

# Southwestern 1993 of Economic Abstracts Journal

A selection of the  
Abstracts of the proceedings of the  
Southwestern Economic Association.

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Volume 14, Number 1, 1993

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1992-1993 OFFICERS  
Southwestern Economic Association of the  
Southwestern Social Science Association

**President**

Abdul Turay  
Radford University

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Alexander J. Kondonassis  
University of Oklahoma - Norman

**Vice President**

Richard Sprinkle  
University of Texas - El Paso

**Treasurer/Secretary**

Charles J. Ellard  
University of Texas - Pan American

**Editor**

**Southwestern Journal of Economic Abstracts**

M. Ray Perryman  
Baylor University

**Future Meeting:**

1994, San Antonio, TX (St. Anthony Hotel), March 30-April 2

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Waco, Texas 76706



# MINUTES OF THE ANNUAL BUSINESS MEETING Southwestern Economics Association

March 20, 1992

Austin, Texas

The Annual Business Meeting of the Southwestern Economics Association was called to order by President Rose Rubin, University of North Texas, at 5:20 p.m. on March 20, 1991. A motion to dispense with the reading of the minutes was passed.

The Treasurer's report, presented by Charles Ellard, University of Texas-Pan American, indicated a current balance of \$4,110.32 in the organization's coffers. The Treasurer's report was accepted as presented.

President Elect and Program Chair, Abdul Turay, Radford University, reported that all was going well with this year's program. He noted some absenteeism which was related to tight budgets at many universities. Program Chair Turay thanked Alex Kondonassis, University of Oklahoma and Lewis Hill, Texas Tech University for their assistance in putting together this year's programs.

Vice President and Student Awards Chair, Alex Kondonassis, University of Oklahoma, presented awards for student papers. These awards went to the following students:

First Place - Douglas Marcouiller, University of Texas-Austin

Second Place - Ahmed Saleh, University of Oklahoma and N. Harkrishnan,  
University of Oklahoma

Third Place - Patricia M. O'Neill, Angelo State University

President Rubin indicated that the 1991 abstract contained 37 papers and 5 comments. She encouraged participants to submit their abstracts for this year's edition.

Under old business, a discussion over the progress for the selection of the distinguished paper awards developed. The Southwestern Social Science Association presented their awards in the same year they are presented. This year we did not have an award because no quality papers were presented by the deadline in the call for papers. A motion to change procedure such that papers are sent to the program chair after the program is over but before May 1st and an ex post determination of an outstanding paper was proposed. The motion failed.

An announcement was made that the 1992 meeting will be at the Clarion Hotel in New Orleans, March 17-20, 1993.

Chuck Becker, Texas Christian University, Chair of the nominating committee presented the following slate of officers for the 1992-93 program year:

President:	Abdul Turay Radford University
President Elect and Program Chair	Alexander J. Kondonassis University of Oklahoma - Norman
Vice President:	Richard Sprinkle University of Texas-El Paso
Secretary-Treasurer	Charles J. Ellard University of Texas-Pan American
Editor of the SW Journal of Economic Abstract:	Ray Perryman Baylor University

A motion to accept the slate of officers by acclamation was passed.

The meeting was adjourned at 5:55 p.m.



# CONSTITUTION AND BY-LAWS Southwestern Economics Association

## **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 of 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 the 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 VII. 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 prior consideration at the annual business meeting.

## **BY-LAWS**

### **Article I. Membership and Dues**

Section 1. The membership requirements and dues in the SWEA are those set by the SSSA.

Section 2. Participants in the annual meeting, except for guests of the Association, as determined by the SWEA Program Chair, must pay the SSSA registration fee.

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

Section 1. The President shall preside at all business meetings of the Association and shall also preside at the Executive Committee. The President shall appoint all committees except the nominating committee. The President, along with the immediate Past-President, shall represent the SWEA on the Executive Council of the SSSA.

Section 2. The President-Elect shall serve as the SWEA Program Chair and publicize and organize the program for the annual meeting.

Section 3. The Vice President shall preside at any business meetings 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) Resolutions
- (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 Christian University
1965	Stephen L. McDonald, University of Texas-Austin
1966	Kendall Cochran, North Texas State University
1967	Joel W. Sailors, Houston University
1968	Richard W. Poole, Oklahoma State University
1969	Gaston Rimlinger, Rice University
1970	Thomas Beard, Louisiana State University
1971	Paul Brinker, Oklahoma University
1972	Carter Murphy, Southern Methodist University
1973	Jared Hazelton, University of Texas-Austin
1974	Ralph T. Green, Federal Reserve Bank, Dallas
1975	Frank Steindle, Oklahoma State University
1976	Robert Rouse, Texas Tech University
1977	Gloria Shatto, Georgia Tech University
1978	James Hibdon, Oklahoma State 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
1991	Chuck Becker, Texas Christian University
1992	Rose Rubin, University of North Texas

\*Prior to 1966, this office carried the title of Economic Section Chair, Southwestern Social Science Association.



EDITORS  
Southwestern Journal of Economic Abstracts

1990-  
1979-1989

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

# SUBMISSION FORM FOR ABSTRACTS AND COMMENTS

## Southwestern Journal of Economic Abstracts

### REMISSION (send with abstracts)

1. ABSTRACTS of Papers presented at the SWEA meeting —\$12.00 per page, two page maximum, single spaced.
2. Abstracts of COMMENTS presented at the SWEA meeting —\$12.00 per page, one page maximum, single spaced.

### PREPARATION

1. Use caps for the word "ABSTRACT" in preparing your title for an abstract of a Paper. Follow with the underlined title of the paper, a space, the author's name(s), and the author's affiliation(s). As the example shows, all of the title information is centered:

#### ABSTRACT

The Economic Impact of Reforms

Paige Schieffelin  
Baylor University

**IMPORTANT:** Begin with the underlined title of the original paper in preparing your title for a COMMENTS submission. Then list the author's name(s), author's affiliation(s), and a space. Follow with COMMENTS in caps, the author's name(s), and the author's affiliation(s). Center all title information:

The Economic Impact of Reforms

Paige Schieffelin  
Baylor University

#### COMMENTS

Benjamin Grant  
Georgia State University

2. Continue your text on the same page as the title, single space.
3. Begin each abstract with a brief introduction, not exceeding one paragraph.
4. Place any footnotes at the end of each abstract.
5. Indent the first line of each paragraph. Text should contain a space between paragraphs.
6. Please send ABSTRACT or COMMENTS **on diskette** (either 3 1/2" or 5 1/4") in ascii text format along with two copies to be mailed with your remission. **Acceptance deadline is September 15, 1994.**

### PUBLICATION INFORMATION

1. One free copy of the journal is mailed to each author.
2. Additional individual copies are available at \$5.00 each.
3. Library copies are \$7.50 per year.

Address inquiries or abstracts (with remission) to:  
M. Ray Perryman, Editor  
Southwestern Journal of Economic Abstracts  
P.O. Box 6028  
Waco, Texas 76706

## EDITOR'S COMMENTS

by Ray Perryman

It is a pleasure to once again bring you this year's edition of the Southwestern Journal of Economic Abstracts. In my fourth year as your editor, I am increasingly convinced of the powerful influence scholarly exchange has in our continually evolving world economic arena.

I remain University Professor and Economist-in-Residence at Baylor University. During the past year I've presented papers at several international conferences and published studies on topics from the impact of NAFTA to small area utility forecasting. My consulting work has taken me around the globe, working with private and public entities from North America to the Pacific Rim. I continue to appreciate how the coalescing of rigorous scholarship and informed application of theory makes an invaluable contribution to economic understanding.

As you will notice, the publication of this issue of the Journal has been upgraded by using color printing capabilities. I look forward to hearing your comments about this change. I also welcome any suggestions you have concerning the content or production of the Journal; the resources of Perryman Consultants are available to serve the needs of the association. To remain within our publication schedule for 1994, we ask all who wish to submit abstracts or comments to do so by September 15. Other pertinent information is enclosed with this issue.

Your cooperation in preparing this issue has been tremendous. The high level of scholarship existing in the southwest region is evidenced by this year's selections. Those who served as discussants are to be commended for your contributions toward a quality publication.

My thanks goes to all of you who support the overall goals and objectives of the Southwestern Economics Association. Best wishes for a productive 1994.



1993 DISTINGUISHED PAPER AWARD  
FASB's Implications for Financial Institutions

**Michael P. O'Neill, Ph.D.**  
**Thomas A. Bankston, Ph.D.**  
**Kurt H. Buerger, Ph.D.**  
**Angelo State University**

**Patricia M. O'Neill**  
**First National Bank, Fort Stockton**

The Financial Accounting Standards Board (FASB) has raised a number of issues dealing with Market value accounting and the implications with the various institutional regulators. Last Spring OB<sup>2</sup>O (O'Neill, Bankston, Buerger, O'Neill) wrote a paper entitled "The Implications of Market Value Accounting for Financial Institutions."<sup>1</sup> Our main conclusion follows: "Market value accounting is likely to be more efficient and more equitable on the statements of financial position. Already regulators and taxpayers are for market value accounting, and in time, firms, banks, stockholders, and bondholders may appreciate the useful information presented by market value accounting."

This paper focuses on the September 9, 1992, Exposure Draft issued by the Financial Accounting Standards Board, which was entitled "Accounting for Certain Investments in Debt and Equity Securities," and had a comment deadline of December 8, 1992. Balance Sheet Models will be presented and extended, and preliminary statistical analysis will be performed. Finally, implications will be discussed.

## **FASB'S PROPOSALS**

Recent reports in The Wall Street Journal<sup>2</sup> indicate development of a final FASB statement consistent with the important elements of the Exposure Draft as discussed in this paper. The proposed statement tentatively would be effective for fiscal years beginning after December 15, 1993.

