circumstances beyond their control [Westerfield and Wilson, 1989]. Congress intended to shift the social responsibility and costs of providing ex-employee health care to employers, thereby reducing reliance on federal government programs and aiding in reducing the federal budget deficit nightmare.

While trying to help cure one nightmare, another one was created in the minds of U. S. businesses who became the heirs of administering the congressionally mandated COBRA health benefits [Szabo, 1988; Scott, 1988]. Their 1987 total health care costs amounted to \$2.69 billion, averaging \$1,384 annual expenditure per COBRA-covered employee [Geisel, 1988; Diamond, 1988]. Most actuarial professionals believe the costs now projected for the future are only the "tip of the iceberg" [Cain, 1987]. In a 1988 COBRA survey conducted by Charles D. Spencer & Associates, the study revealed that, for the 284 responding firms, they accounted for a total of 1.94 million active employees [Diamond, 1988; Huth, 1988].

Considering all firms in the U.S., there is the potential for devastation to firms in troubled industries which have volatile employment profiles.

Even before COBRA became law, employers were expressing the following concerns:

a) There would be virtual incalculable potential for ex-employees to elect COBRA coverage [Krueger, 1988; Katz, 1988].

b) Employees would wait the full 60 days allowed to elect coverage, then wait 45 days to pay premiums, and then pay only if sick [Gibbs, 1988; Lemley, 1988].

c) Employees would elect coverage, incur all the medical services they could, and then quickly drop coverage [Gibbs 1988; Lemley, 1988].

d) Costs of coverage due to "adverse selection" (only the sickest employees would elect COBRA health care coverage) are many times that of non-COBRA health care plans [Giesel, 1988; Szabo, 1988].

It is certain that employers will not "take COBRA's 'hidden' tax laying down." There is a swelling, almost covert, undercurrent of resistance to COBRA being mobilized and will formally or informally be demonstrated by employers in a spectrum of strategies, some of which are:

1. Pay the COBRA costs and comply without resistance.

2. Lobby for political action.

3. Relocate work force outside the United States borders.

4. Reduce other employee benefits which are not federally mandated.

5. Substitute temporary help for active employees.

6. Contract labor from outside firms.

7. Substitute capital for labor.

8. Perhaps the most controversial of the expected employer strategies will be the increased requirement for pre-employment screening, including physical examinations.

9. Require pre-employment physical examinations to check for pre-existing medical conditions.

10. Increase employee participation in premium contributions.

11. Increase employee deductibles and copayment provisions.

12. Eliminate dependent coverage for all employees.

13. Eliminate dependent coverage where there is a major income earning spouse of the employee.

Many of the strategies listed above are being subtly implemented by businesses already. Strategies #9 through #13 are sure to be the most prominent as costs ("hidden taxes") of mandated benefits are shifted on to the backs of businesses.

COMMENTS

VARIATIONS IN ANXIETY/ATTITUDES OF BLACK HIGH-SCHOOL TEACHERS TOWARD COMPUTERS.

BY RAJA R. A. ISSA, MISSISSIPPI VALLEY STATE UNIVERSITY AND ROBERT LORENTZ, MISSISSIPPI STATE UNIVERSITY.

"COMMENTS" By BANJI BABALOLA,
HAMPTON UNIVERSITY, HAMPTON
VIRGINIA.

This is a fairly good paper. However, there are some points of necessary corrections.

There was no justifiable reason to explain why a particular ethnic group was chosen to be tested. Since this experiment had been carried out it would be appropriate for the authors to explain a reason or reasons for the choice of the group.

In general, it would be better for the authors to check on the typographical mistakes and also on the spelling errors.

Since the word 'fear' is multivocal, the term "generalized fear of technology" in line two of the introductory paragraph should be explained. Under the Methodology also, the term "number of degrees" is quite ambiguous. Any one reading through the passage would be apt to think that the authors were trying to allude to the 'degrees of freedom' since this was a statistical experiment. However, if the authors meant to explain the level of education attained by members of the group in the experiment, the term diploma or diplomas may be more appropriate.

Some of the variables that were defined as attitudes do not appear to be attitudes after all. The term attitude, in a nutshell, is a kind of behavior that connotes a flow concept. For instance, the authors used the term "I own or have regular access to a computer" This term seems like an action than like an attitude.

Finally, there also seems to be some problems of multicollinearity in the attitudinal variables. The terms "Computers are difficult to use" and "It is more troublesome to do something on the computer than by hand" and "Using a computer is very stressful" seem to be perfectly collinear. The authors are advised to check these problems using a multiple correlation coefficient.