The proposed statement would provide standards for accounting and reporting for investments in equity securities that have readily determinable fair values and for all investments in debt securities. In this context, *equity security* means any security representing an ownership interest (common or preferred stock); whereas, *debt security* includes U.S. Treasury

Securities, municipal securities, corporate bonds, commercial paper, securitized debt instruments, and others, but *not* accounts receivable and loans receivable.

Three classification categories are defined as follows:

- I. Investments in debt securities shall be classified as *Held to Maturity* (current or noncurrent) and measured at amortized cost if the entity has both (1) the positive intent and (2) the ability to hold the securities to maturity.

Other investments in debt securities and investments in marketable equity securities that have readily determinable fair values must be classified as either of the following:

- II. *Trading Securities* are those which are held for current resale and classified as current assets. They are to be reported at fair value with associated unrealized gains and losses included in earnings.
- III. *Securities Available for Sale* are those which are not classified in the other categories. These may be classified as current or noncurrent assets as appropriate, and they are to be reported at fair value with associated unrealized gains and losses reported as a separate component of stockholders' equity (*not* as a part of earnings).

## THE MODEL

This section of the paper presents a model to test for the effects of interest-rate risk on the market value of securities held for sale and of trading securities, and the resultant changes in total assets and residual capital of commercial banks. The model can be applied to an individual bank, to aggregate data, or to other financial institutions.

## DESCRIPTION OF THE MODEL

The model takes as given a bank balance sheet in dollars with an assumed level of rates of return on the securities portfolios. The values of securities available for sale and trading securities are recalculated over an array of rates of return representing the original rate plus or minus increments of one percentage point to a maximum divergence of minus eight to plus 12 percentage points. Beginning with a base rate of eight percent, this results in a discount rate range of zero to 20 percent. The remainder of the asset accounts are held constant, except total assets, which is recalculated to reflect the changed values of the securities accounts. All of



TABLE 1. POTENTIAL EFFECTS OF CHANGES IN MARKET RATES ON MARKET-VALUED SECURITIES AT BANKS

BASE CASE		Securities Held for Sale								Trading Securities											
Base Market Rate of Return		8.00%								6.00%											
Term to Maturity		10 years								5 years											
Assumed Annual Payment		\$108								\$10											
Market (Present) Value		\$727								\$43											

  

SUMMARY OF CHANGES FROM BASE CASE																					
Market Rate	0%	1%	2%	3%	4%	5%	6%	7%	Base 8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
Investment Securities	\$1,083	\$1,026	\$973	\$924	\$878	\$836	\$797	\$761	\$727	\$695	\$665	\$638	\$612	\$588	\$565	\$544	\$523	\$505	\$487	\$470	\$454
Trading Securities	54	52	51	49	48	47	45	44	43	42	41	40	39	38	37	36	35	34	33	33	32
Residual Capital	629	570	516	465	419	375	335	297	262	229	198	170	143	118	94	72	51	31	12	(5)	(22)
Change in Base Market Rate	-8%	-7%	-6%	-5%	-4%	-3%	-2%	-1%	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
Change in Investment Securities	49%	41%	34%	27%	21%	15%	10%	5%	0%	-4%	-8%	-12%	-16%	-19%	-22%	-25%	-28%	-31%	-33%	-35%	-38%
Change in Trading Securities	26%	22%	19%	15%	12%	9%	6%	3%	0%	-3%	-5%	-8%	-10%	-12%	-14%	-17%	-18%	-20%	-22%	-24%	-26%
Change in Residual Capital	140%	118%	97%	78%	60%	43%	28%	13%	0%	-13%	-24%	-35%	-45%	-55%	-64%	-73%	-81%	-88%	-95%	-102%	-108%

  

BALANCE SHEETS																					
Market Rate	0%	1%	2%	3%	4%	5%	6%	7%	Base 8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
ASSETS																					
Investment Securities	\$1,083	\$1,026	\$973	\$924	\$878	\$836	\$797	\$761	\$727	\$695	\$665	\$638	\$612	\$588	\$565	\$544	\$523	\$505	\$487	\$470	\$454
Trading Account Assets	54	52	51	49	48	47	45	44	43	42	41	40	39	38	37	36	35	34	33	33	32
Total Loans	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985	1,985
Total Cash Assets	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193
Other Assets	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
Total Assets	\$3,484	\$3,425	\$3,371	\$3,320	\$3,273	\$3,230	\$3,189	\$3,152	\$3,117	\$3,084	\$3,053	\$3,024	\$2,998	\$2,972	\$2,949	\$2,926	\$2,905	\$2,886	\$2,867	\$2,849	\$2,833
LIABILITIES AND CAPITAL																					
Transactions Accounts	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744	\$744
Savings Deposits	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739
Time Deposits	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871	871
Borrowings	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365
Other Liabilities	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Residual Capital	629	570	516	465	419	375	335	297	262	229	198	170	143	118	94	72	51	31	12	(5)	(22)
Total Liabilities and Capital	\$3,484	\$3,425	\$3,371	\$3,320	\$3,273	\$3,230	\$3,189	\$3,152	\$3,117	\$3,084	\$3,053	\$3,024	\$2,998	\$2,972	\$2,949	\$2,926	\$2,905	\$2,886	\$2,867	\$2,849	\$2,833

  

COMMON SIZE BALANCE SHEETS																					
Market Rate	0%	1%	2%	3%	4%	5%	6%	7%	Base 8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
ASSETS																					
Investment Securities	31%	30%	29%	28%	27%	26%	25%	24%	23%	23%	22%	21%	20%	20%	19%	19%	18%	17%	17%	16%	16%
Trading Account Assets	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Total Loans	57%	58%	59%	60%	61%	61%	62%	63%	64%	64%	65%	66%	66%	67%	67%	68%	68%	69%	69%	70%	70%
Total Cash Assets	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	7%	7%	7%	7%	7%	7%	7%	7%
Other Assets	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Total Assets	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
LIABILITIES AND CAPITAL																					
Transactions Accounts	21%	22%	22%	22%	23%	23%	23%	24%	24%	24%	24%	25%	25%	25%	25%	25%	26%	26%	26%	26%	26%
Savings Deposits	21%	22%	22%	22%	23%	23%	23%	23%	24%	24%	24%	24%	25%	25%	25%	25%	25%	26%	26%	26%	26%
Time Deposits	25%	25%	26%	26%	27%	27%	27%	28%	28%	28%	29%	29%	29%	29%	30%	30%	30%	30%	30%	31%	31%
Borrowings	10%	11%	11%	11%	11%	11%	11%	12%	12%	12%	12%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%
Other Liabilities	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Residual Capital	18%	17%	15%	14%	13%	12%	10%	9%	8%	7%	6%	6%	5%	4%	3%	2%	2%	1%	0%	0%	-1%
Total Liabilities and Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%



the liability accounts are held constant, except capital, which is determined as a residual to balance the balance sheet.

To begin with realistic balance sheet proportions, data for aggregate assets and liabilities of domestically chartered commercial banks were taken from the *Federal Reserve Bulletin*.<sup>3</sup> These figures are shown as the "Base" in Table 1. The *Bulletin* does not break down investment securities into those held to maturity and those available for sale, so the entire amount is classified as available for sale in the model. This allocation exaggerates the effect of market value changes but can be adjusted to fit any known allocation between the accounts.

The focus of this model is the valuation of two accounts: securities available for sale and trading securities. Under the proposed standards these accounts would be reported at market value. The theoretical market value of any security is the present value of the expected future cash flows discounted at a rate commensurate with the risk. Various well-known models are suitable for the valuation of specific securities, such as bonds, preferred stock, and common stock. The mix of securities in the aggregate data is not readily available, so the value of the two subject accounts is calculated as the present value of an annuity. The authors assigned an eight percent discount rate and 10-year maturity to the securities available for sale and a six percent discount rate and five-year maturity to trading securities. The annual annuity required to produce the aggregate value of each account was calculated. To check for the effect of interest rate risk, the eight percent and six percent rates are changed to simulate a change in the general level of market interest rates. The present values of the securities accounts change when the discount rates are changed. Total assets and residual capital are then recalculated after each change in rates.

If the composition of these accounts were known precisely, as would be the case with an individual bank, then a multiplicity of security models, discount rates, cash flow patterns, and maturities could be fitted to the particular situation. The cash flow to a bank from a typical bond, for example, consists of semi-annual interest receipts and a relatively large terminal inflow when the bond is sold (or matures). The cash flows associated with common stock in a portfolio consists of expected future quarterly dividends plus the expected sale price at the end of the planned holding period. The market value of bonds and stocks could be approximated as the present value of these expected cash flows. These refinements would require intimate knowledge of the individual securities in a portfolio and management's planned holding period for each. The model presented herein uses the present value of a finite annuity to capture the essence of the problem. The use of only two, admittedly rather arbitrary, present value models in this paper affects the magnitude of the changes noted, but does not affect the direction of the



changes or the general conclusions drawn.

Bond price volatility is known to be affected by (1) the maturity, (2) the coupon, (3) the prevailing level of interest rates from which changes are observed, and (4) characteristics of the individual bond.<sup>4</sup> Greater volatility of principal occurs with longer maturities, lower coupons, and lower levels of interest. Sensitivity analysis would show that these recognized relationships would hold with the present model.

The "Base Case" at the top of Table 1 shows the discount rates, terms to maturity, annuities, and beginning market values (present values) for securities available for sale and trading securities. The "Base Case" figures are used in the "Base" column of the "Balance Sheets" section of the table. The columns to the left and right of the base column show how the balance sheet would change for each one percentage point increment in the assumed discount rates. The "Common Size Balance Sheets" section of Table 1 converts the dollar amounts of the balance sheets to percentages of total assets. The "Summary of Changes from Base Case" section gives the dollar values of the changed accounts and the related percentage changes for each incremental change in the discount rate.

## DATA FROM THE MODEL

The "Summary of Changes from Base Case" section of Table 1 shows that the first percentage point increase in discount rates reduces residual capital of the domestic banking system by 13 percent. A one percentage point decrease in discount rates increases capital by 13 percent. If the discount rates are increased 10 percentage points, residual capital is decreased 95 percent. On the other hand, if the discount rates are decreased by eight percentage points, residual capital is increased by 140 percent. Examination of the "Balance Sheets" section suggests a potential loss of \$33 billion ( $\$262 - 229 = \$33$ ) of bank capital brought about by a one percentage point increase in prevailing interest rates. Other account values are shown over the spectrum of minus zero to 20 percent.

The "Common Size Balance Sheet" section proposes the startling result that an increase of 10 percentage points from the base discount rates would virtually wipe out the residual capital of the domestic banking system, reducing the capital-to-assets ratio to near zero percent, which would be of great concern to customers, stockholders, managers, and regulators.

In the base case, securities available for sale constitute 23 percent of total assets, while trading securities are one percent of assets. These accounts are the only ones valued at market; all oth-



ers besides the totals and residual capital are held constant throughout. Thus, market valuation of 24 percent of total assets has the potential for causing devastating swings in residual capital. These results are probably greater than would actually occur, but they certainly give one something to think about. After all, what happened to the savings and loans?

## EXTENSIONS OF THE MODEL

This model could be modified to specifically separate out the separate component of stockholders' equity that arises from unrealized gains and losses in securities held for sale. It could flow through the effect on earnings of unrealized gains and losses in trading securities. Income taxes were ignored, but could be included.

This model could be extended to include specific types of securities with various cash flows, maturities, and discount rates. Default risk is an inherent component of the discount rate, but could be specifically addressed and adjusted among various securities. The model could be modified to test other proposals including market valuation of more (or other) asset accounts and of liability accounts as well.

## STATISTICAL ANALYSIS

The next step of the paper was to see if there were any statistical relationships. Since our data is cross-section simulation data, shown in Table 2, we thought a multiple regression analysis would be a good place to start. It becomes obvious after running a few regressions that we were going to have problems of autocorrelation and multicollinearity. In an attempt to minimize those problems, we estimated a double-logarithmic equation, which is a nonlinear equation. Hence,

$$\log \text{Capital} = \log B_0 + B_1 \log \text{Rate} + B_2 \log \text{Securities}$$

The nice thing in dealing with double-log form equations is that their estimated coefficients become elasticities rather than slopes.  $B_1$  is the capital elasticity with respect to the interest rate; it shows the responsiveness of capital when there is a change in interest rates. The definition follows:

$$\frac{\% \text{ Capital}}{\% \text{ Interest Rates}} = 2.26$$

**TABLE 2. DATA USED FOR REGRESSION**

Rate	Securities	Trading	Capital
0.00	1082.94	53.99	629.28
0.01	1025.69	52.36	570.40
0.02	972.76	50.80	515.91
0.03	923.77	49.31	465.43
0.04	878.37	47.89	418.60
0.05	836.22	46.53	375.10
0.06	797.06	45.23	334.64
0.07	760.62	43.99	296.95
0.08	726.67	42.80	261.82
0.09	695.00	41.66	229.01
0.10	665.43	40.56	198.34
0.11	637.78	39.52	169.64
0.12	611.89	38.51	142.76
0.13	587.64	37.55	117.54
0.14	564.88	36.62	93.86
0.15	543.51	35.73	71.60
0.16	523.42	34.88	50.65
0.17	504.51	34.06	30.92
0.18	486.69	33.27	12.31
0.19	469.89	32.50	-5.26
0.20	454.03	31.77	-21.85

Hence a 1% increase in interest rates will bring about a 2.26% change in capital.

$B_2$  is the capital elasticity with respect to trading securities; it shows the responsiveness of capital when there is a change in the value of securities-held-for-sale. The definition follows:

$$\frac{\% \text{ Capital}}{\% \text{ Securities}} = 17$$

Thus a 1% increase in securities will bring about a 17% increase in capital.



The complete results are presented in Table 3.

Securities available for sale and trading securities were so collinear, i.e., a linear combination of one another, that it was dropped from the analysis. Using the data as is, the only ways around multicollinearity are probably to use ridge regression or principal components. Autocorrelation may be solved by using the Cochrane-Orcutt iterative least squares procedures or generalized least squares. Unfortunately for the authors, neither of these statistical techniques was available.

**TABLE 3. STATISTICAL RESULTS**

log Capital =	log B <sub>0</sub>	+	B <sub>1</sub> log Rate	+	B <sub>2</sub> log Securities
*Coefficients	-40.60	+	2.26 log Rate	+	17 log Securities
Standard Error	6.15		.7086		2.43
*t-ratio	-6.60		3.19		6.99

All coefficients are statistically significant at the 0.01% level.

$s=0.3149$        $R^2 = 0.91$        $DW = 0.54$

ANOVA	<u>DF</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Explained Variance	2	17.2539	8.6270	87.01
Unexplained Variance	15	1.4873	.0992	
Total VArance	17	18.7412		

1. The estimated coefficients are statistically significant at the 0.01% level using the standard t-test.
2.  $R^2$  is the adjusted multiple coefficient of determination which equals 0.91. It seems that the data fits the model well.
3.  $s$  is the Standard error of estimate which equals 0.3149 and reduces the forecasting error.

There are, however, significant problems with autocorrelation and multicollinearity.



## SUMMARY

In summary, using FASB's proposed market value accounting procedures will cause swings in the values of securities-held-for-sale and trading securities when interest rates change. These changes will cause residual capital to change as well. Using the above regression analysis, one can begin to feel for the impact on capital with the given caveats. Clearly, further research is needed, since the data have not been tortured enough to confess.

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ABSTRACT

Analyzing the Financial Impact of the Farm  
Recovery on Southern Plains Farms

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During the 1980's, the farm sector in the Southern Plains region (Texas and Oklahoma) along with the rest of the nation experienced a financial crisis and then a recovery. Although the recovery was widespread at the national level, there were some important differences with respect to the recovery and its economic impact on farms at the regional level. For example, in the Southern Plains (1) the recovery began in 1987, three years after it started at the national level; (2) there were relatively higher percentage of farms with negative net farm income and a lower percentage of farms with favorable financial positions in 1989 showing that the recovery was not as strong as at the national level; and (3) the recovery was less widespread as was evidenced by declining farm real estate values in contrast to rising values at the national level. Therefore, the objective of this study was to evaluate the financial performance of Southern Plains farms in order to explain their relatively weak performance during the recovery period.

A financial ratio analysis was used to evaluate the performance of Southern Plains farms. The three most frequently used performance measures, profitability, efficiency, and solvency were included in the model. The return on total assets, an overall measure of profitability, was used to compare farm operations of different sizes. To separately account for the sales volume and profitability of those sales, the return on total assets was expressed as two ratios, the operating profit margin and the asset turnover ratio. To evaluate the effects of financial leverage on returns and growth of equity and on lender risk, the debt-to-asset ratio was also included in the model.

The data used in the study were obtained from the Farm Costs and Returns Survey which is jointly conducted annually by the Economic Research Service and the National Agricultural Statistics Service of the U.S. Department of Agriculture. For the Southern Plains region, useable data were obtained from 1,225 farm operations in 1987; 1,288 in 1988; and 1,061 in 1989. A farm operation was defined as an establishment that sold or normally would have sold at least \$1,000 worth of agricultural products during the previous year. Data from earlier surveys could not be included because the definition of a farm business used in these surveys was different from the one used since 1987.



The results show that compared to their 1987 performance level, the calculated average annual values of the three profitability ratios, viz., the return on assets, the return on equity, and the operating profit margin, declined in 1988 as a result of continuing drought conditions and a freeze in the region and then increased in 1989 as the growing conditions turned to normal. However, there was no statistically significant change in performance over time. The relatively low returns on assets were due largely to the low asset turnover ratios that ranged from 0.15 in 1987 to 0.17 in 1988 and to 0.16 in 1989. It is obvious from these low asset turnover ratios that the Southern Plains farms generated relatively low incomes per dollar of investment. The interpretation of these ratios warrants caution because: (1) Non-farm income from oil and gas production may have been capitalized into farm land values, raising the total value of those assets without increasing farm incomes. (2) Livestock and livestock products sales account for more than half of the total farm receipts. But being a non-program farm activity, such sales are not eligible for government subsidies. Therefore, the total gross farm income of the region is adversely affected. (3) Finally, the proportional share of irrigated land in the Southern Plains is much less than at the national level. This makes the Southern Plains farm land less suitable for intensive agriculture. These are some of the reasons for relatively low asset turnover ratios.

The average annual debt-to-asset ratio remained the same in 1987 and 1988 at 0.10 and declined to 0.08 in 1989. These low debt-to-asset ratios show that debt was not a widespread problem in the region. Only 9 percent of the Southern Plains farms owed 40 percent of the total debt in 1989.

Performance was also analyzed by farm size. Farm size and performance level were found to have a direct relationship. Large farms significantly out-performed medium and small farms with respect to profitability and efficiency in each of the three years analyzed. The medium size farms performed at a significantly higher level than the small size farms. Only the small size farms had negative values for all three profitability ratios for each of the three years analyzed. The differences in performance were due primarily to the difference in the asset turnover ratios and/or use of leverage. The debt-to-asset ratios were the lowest for the small size farms and increased significantly with the increase in farm size. Over time, the financial performance, regardless of the size, did not change significantly.