**An Examination of the Growing Shortage of
Registered Nurses in the United States**

Charles J. Ellard
Pan American University

COMMENTS:

Patricia T. Papachristou
Christian Brothers College

Using a supply and demand framework, Charles J. Ellard describes the causes and effects of the current nursing shortage. Ellard correctly points out that the shrinking college aged population provides a smaller pool of possible nursing candidates. In the section "Education Requirements and Entry Routes," Ellard briefly compares the associate degree programs, hospital based nurse training programs and baccalaureate degree programs in terms of the changes in enrollment from 1985 to 1986. It would be interesting to see whether there are significant socio-economic differences between the nursing students who enter and graduated from each of the three different programs and their job changes in the future.

Although the number of enrollees in registered nursing degree programs peaked in 1983 at 250,553 and fell below 200,000 in 1986, there may not be a nursing shortage. The number of nursing graduates increased from 47,000 in 1970-71 to over 78,000 in 1975-76. Although the 1990-91 estimate of graduates is 70,000, it is important to see this decline in light of the less than 50,000 yearly graduates in the 1960's.

When discussing the impact of the prospective payment system (PPS) used by Medicare and Medicaid, the author explains diagnostic related groups (DRG's). He concludes that "the effect of these cost containment measures has changed health care practices while having done little to bring down costs." Without question, these changes have brought down the government costs but they may have not brought down the hospital's costs. There has been cost shifting from government patients to other patients to make up the deficiency.

In conclusion, this paper provides a picture of what has been happening to the supply of nurses and the demand for nurses. According to the author, the supply of nurses is shifting left and the demand for nurses is shifting right. The author concludes that as a result of the shortage of RNs, the economic response of rising wages for RNs would be required to end the shortage. This would provide an interesting hypothesis to test.

Assessing the Future of Long Term Health Care

James M. Brasfield
Webster University
Donald L. Westerfield
Webster University

COMMENTS:

Patricia T. Papachristou
Christian Brothers College

The first third of this paper is devoted to the changing demographics of the United States. The authors estimate the current and future need of long-term care for the chronically ill. The authors point out that the fastest growing part of the older population into the next century will be the population over age 85 and it is this group that proportionately consumes the largest share of long-term care services. While this group of the population remained at a constant 4% of the elderly for the first four decades, this group had grown to 9% in 1980 and is projected to be 14% in 2000. This is based on historic mortality statistics which could be as inaccurate as many earlier projections that failed to anticipate recent mortality changes. The authors look at alternative projections and compare them with those done by the Census Bureau.

The remainder of the paper provides a comparison of policy approaches and the authors' proposal for an universal public program to provide the financing for the future long term care needs of the elderly. This program is to be phased in over the next two decades. Their proposal is to finance this program by setting up a permanent chronic care Trust Fund which will collect taxes from workers in the form of an increment to the Social Security payroll tax and from current retirees under age 80 in the form of annual chronic care premiums. Given the earlier discussions on the difficulty of making demographic projections because of changes in mortality, no one knows what this type of program could cost.

Although medicare premiums covered 50% of the expenses when it first started, it now covers only a little more than 25% . The government makes up the rest with general funds. With the staggering \$3 trillion plus debt of the national government and no balanced budget in sight, the government is not a viable source of financing for this program.

Free To Choose ?

Leonard A. White et al
University of Arkansas,
Fayetteville

COMMENTS:

Patricia T. Papachristou
Christian Brothers College

The authors make the incredible argument that transactions in a less than ideal market are "exactly parallel" to those between a slaveholder and his slave. The authors spend half their paper developing the idea that the inability to say no in an economic transaction is the logical equivalence of human slavery. Approximately equal space is devoted to discussing six requirements that will eliminate market slavery. Four of these conditions are present in market competition (1, 2, 4 and 5). The other two are determined by the legal system. For example, the fourth requirement is that "all costs and benefits must accrue to the transaction participants only. If third parties are affected without their consent, they become slaves to the participants in the transaction."

The authors claim that in a market transaction not characterized by all of these conditions, "a market participant is unable to say no" and "this inability to say no is exactly parallel to a slave's inability to say no and will occur in spite of competitive conditions in both the short and the long run." (Emphasis added). This comparison overlooks the permanent nature of slavery as practiced in the United States. In normal economic transactions in our market economy, imperfect as it is, an individual who has been harmed by one economic transaction is free to engage or not engage in transactions with other sellers under different conditions. The authors' comparison more nearly fits the situation in those communist economic systems where there is only one producer and one employer.

After making this misleading comparison the authors conclude that "the amount of enslavement may be mitigated in the long run by competition or the noblesse oblige of the slave master but slavery still occurs. It is simply a matter of degree." While there are imperfections in the market system such as third party affects and free rider problems, no better economic system has yet been devised.

The Validity of Using Gravity Flow Models in the Evaluation of G.S.P.
by S. Hussain Ali Jefri, Southwest Texas State University,

COMMENT

by Bronislaw S. Wojtun, Le Moyne-Owen College.