A major reason for the flat performance was the drought that persisted in the region throughout the study period, especially in Texas. In addition, the 1988 freeze had a severe and continuing impact on the citrus industry in Texas. This may explain why (1) the percentage of farms with a favorable financial position has not gone up and (2) the farm real estate market has remained depressed in the region, compared to the averages at the national level.



# ABSTRACT

## Russian Banking Reforms: A Two-Stage Proposal

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After discussing the present Russian banking system as being largely a remnant of the previous Soviet period of central planning, the paper discusses a two-staged proposal for banking reform.

The first stage is a transition period where the banking institution in existence from the Soviet period dominate; but also there is the introduction of a more western version of a Central Bank; a public development bank; and a private banking sector to both finance the economy, but not to print money in the manner which the present system is doing which has been inflationary. The loans of the development bank; the discounts of the Central bank; and the loan of the private bank will be on the basis of potential earnings, not upon the goals of central planners or the deficits of state enterprises. Nevertheless, in the first stage, the present system will dominate awaiting the emergence of the banking reforms.

In the second stage, the private banks will dominate along with the Central Bank and will replace in relative importance the public development bank. This is the emergence of a banking system similar to those of the industrialized countries of the West.

During the period, other policies must be realized. The money supply must be controlled. A wage policy to combat inflation must increase wages less than prices; and in the long-run, wage increases must be tied to productivity. There must also be the emergence of a "social safety net" of the western-type welfare state that does not exist in Russia at this time. The banking reforms, plus the development of a modern price-wage-welfare policy will be necessary if Russia is to continue its economic advances without undue de-stabilizing social, economic, and political pressures.

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ABSTRACT

The Institutional and the Post Keynesian:  
A Selected Survey of Views

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The paper discusses selected topics in both Institutional (Evolutionary) Economics and Post Keynesian Economics a la Paul Davidson, et alius.

The major Institutional topics discussed are the culturalogical scope of Institutionalism/versus the narrow specific economic-only scope of orthodox economists. This expanded into the Institutionalists view of socio-economic change — the Veblen dichotomy. This section included the differences between the Institutionalists and the Marxians in regard to socio-economic change. Lastly, the Institutionalist concept of “instrumental efficiency” is discussed.

The major Post Keynesian concepts discussed are their criticisms of the familiar IS/LM version of Keynes — to me, a netuerized Keynes. The analysis then, develops into an analysis of the Post Keynesian belief in historic time, rather than theoretical time of orthodox analysis — what happened rather than what should; the related concept of uncertainty; and the fact that political/social/historic institutions play an essential role in economic analysis, despite the orthodox economists minimization of their role.

The post Keynesian analysis culminates into a discussion of their view of competitive/non-competitive markets; the cost of production based analysis that determines prices (rather than supply/demand) from the works of Sidney Weintraub; and the “financial instability” thesis concerning the financial structure and its liquidity shifts from the works of Hyman Minsky. A summary is included which relates the works of Alfred Eichner to the post Keynesian beliefs in economic markets as they really are; the concept of economic change in said markets; the financial instability of money markets; the fix-price versus the flex-price system; and the underlying post Keynesian concept of uncertainty.

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ABSTRACT  
A Test Of An Economic Dependency Index  
In Two Regions

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In order to better understand the need for and the possibilities of economic development in areas within a state, especially our state, Arkansas, we have sought to develop a measure of economic misery. The intent was to find a measure more comprehensive than unemployment but which could be constructed from readily available published data. We reasoned that with Federal funding cutbacks there would be little chance of extending data collection beyond that which exists. The index developed is called an economic dependency index since it measures the dependence of the population of a county on transfer payments.

The county was used as the basic unit since data is available at that level. However, county lines do not define markets, especially product markets. But, by choosing subsets of counties within the state, the labor markets were localized since the areas studied had reasonably homogeneous industrial bases in which labor seldom moved any distance to market. More specifically, only one county was a net importer of labor. The group of counties was chosen because their principal industries were extraction of minerals or pulpwood producing and processing.

Discussants of the work asked why the Arkansas Delta, an area known to be more economically distressed was not included. The counties selected are homogeneous in production being mainly agricultural and since mechanization residents have either left or remained trapped in a cycle of poverty. But, the labor markets were not as homogeneous since Memphis, Jonesboro and Blytheville offered alternative employment opportunities for the more skilled workers. In this paper, we exclude the Memphis MSA and study the remaining 15 Delta counties. The term "forest" is applied to 23 counties. For the reader not familiar with Arkansas, the forest counties are in the south and southwestern parts of the state while the Delta counties lie along the eastern boundary of the state near the Mississippi River.

The variables used in the index included real per capita income, per capita income transfers and percentage actual to potential labor force. The counties were ranked on each of the three variables and the ranks summed to construct the index. Then, the counties were ranked by unemployment rate and this rank was added to the index constructed from three



variables. The rankings were constructed such that a low number represented greater economic misery. Thus, Lee County, in the Delta, ranked first, third and fifth on the first three variables so its index number was nine. The county was second highest in unemployment so its index number including unemployment was 11. The index ranged from nine to 60 excluding unemployment and 11 to 83 with unemployment included.

Two issues were examined. First, did the addition of other variables reveal more than unemployment alone. Second, were the forest and Delta counties different populations. Tests using the Spearman Rank Correlation resulted in the rejection of the null hypothesis in both cases. Thus, the economic dependency index is at least a step in the direction of a better measure of economic distress. Using the index, it appears that the economic problems of the Delta are as often perceived to be greater than those of the forest counties in the southern part of the state of Arkansas.

The results are plausible and encouraging. The rankings of counties within each region with the additional variables included in the index more nearly coincided with the general perception of the degree of economic distress than does unemployment alone. In addition, the economic dependency index was much more stable measuring economic distress compared with unemployment which varied widely. The authors will supply the underlying data and the indexes as calculated upon request.

# ABSTRACT

## Four Inflations and the Role of Anchors

**Pierre Canac**  
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This paper investigates the neoclassical proposition that, because several values of inflation (multiple equilibria) are consistent with a unique equilibrium in the real sector of the economy, price stability requires that at least one nominal variable be determined exogenously. The paper argues that this variable should be, not the money supply, but instead the nominal exchange rate against an important trading partner that enjoys price stability. The institution of a sufficiently visible (and credible) peg of the exchange rate would tie down many prices directly through arbitrage. It would also cause domestic prices and wages to increase more moderately by influencing inflationary expectations. However such an anchor would fail to work if high monetized fiscal deficits continued and caused the public to believe that inflation would not decline. The evidence consists of the experience of four countries, France, Mexico, Israel and Poland which have stabilized their inflation rates by pegging their exchange rate.

Bruno and Fisher (1990) and Bruno (1991) have shown that a real system in equilibrium is consistent with one of several inflation rates, some low, some high. The economy would tend to settle at the high inflation equilibrium if the government lacked credibility. In such a case, a change of regime is then needed to shift all the nominal variables, including the inflation rates, from high equilibrium values to low ones, without affecting relative prices. This could be achieved, without the obvious solution of creating a truly independent central bank with a mandate to keep inflation low, by fixing credibly one's exchange rate to the currency of a low inflation country. Indeed an exchange rate rule is better than a monetary rule because deregulation and innovations in financial markets, the removal of foreign exchange controls, the increasing integration of global capital markets, and the huge improvements in information and telecommunication technology have caused the various definitions of money to be misleading and the relationship between money and nominal GNP to breakdown. However, when capital mobility is high, fixed but adjustable exchange rate systems are likely to be unstable. Only if the exchange rate is credibly fixed will capital flows be stabilizing, enabling the inflation rate to shift from a high to a low equilibrium.

A brief discussion of the experiences of four countries to reduce their inflation rates follows. France joined the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) in March 1979 and pegged its exchange rate to the Deutsche-mark (DM) in order to



gain the reputation of the Bundesbank and match Germany's inflation rate. However with the election of a socialist president in 1981, fiscal and monetary policy became expansionary, inflation rose, and the French franc was devalued three times between October 1981 and March 1983. The government had two choices. The first was to leave the EMS, let the exchange rate float freely, and follow an independent monetary and fiscal policy. The second was to reverse its policy stand and keep France within the EMS. Although the second choice was adopted in 1983, it took three years before the regime switch became credible and French inflation started to fall from its two digit level to 3% by the late 1987.

Mexico, which had been a low inflation country between the early 1940s and the early 1970s while the Mexican peso was fixed to the U.S. dollar, saw its inflation rate rise to nearly 200% in 1986-87 following the disastrous economic management of its former presidents, Luis Echeverria (1971-76) and Jose Lopez Portillo (1977-82). A contractionary demand side policy was put in place in 1983, followed in 1987 by a peg of the nominal exchange rate against the dollar. The inflation rate fell from 139% in 1987 to 20% in 1989 only one year after the institution of the exchange rate peg.

Israel's inflation rate reached 500% per year at the end of 1984. Its exchange rate policy at that time followed a PPP rule. In July of 1985 the country implemented a stabilization program with three main components, a contractionary fiscal policy, a nominal peg between the shekel and the dollar, and temporary wage and price controls to serve as additional anchors. Initially the inflation rate fell quickly, and then decelerated more slowly, stabilizing at 12-13% per year in 1990.

The fourth example, Poland represents a unique case because of the policy of its former socialist government of repressing price increases. Markets were in disequilibrium and relative prices were severely distorted. In particular real wages were too high as state enterprises, controlled by workers, were prone to pay excessive nominal wages while prices were fixed. The Polish stabilization program was implemented in January 1990. The government budget was cut, thereby removing the fiscal pressure for money creation. Prices were allowed to rise while nominal wages were controlled in order to eliminate relative price distortions. As prices were set free to adjust before the industrial sector could be demonopolized, the economy was opened to foreign trade, the zloty was made convertible, and its value pegged to the dollar in order to link domestic prices to world prices. As anticipated these measures caused the inflation rate to rise initially, before falling and finally settling to a new lower plateau.

The four stabilization programs described above demonstrate the effectiveness of controlling inflation by using the exchange rate as an anchor. The policies were reasonably successful in bringing the equilibrium inflation rate from a high equilibrium to a lower one.

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# ABSTRACT

## Agricultural Transition in Russia

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After the breakup of the Soviet Union in late December 1991, the Russian Republic has led the way with a radical reform program to change from the socialist to market agriculture. The transition requires a package of interconnected reforms, including private ownership of land, price liberalization, macroeconomic demand stabilization, and sector-specific supply-side reforms. The essence of new agricultural reform consists of a comprehensive restructuring of the agrarian sector on the basis of private ownership of land and other means of production. In 1992, privatization of land and the transformation of State and collective farms into joint-stock companies, collective enterprises and associations have been carried out. Peasants are entitled to a certain acreage free. The acreage is determined according to the amount of land per person engaged in farming in a given region. All the land above this acreage can be bought. Yeltsin wanted to encourage farmers to buy land with vouchers which issuing every man, woman and child in Russia. A voucher worth 10,000 rubes-about twice the average monthly wage, or \$33. Nearly 17 million citizens of Russia received land from January 1991 to May 1992. The non-State/collective farm sector occupied a significant share of agricultural land in the Russian Federation. Total land held in private plots, gardens, orchards, individual private farms, livestock collectives, agricultural cooperatives, and State and collective farm re-registered as associations of private farms was 10.1% of agricultural land in Russia on August 1, 1992. City dwellers displayed high activity to cultivate their orchards and vegetable garden plots. Their numbers surpassed the level of 14.8 million. The Russian Central government has actively supported the formation of private farms. Private farmers were able to borrow from commercial banks at 8% per year interest rate, below the 12% rate for State and collective farms. The government also provided subsidies to private farmers who relocated and established firms to supply and serve private farms. On January 1, 1993, there were approximately 183,700 family farms registered. They occupied only 3 million hectares, accounted for only 2% of Russia's 211 million hectares of land in agricultural use. Despite considerable progress in the development of private farming in 1992, its share of total Russian agricultural production only about 4-5 percent.

The government adopted a policy of price deregulation at the beginning in 1992. Its main purpose was to make the pattern of production more consistent with consumer demand. The price deregulation changed consumption, profitability, and production in the agricultural



and food economy through a shift in relative prices and through a decrease in real consumer income. Price deregulation also involved the reduction or elimination of most of the producer and consumer subsidies to restructure toward a more market-oriented system. The elimination of the subsidies caused to decrease producers' profitability and production, and consumers' consumption. The government gave in to pressure for further credits to agriculture and increased subsidies to producers as well as consumers. The reintroduction of producer and consumer subsidies in 1992 and 1993 partly reversed the effects of price deregulation. Subsidies for crop and livestock producers were announced in May 1992. The main impediments to reform were the State procurement and distribution system and the setting of farm prices by the State. The system has not been abandoned and its retention prevents the development of countrywide private markets for agricultural commodities. The State procurement system is slightly changed in 1993. The Federal government has announced that in 1993 it will reduce its procurement targets by 10 to 78 percent, depending on the commodity. However, a diminished State role in procurement at the federal level may well be offset by an increased role for local authorities. The Russian Government has authorized the establishment of regional commodity procurement funds to purchase agricultural output locally.

Reforms in Russian agriculture have been gradual and partial. Although prices have been partially deregulated, but stabilization policy has failed, State and collective farms have been preserved, and the State procurement system remains essentially intact. In addition, the private sector, though growing rapidly, has yet to affect decisively the agricultural economy. With inflation of 15-40% per month, procurement problems are inevitable and will most likely prompt the State to increase its role in the regulation of agricultural marketing. Thus, Russian agricultural economy continues to deteriorate because reform has been partial and inconsistent.

Due to the failure of collective agriculture, there were food crisis before and after the collapse of communism. Will the new land privatization solve the food shortage problem? Because of shortage and high prices of farm machinery, fertilizers and supplies, very limited farm credit and high interest, and farm population used to equalitarianism, the farm production for key food commodities was down significantly in 1992. Since the private ownership of land and private farming is the right direction, the food shortage problem will be solved in the long run.



ABSTRACT  
Dynamic Vector Autoregressive  
Forecasts of Interest Rates

**Gary N. Clark, Ph.D., and Lawrence F. Sherman, Ph.D.**

Adjustable Rate Mortgages (ARMs) have a rate that is tied to the behavior of an interest rate index. Not much consideration has been given to whether these instruments have been correctly priced. This paper considered the behavior of seven mortgage rate indices which are commonly used in Adjustable Rate Mortgages (ARMs). The indices considered were the six month T-bill rate, the constant maturity one year, three year, and five year government security rates, the FHLB index rate, the Eleventh District Cost of Funds index, and the LIBOR rate. Changes in monetary base and in the CPI were included as exogenous variables. The authors discussed the VAR approach to forecasting, and the benefits compared with structural econometric models.

First, the authors fit a VAR model to the period 1982-1989, and found that it fit the data fairly well. They considered the stability of coefficients by fitting the model to the period 1989-90 and comparing the coefficients, and also with a Chow  $n$ -step F test. Even though the Chow test was somewhat inappropriate for this model, the authors concluded that the coefficients were reasonably stable.

Next, the authors used the model fitted to the period 1982-1989 to forecast the values for 1990, using as input the actual values of the lagged index rates. Theil's U-statistics were computed. The authors found the forecasted values tracked the actual with reasonable efficacy.

Then, the authors made dynamic VAR forecasts of the interest rate indices for 1990, using the forecasted lagged values as input rather than the actual values. The authors found that these forecasted values diverged markedly from the actual after about 3 months. They concluded that dynamic VAR forecasts of ARM interest rate variables were generally unacceptable for a forecast period of greater than three months. Finally, the impulse response functions were generated and reviewed. These suggested that shocks to the shorter maturity index rates had a greater impact on the other variables than shocks to the FHLB and District 11 Cost of Funds index had on the other variables, in accord with prior expectation.

ABSTRACT

An Analysis of Competition in the Corn Industry

**Joselito Estrada and Albert J. Allen**

**Mississippi State University**

The existence of an efficient, low cost transportation system allows a country to be competitive in agricultural product markets. Agricultural producers rely on a transportation system that could enable them to deliver their products to markets in the most economical way. Consumers are dependent upon an efficient transportation system to provide them with low cost and adequate supply of food. Therefore, the cost of transporting a commodity from producing areas to consuming areas is important.

The main objective of this study was to optimize the interregional and international distribution of the corn industry. To accomplish the objective of this study, an interregional and international single period, multimode linear programming model was developed. One of the results from this study revealed that the United States corn export shipments to Europe emanated from the Great Lakes and Atlantic Coast ports. U.S. shipments to Asia came from the West Coast ports. Shipments to Latin America originated from ports in the Gulf of Mexico.



## ABSTRACT

# Cooperative Risk Management of Oil Well Blowouts: An Optimization Model for the Procurement of Resources

**Frank D. Ewell**

**Tarleton State University**

Oil related catastrophes, such as the destruction of Kuwait's wells during the Persian Gulf war and the Exxon Valdez spill in Alaska's Prince William Sound, cause billions of dollars in damages to the environment. Disasters of this magnitude call for massive amounts of specialized materials, equipment, and personnel to be located and gathered from around the world as quickly as possible to minimize the cost of the cleanup and damage to the environment. This paper describes a prototype system that has been proposed to minimize the environmental and economic damage from oil well blowouts.

Oil companies' immediate responses to recent disasters have been widely viewed as inadequate; after the initial incident, weeks may pass, as conditions worsen, before sufficient materials can arrive to contain the spread of the catastrophe. Subsequent pressure from the public and insurance underwriters has caused oil companies to review their incident response plans.

One proposed plan calls for oil companies to cooperatively support a third party risk management contractor. The contractor would operate four bases strategically located around the world. Each base would maintain a supply of equipment and services sufficient to control three well blowouts simultaneously. The contractor would also develop and maintain a decision-support locator system for large scale disasters which includes the following components: 1) a database of equipment and services available around the world, 2) time tables reflecting time required to ship each item in the database to every other site around the world, and 3) an optimization model to minimize the time required to locate services and equipment from all available sources around the world.

The paper describes the basic locator system; the databases, optimization program, and the output. The optimization model provides the system with a flexible engine that can handle small or large databases with a minimum of adjustments to the program. A small scale example is provided.



ABSTRACT

Foreign Investment Policy and Free Trade  
Between Diversified Economies

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Many of the countries that remove policy restrictions on commodity trade continue to guard their national economies through restrictive policies toward international movements of production factors, mainly capital and labor. In order to encourage an international transfer of a production factor, e.g., capital, a mixture of tax, subsidy, and quota is applied by home authorities to domestic capital employed abroad and/or to foreign capital employed at home. For instance, under free commodity trade, the U.S. can curtail the flow of domestic production capital to Mexico by adjusting its tax toward income of domestic capital employed abroad or subsidy to the capital employed in the U.S.