To stimulate economic growth in the Less Developed Countries (LDC's) the developed countries established in their tariffs starting with the year 1976 a General System of Preferences (GSP) to encourage imports from the LDC's while keeping other countries on a nonpreferential tariff. The purpose of the study is to measure the impact of GSP on trade creation and ultimately on economic growth as the policy goal comparing the Pre-GSP data (1970-75) with the Post-GSP data (1975-1980). Preceding studies used the cross sectional gravity flow model. Using the latter model leads to erroneous conclusion according to Jafri since all countries are treated as homogeneous and there is only one intercept. The alternate method of least squares dummy variable used by Jafri treats countries as heterogeneous group resulting in intercepts on various levels. The results subjected to the Chow-test confirmed that GSP had limited effect on exports from LDC's in the period under investigation. In effect, the trade policy of the LDC's must be redirected from reliance on GSP toward dependence upon: freer trade by removing more barriers; more efficiency in domestic production and more competition; a more realistic export promotion; and more effective market development.

The sources of statistical information used in the study are data collected by the Organization for Economic Cooperation and Development and the United Nations, and those used in the World Bank Atlas. These statistics were gathered by developed nations. There is no indication that the LDC's statistics were consulted and that a reconciliation was attempted. This fact represents a weakness of the study, since it recommends redirection of trade policy of LDC's and the reliability of statistics is of prime importance.

**MINUTES OF THE ANNUAL BUSINESS MEETING
SOUTHWESTERN ECONOMICS ASSOCIATION
MARCH 31, 1989
LITTLE ROCK, ARKANSAS**

The annual business meeting of the Southwestern Economics Association was called to order by President J. Kirker Stephens, University of Oklahoma, at 5:40 p.m. on March 31, 1989. It was moved, seconded and passed to dispense with the reading of the minutes of the 1988 annual meeting.

The treasurer's report, by Rose M. Rubin, University of North Texas, showed a balance as of February 27, 1989 of \$3,607.51. The treasurer's report was accepted as presented.

The program chair, Luvonia Casperson, LSU-Shreveport, reported that the final figures for 1989 would be equal or slightly higher than last year. So far the total participation was not known, but there were 110 pre-registrants.

Chuck Becker, Texas Christian University, Vice President and Chair of the 1989 Student Paper Awards Committee, announced that at the current meeting there were 6 sessions for students. These papers ranged considerably in topic area, were of good quality and represented several campuses. Awards will be forthcoming.

Bob Brazelton, University of Missouri-Kansas City, editor of the Southwestern Journal of Economic Abstracts reported that this year there have been 60 orders for the Journal. The present balance of the Journal fund is \$2102.78. Editor Brazelton announced his resignation as editor of the Journal.

Lewis Hill, Texas Tech University, Chair of the Resolutions Committee, presented the following resolution.

"Whereas W. Robert Brazelton established the Southwestern Journal of Economic Abstracts in 1980:

Whereas he has served faithfully and diligently as editor of the Journal for nine years; and

Whereas his service as Editor of the Journal has contributed greatly to the honor and prestige of the Southwestern Economic Association.

Therefore, be it resolved:

That the membership of the Southwestern Economic Association express their deep and abiding appreciation to W. Robert Brazelton for establishing the Southwestern Journal of Economic Abstracts and for his faithful and diligent service as its Editor."

The resolution was accepted by the group and the secretary was instructed to send a copy to Brazelton's dean and president.

Clint Johnson, Arkansas State University, past president, presented certificates recognizing the service of the following program chairs.

1984	Joe Davis	Fort Worth
1985	Richard Leftwich	Houston
1986	Kathie Gilbert	San Antonio
1987	Ray Perryman	Dallas

President Stephens announced that the change in the constitution and by laws was passed by an overwhelming majority in the recently conducted mail vote of the membership.

Clint Johnson of Arkansas State University presented the report of the Nominating Committee. The following slate of officers was presented and approved by the association.

President Luvonia Casperson, LSU-Shreveport

President Elect and Program Chair, Chuck Becker, Texas Christian University

Vice president, Rose Rubin, University of North Texas

Secretary-Treasurer, Charles J. Ellard, Pan American University

Editor, Southwestern Journal of Economic Abstracts, Ray Perryman, Baylor University

Luvonia Casperson thanked the membership and adjourned the meeting at 6:20 p.m.

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.

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.

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 Christain 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
1990	Luvonia Casperson, Louisiana State University

Editors of Southwestern Journal of Economic Abstracts

1990-	M. Ray Perryman, Baylor University
1979-1989	W. Robert Brazelton, University of Missouri-Kansas City

*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.

SOUTHWESTERN JOURNAL OF ECONOMIC ABSTRACTS

Revised Submission Form, 1988

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W. Robert Brazelton, Editor
Southwestern Journal of Economic Abstracts
Department of Economics, 205 Haag Hall
University of Missouri-Kansas City
5100 Rockhill Road
Kansas City, MO 64110-2499