Optimal policy of a country toward international capital flow (direct foreign investment) has been investigated in a number of studies. The capital flow policies suggested in those studies are developed in a single-output environment, or within a form of Ricardian (complete specialization) framework, so that the terms of trade effect of a factor flow is absent and/or both countries utilize identical technologies. In a more general setting, Kemp (1966) and Jones (1967) utilized a general equilibrium two-sector model where different patterns of specialization (complete and incomplete) and cross-country technological differences are allowed. Kemp and Jones derived the optimal (income-raising) policies toward international capital flow that a country must follow under free commodity trade.

A significant question arises regarding the pattern of commodity trade that emerges from the optimal foreign investment under free trade suggested by Kemp and Jones. The significance of the question arises from the fact that a protectionist policy cannot operate directly in an environment where restrictions on commodity trade are not allowed. The present study first develops conditions under which the free-trade foreign investment policies suggested by Kemp and Jones lead to a reversal in the pattern of trade in a commodity. It then demonstrates that both a rise in national income and an intended pattern of trade in a commodity (maintaining or reversing the present pattern of trade) can be attained under free trade through an appropriate adjustment to the foreign investment policies of Kemp and Jones. The study is performed within the general equilibrium model of Kemp and Jones where both of the two technologically different countries diversify in production (incompletely specialize).



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ABSTRACT  
Determinants of a Successful  
Enterprise Zone Program

**Daniel C. Hardin and S. Hussain Ali Jafri**  
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## INTRODUCTION

An enterprise zone is an area (usually in distressed urban regions) within which businesses are exempted from taxes or regulations for a temporary period. Thirty-five states have adopted their own versions of enterprise zones. The objective of this paper was to evaluate the costs and benefits of establishing enterprise zone programs at the state level followed by a case study of the Fort Worth, Texas enterprise zone program.

The potential benefits from enterprise zones are (a) an increase in business activities for existing firms within an enterprise zone and the expected reduction in public costs and services associated with poverty, unemployment, crime, etc., and (b) attraction of new firms in the region thereby increasing investment, potential tax base and perhaps a diversification of the local economy. In a survey of 47 enterprise zones across four states, Elling and Sheldon (1991) concluded that the overall zone success was strongly linked to the provision of technical and administrative services and not due to a reduction in taxes and regulations.

Critics of the program contend that enterprise zones are costly in creating jobs. It is estimated that it costs between \$30,000 to \$40,000 per job created in an enterprise zone (Supplement, Feb 1993; Levittan and Miller, 1992). O'Sullivan (1993) questions whether the programs by themselves can change anything until the basic problems of the inner cities are addressed. Walker (in Garland, 1992) also questions if the tax incentives in the enterprise zones are enough to offset the cost of insurance, security and the ability to recruit a skilled workforce. Levittan and Miller (1992) similarly conclude that antipoverty programs and more direct job creation program will be more effective than the "trickle down" nature of the enterprise zones program.



## **RESULTS OF THE TEXAS ENTERPRISE ZONE PROGRAM**

Texas approved an enterprise zone program in 1987. Originally, the Texas enterprise zone program included limited incentives in the form of preferences for state contacts and loan programs and were universally applicable to all businesses located in an enterprise zone. Local areas were also encouraged to offer additional incentives. Later amendments to the program have broadened the financial incentives available.

Since the first Texas enterprise zones were officially designated in April 1988, a total of 111 zones have been established (as of August 31, 1992). Businesses in the enterprise zones have created 24,171 new jobs. In fiscal 1992 alone, 646 new businesses were established in enterprise zones. The zones reported \$262 million in capital investments (\$131 million of which was private investment). The zones were responsible for increased revenues of about \$65 million. However, this figure should be adjusted with a cost of \$62 million in loss of government revenues. About 98% of the loss in revenues were in the form of property tax abatements [Texas Enterprise Zone, 1992]. Therefore, the net revenue creation from enterprise zones is only \$3 million.

### **ENTERPRISE ZONES IN FORT WORTH**

In August 1988, Fort Worth requested and was granted designation of two enterprise zones. At that time, local jurisdictions were being encouraged to offer the bulk of the financial incentives under the Texas program. Fort Worth's program, however, matched the state in terms of what might be called symbolism, as there were no real financial incentives offered (no tax abatement, no loan programs). The local incentives proposed for Fort Worth's enterprise zones consisted primarily of services which would have been provided for any interested business (whether in an enterprise zone or not), or alternatively promises for a prioritized use of public funds (with little prospect of such funds actually being available).

Many people questioned the need for a program that offered so little in the form of real economic incentives. In fact, Fort Worth's enterprise zone program was driven more by the desire of major developers for a marketing tool to help sell their projects than by a pure belief in the potential of enterprise zones. Since the original establishment of enterprise zones, a change in political leadership has resulted in an increased willingness on the part of the city to offer incentives - primarily property tax abatements. These incentives are not, however, limited to areas within enterprise zones.



The measured effectiveness of Fort Worth's enterprise zones in creating new businesses and jobs has not been as dramatic as in other enterprise zones in Texas. Fort Worth has chosen to measure new businesses, jobs, and investments as resulting from the enterprise zone program only if those businesses have actively sought assistance or incentives from the program. Three businesses have sought incentives and, as a result, have invested a total of \$21.5 million and created 445 new jobs. Several other visible projects have located in the enterprise zones, but have not sought incentives from the program.

Even though the literature indicates that non-financial "service" incentives have been popular in other cities, this has not been the case in Fort Worth. The major incentive that is requested by businesses continues to be property tax abatement. In Fort Worth, while priority is given to enterprise zone locations, individual abatements are available city-wide, considered on a case-by-case basis.

## CONCLUSIONS

Any attempt to measure the effectiveness of Fort Worth's enterprise zone program must also consider the program's objectives. The main objective was to serve as a marketing tool, offering mostly cosmetic incentives, yet still allowing the city and major developers to publicize the presence of enterprise zones to business firms interested in relocating. In this sense, it is felt that the enterprise zones have been effective. The city has chosen not to limit its most popular incentive, property tax abatement, to enterprise zone areas only. This fact indicates that the program's objectives do not include encouraging growth in enterprise zones at the expense of other areas of the city.

Has the enterprise zone program encouraged large-scale development to occur in economically disadvantaged areas of Fort Worth that might otherwise have taken place elsewhere or not taken place at all? Local incentives offered in the program almost certainly have not encouraged such development. Incentives that are now part of the state of Texas program probably have had such an impact. The mere presence of enterprise zones may be encouraging overall growth in the city, within and without the enterprise zones.

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ABSTRACT

Religion and Economic Welfare:  
An Empirical Analysis of State Per Capita Income

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**John Keith Watson**

**University of Southwestern Louisiana**

This paper employs macroeconomic data in an empirical look at the impact of religion on economic performance. It differs from previous studies in that it considers various Judeo-Christian populations and economic performance by state, within the United States.

The economic impact of different religions through their influence upon the institutional environment is examined by a pooled cross-sectional analysis, with states as the units of observation for the years 1952, 1971 and 1980. A Varying Coefficients model is estimated, allowing for both intercept and slope shifts over time (with the results evaluated relative to the omitted year, which is 1952).

The findings of this model suggest that religious populations are statistically related to per capita income, while correcting for other relevant variables, such as age and labor force participation. Thus it seems that religious populations influence public institutions in ways that affect the generation of income. Specifically, fundamentalist Christian groups may have colored the public institutional environment in ways detrimental to economic performance — relative, at least, to the other religious populations represented in this study. This seems plausible, in light of previous research on the political influence of fundamentalism, despite the evidence that Judeo-Christian values in general are consistent with wealth-producing political institutions.

These conclusions are tentative, of course; further study is needed on the relationship between religion and income. One particular possibility deserving empirical investigation is that income and religion are jointly endogenous. If such is the case, then separate estimation of either might suffer from simultaneous equations bias.



# ABSTRACT

## The Competitiveness of U.S. Cotton Exports to Japan

**Jianguo Hui and Warren C. Couvillion**  
**Southern University and Mississippi State University**

The U.S. is the world's largest cotton exporter, selling 50% of its cotton production to the world market. Cotton farmers in the U.S. (California, Arizona, Texas, Oklahoma, Louisiana, Arkansas, Mississippi, Missouri, Tennessee, and Alabama) are export dependent. Japan is the U.S.'s largest cotton market accounting for 23% of U.S. cotton exports. The total value of U.S. cotton exports to Japan averaged \$500 million annually during the 1980s. Japan's cotton industry entirely depends on imports which are amount to \$1.2 billion annually. The U.S. now faces increasing competition from Australia, China, Pakistan, Egypt, Sudan, and the rest of the world (ROW) in that market.

This study: (1) describes U.S. market shares in Japan's cotton market, and that of its major competitors, (2) estimates demand elasticities for cotton exports from the U.S., Australia, China, Pakistan, Egypt, Sudan, and the ROW, and (3) recommends strategies the U.S. may adopt when trade policies targeted Japan's cotton market are being formulated.

An Almost Ideal Demand System (AIDS) is used to estimate the competitiveness of U.S. cotton exports to Japan's market. The AIDS model is as follows:

$$w_i a_i + \sum_j \gamma_{ij} \ln p_j + \beta_i \ln \left( \frac{x}{P} \right)$$

$$\ln P = \alpha_0 + \sum_K \alpha_K \ln p_K + \frac{1}{2} \sum_j \sum_k \gamma_{kj} \ln p_k \ln p_j$$

The restrictions on the parameters of the AIDS model are:

$$\sum_{i=1}^n \alpha_i = 1 \sum_{i=1}^n \gamma_{ij} = 0 \sum_{i=1}^n \beta_i = 0 \text{ (adding up restriction);}$$

$$\sum_j \gamma_{ij} = 0 \text{ (homogeneity restriction);}$$

$$\gamma_{ij} = \gamma_{ji} \text{ (symmetry restriction).}$$

Where  $w_i$  is the market value share of the  $i$ th exporter in the total imports of an importing market;  $\alpha_i$  is the intercept and  $i$ th exporter's market value share when all logarithmic prices and real expenditures are equal to one; and  $\gamma_{ij}$  is the change in the market value share of the  $i$ th exporter in an importing market with respect to a percentage change of export price of the  $j$ th exporter when other variables are held constant. Moreover,  $\beta_i$  is the change in the market value share of the  $i$ th exporter with respect to a percentage change in real import expenditures when other variables are held constant;  $X$  is total import expenditures of an importing market; and  $P$  is the price index of an importing market.

Annual data of cotton trade in Japan from 1979 to 1990 are used in this study. The cotton exporters in Japan are classified into the U.S., Australia, China or Pakistan, Egypt or Sudan, and the ROW according to the quality similarity of cotton exports. The cotton price from each exporter is a cost, insurance, and freight (CIF) price, and the unit is dollars per metric ton. All prices are deflated by purchasing power of a dollar in which 1982-1984 dollar equals to 1.

The empirical results show that: (1) the U.S. cotton competes with cotton from Australia, China, and Pakistan but complements that from Egypt, Sudan, and the ROW; (2) the U.S. cotton has a strong competitiveness in Japan's market, and by lowering U.S. cotton prices, Japan's imports from Australia, China, and Pakistan could fall; and (3) Japan would prefer to import the long-staple cotton, if its import expenditures increase.

The main policy implications for the U.S. are to continue the upland cotton program, to keep lower loan rates, and to encourage farmers to participate marketing loan program. The U.S. cotton price policy appears to be an effective device for reducing Japan's demand for cotton from Australia, China, or Pakistan. Furthermore, the U.S. should increase exports of long or extra long staple cotton to Japan since there is a strong preference for this cotton. Any



adjustments in the export structure may result in increase in U.S. short or medium staple cotton exports to Japan, because of the complement between long and short staple cottons.

ABSTRACT  
Assessing The Need For A Wellness Program  
In Attala County and Central Mississippi

**Albert E. Myles**  
**Mississippi State University**

The purpose of this study was to administer a needs assessment questionnaire and to determine an appropriate health maintenance program for a community in Central Mississippi.

A needs Assessment Questionnaire was administered to four subgroups of respondents in Central Mississippi and are referred to as Group I, Group II, Group III, and Group IV. A total of 600 questionnaires were conducted via personal interview. Anonymity was assured with no names or identifying marks used on any of the survey forms.

The questionnaire was designed so that responses could be easily marked on the form. Most questions were multiple choice, covering a variety of topics such as: demographics, health history, fitness, recreation, etc. of the 600 questionnaires distributes, 517 or 86% of the forms were completed. The survey attempted to show the desires of the area concerning a wellness center. The results were generalized with caution. Chi-square analysis was used to test selected hypotheses in the study.

The results of the study indicated that the respondents of Attala County and Central Mississippi have a strong interest in a comprehensive wellness program. Over 82% of the respondents indicated a desire to participate in the wellness program. About 47% stated that aerobics, walking, and running were exercises in which they regularly participate.

Health risk areas were noted to be heart disease, obesity, and high blood pressure. Less than 14% of the respondent indicated problems with smoking.

In reporting wellness activities, a majority of the respondents indicated a desire to participate in services such as aerobics, swimming, and nutrition. Other services but less important in rank were day care and physical therapy.

The most preferred time for offering exercise programs was after 5 p.m. Almost 74% of the respondents selected this time of the today. Survey respondents indicated a maximum use of four days per week for wellness programs.



Selected hypotheses analyzed in the study revealed that there was no significant difference between married and single respondents to participate in the wellness program. The results also revealed that there was a significant difference in the desires of respondents to participate or not participate given a price incentive. The Chi-square analysis also revealed that there were significant differences between respondents worksite location, income, family history, health insurance, and smoking and their involvement in the wellness program.

Finally, the study showed that corporate interest in employee wellness is high. Mainly because they saw this is a way to reduce health care costs, absenteeism, and raise employee productivity. Over 94% of corporate respondents said they would sponsor a corporate plan. Almost 95% said they would encourage employee enrollment.

## ABSTRACT

### Access Device Fraud

**Michael P. O'Neill and Forrest W. Harlow, Jr.**  
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**First National Bank of Fort Stockton**

The purpose of this paper is to define, explain, and examine access device fraud. Furthermore, it is to evaluate the impact and vulnerability of the financial system. Access device fraud potentially touches every consumer, business, and government at all levels. Moreover, there are national security issues involved.

Presently, two federal laws have been passed to help with the prosecution of the computer/fraud criminals. The laws are: first, the Counterfeit Access Device and Computer Fraud and Abuse Act of 1984, titled 18 USC 1030; second, Computer Fraud and Abuse Act of 1986, which clarifies the 1984 Act, titled 18 USC 1030. This act basically "covers hackers, passwords, and bulletin boards among other things."<sup>1</sup> Moreover, the act also covers the release of a virus into federal computer or "'malicious damage' involving a federal interest computer."<sup>2</sup>

Access Device fraud is the unauthorized use of credit and debit cards, computer fraud, electronic transfer of funds fraud, false identification documents and devices, high technology cellular telephone fraud, interstate computer fraud and telemarketing fraud. Access to classified information in a computer without authorization and access to financial records or credit histories in financial institutions or credit bureaus are other examples of access device fraud. Realistically, access device fraud is an evolutionary technology. As it becomes more sophisticated, the criminals will try out some of their schemes.

"Methods of detection in hardware/software are 1) user ID, 2) object accessed, 3) date, time, length, and type of access. Audit trails should be reviewed daily if possible and follow on all discrepancies."<sup>3</sup> To prevent viruses, floppy disks should not be taken out of building nor outside floppy disks introduced to the system. Therefore, the solution is simple, do not exchange programs.

Credit card fraud can easily be accomplished using a PC and a modem. A hacker finds their way into a credit bureau and obtains another's complete credit history. Using a stolen cel-



lular phone (or stolen code/clone), the thief purchases merchandise and sends the merchandise to a post office box or a rented location. Over a short period of time, a great deal of merchandise can be purchased this way with no real trail to the criminal.

Credit card fraud has merchants and banks moving to combat the fraud. Merchants estimate the industry's losses between \$10 million and \$400 million each year and this amount is growing each year. The charge back rate for telemarketers is between 50% and 60%. The typical merchant charge back rate is 0.2%.

The cellular phone industry remains one of the fastest growing industries in the U.S. and has mind boggling fraud problems. An altered phone on the black market could bring in as much as \$1,200. The estimated losses from the cellular phone companies from altered phone is \$135 million in lost revenue each year. Nigerian scam artistes maneuvered two U.S. Cellular carriers for \$120K in one year alone.

The name tumbling fraud comes from the practice of cellular thieves use of beginning calls with a potential valid number until the number is denied service. The phone's MIN or ESN code is then tumbled up or down to another potential valid number until service is denied, and so on. Cloning is overhearing the valuation sequence which is intercepted. The sequence is stored to be used in the current analog network of a different cellular phone.

There is the possibility that the potential threat of electronic fraud is under reported. The threat is so serious it maybe undermining the integrity of the financial system. Regulation E has been imposed. This regulation "prescribes rules for the solicitation and issuance of EFT cards; governs consumers' liability for unauthorized electronic fund transfers; requires institutions to disclose certain terms and conditions of EFT service"<sup>4</sup> etc.

For the fiscal year of 1992, the Secret Service reported a total of \$85,705,924 in losses from various types of access device fraud. This figure is from offenders that have been caught. The question remains how many criminals did not get caught and to what extent was their fraud. As fast as technology is changing and advancing, it is difficult to imaging how systems can continue to be secure and to provide an acceptable level of security. To be sure, academic institutions, corporate businesses, as well as the every day individual needs to be aware of the fraud that can occur to them.

<sup>1</sup> Schatz, Willie. "Putting on the Cuffs." Datamation. Vol. 32, no. 14, (July 15, 1986). ZP. 40.

<sup>2</sup> Ibid. p. 42

<sup>3</sup> Untitled. Handout from Goodfellow Air Force Base.

<sup>4</sup> Board of Governors of the Federal Reserve System, A Guide to Federal Reserve Regulations. Government Printing Office, (Washington, D.C.).



ABSTRACT  
Advertising Expenditures in U.S. Manufacturing  
Industries, 1967 and 1982

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**University of Massachusetts-Amherst**

**Robert J. Tokle**  
**Idaho State University**

Since Telser (1964), many empirical studies have examined the effects of advertising on competition. However, advertising data by industries is not readily available. This paper surveys the three different continuous advertising data sources used in these studies.

### **INTERNAL REVENUE SERVICE (IRS) DATA**

The first data source for advertising data by industries came from the IRS. But the IRS data have a number of problems. Two of these will be briefly discussed. First, the IRS data are available only at the broad Standard Industrial Classification (SIC) 3-digit level, while most studies have focused on the narrower 4-digit level. Second, a corporation is assigned to a single IRS category unless the corporation reports to the IRS by divisions or subsidiaries. As companies have become increasingly diversified, the IRS data have become less useful. For example, prior to 1970 the data for food and kindred products included the advertising expenditures of the Miller Brewing Company. In 1970, Phillip Morris acquired Miller and subsequently Miller's beer advertising expenditures have been included in the IRS tobacco category.

### **INPUT-OUTPUT (IO) DATA**

Since 1972, the Department of Commerce's IO data were embraced as a major contribution to the study of advertising at the industry level. The IO data include all LNA (Leading National Advertisers) advertising expenditures plus other marketing costs. However, because the final IO tables do not report individual media separately, a researcher is unable to test for different effects from different media (e.g., print versus electronic). More importantly, most of the 243 LNA product groups contain two or more (and up to 44) IO industries. To save time in assigning the LNA advertising data to the IO industries, the Department of Commerce used a value-added allocation rule. Under this rule, advertising expenditures for an LNA product group are allocated among the industries dominated within the product group in proportion to



the share of value-added of each industry within the product group. For instance, if an LNA product group contained two IO industries, and one IO industry had twice the value-added of the other, then it would be allocated twice the amount of advertising. In some instances, the advertising so allocated to an industry is vastly different from its actual level. For example, Rogers (1982, p. 113) found that for 1972, the IO data reported \$9.5 million of total advertising for the chewing gum industry, whereas Rogers' LNA data identified \$35.7 million of advertising by this industry.

## **LNA DATA**

In contrast, the LNA data eliminate the incompatibility of industry aggregation between advertising data and the industries. This is because the advertising expenditures of the individual products (rather than product groups) are assigned to the SIC industries. The major drawback here is that this task of assigning each individual product's advertising to a specific industry is time consuming. Robert Baily of the FTC compiled a 1967 advertising data set for the 4-digit SIC manufacturing industries, and the procedure was repeated for 1982 by Richard Rogers for about 5,000 individual food products, and by Robert Tokle for the remaining 12,000 individual nonfood products. Therefore, the LNA data gives the most accurate source available for advertising in U.S. manufacturing industries at the SIC 4 or 5 digit level. And since LNA reports advertising by types of media (such as network and spot TV, network and spot radio, magazines, etc.), different types of media advertising can be tested.

This paper further analyzes the LNA data sets constructed by Baily, Rogers, and Tokle of 1967 and 1982 and prints out the total advertising expenditures and total advertising intensities for the entire 1967 and 1982 data sets in the appendix. Also the complete 1967 and 1982 LNA data sets are available upon request from either author.

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ABSTRACT  
The Risk Aversion Function Under Price and  
Exchange Rate Uncertainty

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In much of the literature on uncertainty, the form of the utility function is assumed a priori without actually testing for the risk aversion properties of the underlying utility function. The importance of empirically determining, rather than imposing the form of the utility function, arises from the fact that different utility functions give rise to different responses to the same risk. Prior imposition of a utility function therefore also involves prior specification of attitudes towards risk. In any study of risk responsive behavior, this is a serious limitation.

This paper studies risk responsive behavior for a firm that sells in the domestic market under price uncertainty and a foreign market under exchange rate uncertainty. The properties of the indirect utility function and the envelope theorem are used to arrive at uncertainty analogues of Hotelling's lemma which form the basis for deriving the estimating equations for a general unrestricted utility function. An important advantage of using this function is that the form of the utility function itself emerges as one of the testable hypotheses.

Data from British industry over the 1974-1990 period is used to test hypotheses such as constant absolute risk aversion, decreasing absolute risk aversion, and separability. The paper rejects both separability and constant absolute risk aversion but concludes that there is some evidence that British firm's exhibit decreasing absolute risk aversion.

There is also evidence that an increase in uncertainty in either the domestic or foreign market decreases sales in that market. In the existing literature, most empirical testing relate to the macro effects of exchange rate uncertainty. There is, however, no clear evidence in this literature that exchange rate uncertainty adversely affects international trade flows. This work by examining the effects of exchange rate uncertainty at the micro-level concludes that exchange rate risk reduces the level of export sales.

ABSTRACT

Foibles of the American Medical Health Care  
Services Industry: A Heuristic Approach

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Certainly one of the most disturbing of the modern American economic foibles is the American medical services industry, its astronomical cost and cost increases, and the inability of regulatory authorities to cause the industry to serve the American society. This industry is now rated by the Clinton administration as a top priority in correcting some of what is wrong in the American Economy. None of the 1992 presidential candidates, in offering their proposals for a solution to the problem, mentioned supply in the industry. In our paper we review the history of the American medical services industry, identify possible causes of the problems, and propose possible solutions.

The American institutions most directly involved in the current medical services crisis, in our opinion, are the American Medical Association, The American Bar Association, the American Government, and medical and liability insurance. The agency of the American Government is the Department of Health and Human Services. Our hypothesis, if we dare declare one for this paper is: "The American Medical Association, the American Bar Association, the Government, and the Insurance industry are endowed with the greatest monopoly power on earth, and have developed a symbiotic union, energized by greed, with the potential for massive destruction in the American economy. This union generates synergistic strength resulting in the monopoly energy exceeding the combined sum of each of the four"

Government's power to tax and medical insurance have monumental potential for raising massive amounts of monies for health care services. The budget for H&HS is now approaching one trillion dollars. Any institution with a budget this massive will attract much attention by those who have a proclivity for wealth accumulation. These institutions have the potential to collect the maximum dollars each individual and/or family can afford for medical



services whether any member is ever ill or not. Taxes is the vehicle for government agencies and insurance premiums the vehicle for insurance.

The American Medical Association was started in 1847 to serve as a professional association for practitioners in the field of medicine. Starting in about 1870 there arose a struggle between AMA and medical educators over who should control the number of doctors allowed to practice medicine. In 1910 the prestigious Carnegie Foundation commissioned one Abraham Flexner to study the existing medical education facilities in the United States. Many may question Flexner's dubious qualifications. The consequence of the infamous Flexner report was that AMA gained complete control of medical education in the United States. It drove proprietary medical schools (schools run for profit) out of existence. All medical schools must be licensed by the States and in all cases the states follow exactly the certification list of the AMA. Simply put, AMA has total control over medical education in America, county and Parish hospitals, and all other places where medicine is practiced.

According to professor Roger Leroy Miller, today 40% or more of medical spending in the U. S. is controlled by government programs such as medicare and medicaid, and more than 180 million Americans are covered by some kind of private medical insurance. The extent of government programs such as medicare and medicaid to generate funds is limited only by the federal government's powers to tax. Oddly enough, the more outrageous medical services costs are, the more desperate middle income folk are to buy medical insurance. Entire estates of people of middle income circumstances may be confiscated in a matter of months by a major illness, even given all of their contributions in taxes and insurance premiums.

The demand for medical care services is rather unique. It may well be argued that if the demand for medical care services were not there, then the price could not increase in such enormous leaps and bounds. There are a number of reasons. One, the government mandates that medical care services will be available to the poor. Two, insurance creates the illusion that medical care services are free. Once the insurance premium is paid, and frequently by a third party such as an employer, cost ceases to be of any consequences to the recipient. Further, any profit-seeking insurance company would much prefer to raise premiums than fight an insurance fraud case in court. Three, we are all gullible to the myth that medical doctors save lives. At best they prolong life. Finally and fourth, the fastest growing segment of our population, 65 and older, is the segment requiring most medical services care.

Any solutions to the problems of the health care industry must include a breaking up of the symbiotic union of the above mentioned four monopoly powers. Open up the medical

schools to the millions of brilliant young people who would like to study and practice medicine and competition will work its wonders. Insurance and government are excellent devices society may utilize to share the total medical cost. However, when manipulated by AMA and ABA to satiate financial greed, serious problems arise. Unfortunately, we are not aware of any serious effort now being considered by government that can be expected to alleviate the problems.



ABSTRACT  
Interest Rate Linkages Between the  
U.S. and the EMS Countries

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Interest rate linkages between the U.S. and European countries have been extensively studied. The issue has gained more importance with the increased integration of international financial markets. Most of the existing studies of interest rate linkages have looked at the connections between the short-term interest rates since it is generally believed that monetary policy actions can influence the short-term interest rates. However it is well known that, according to the theory of the term structure of interest rates, changes in the long-term interest rates may bring about important adjustments in the short-term interest rates and vice versa. Thus, a complete, dynamic study of interest rate linkages warrants the examination of the international linkages in the term structure of interest rates. This is the issue taken up in this paper. More specifically, we study the linkages in the term structure of interest rates both between the countries of the European Monetary System (EMS) and between the United States and EMS countries during the flexible exchange rate period.

For each country in the study, the results from the cointegration tests of Johansen (1988) suggest that there is a common trend driving the co-movements of the short-term and long-term interest rates, as predicted by the term structure theory, and the long-term rate plays a relatively dominant role in leading these co-movements. The common trend of the term structure is estimated for each country using the new methodologies outlined in Park (1990) and Gonzalo and Granger (1991).

We then utilize the cointegration/error-correction methodology to study the long-run and short-run interactions between these common trends for each pair of countries. We find that during the flexible exchange rate period there have been some important international linkages in the term structure of interest rates. Comparing the United States with the EMS countries, our results suggest that the United States has been the main driving factor for these linkages. Within the EMS countries, a long-run relationship is found between the term structure of Germany and that of the Netherlands and a feedback exists between the two nations' term

structures. This implies no strict German dominance in the region during the floating rate period. The results for the short-run effects indicate that a change in the German common trend of the term structure causes changes in the common trends of the rest of the EMS countries, but there is also a feedback from France and the Netherlands to the term structure of Germany.

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Inflows of Foreign Capital and Investment  
in the United States: An Empirical Analysis  
Based on Cointegration Tests

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**COMMENTS**

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First, I want to thank the author for giving me the opportunity to discuss the paper. Overall, the paper was well-researched and well-written, therefore I have only a few comments about the author's paper.

The paper provided a very good theoretical background on trade deficit problems in the United States. The author further provided an excellent background on the cointegration method. The author should move the tables to the text part of the paper rather than having them at the end of the paper. In addition the author may want to compare the results obtained in his paper with other studies using the cointegration method.