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AGRICULTURAL EFFECTS OF CHANGES IN FINANCIAL MARKETS[a]

C. B. Baker[b]

UNIVERSITY OF CALIFORNIA DAVIS
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"During the whole of our colonial period and the first century of our national life...financing the farmer...[played] a larger part in politics than any other question except those of slavery and tariff."

- T. N. Carver, in the Foreword to E. S. Sparks, Agricultural Credit, Crowell, 1932.

In this paper I will argue that nominal interest rates are being increased by rising real rates. Real rates are being driven by demands to finance economic development and infrastructural management. In recent decades they have been suppressed by highly regulated domestic financial markets and distorted by less developed international financial markets.

Introduction

Finance issues recently have seized the attention of economists and farmers, along with decision makers who are commercially and politically related to farmers. Interest payments as a percent of production expenses in the farm sector increased five-fold between 1950 and 1983: from 3.1% to 15.7%. Debt as a percent of assets increased slightly more than two-fold: from 9.2% to 20.8%.

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[a]Presidential address. 1984 AAEA annual meeting

[b]Professor of Agricultural Economics, University of Illinois, Urbana-Champaign. Thanks, subject to the usual caveats, are due to Peter Barry, George K. Brinegar, Kim Harris, David Lins, Susan Offutt and Wes Seitz, at UIUC, and to faculty and students in agricultural economics at Purdue, Southern Illinois and Iowa State Universities and the University of Arizona. Special thanks are due to Michael Boehlje and Marvin Hayenga, of Iowa State. Patrick J. Sullivan, ERS, kindly supplied data relating to infrastructural capital requirements.

Interest payments increased not only absolutely and as a percent of production expenses, but they became a new source of risk as lenders sought to shift interest rate risk to farmers through variable interest rates. Leverage ratios have been increased by eroding collateral positions, especially falling land prices. Though still small compared with nonfarm sectors, delinquency rates have become a concern in the farm sector. Refinancing has shifted much short term debt to long term. Bankruptcies, actual and potential, remind us of past financial terrors and have triggered a search for remedies whose effects are not worse than those of the malady (Alston).

Such changes as these reflect a new kind of financial environment for farmers and farm-related decision makers. Outlook and policy issues generated by financial markets are acquiring an importance comparable with those generated by commodity markets. As with commodity markets the issues involve international as well as domestic financial markets. In sum, agriculture's policy problems and outlook will involve interactions of financial markets with commodity markets, both linked to monetary and fiscal policy, domestic and foreign.

CHANGES IN DOMESTIC FINANCIAL MARKETS

Legislation of the 1930's, during the Great Depression, left us with a reformed and expanded Farm Credit System, with such fail-safe measures in our banking system as the Federal Deposit Insurance Corporation, and with the foundation in place for our present Farmers Home Administration. The legislation responded to the desperate stresses of the Great Depression, reflected nowhere more severely than among financial institutions. Interest rate stability too was a legacy of this

legislation though, as became evident later, at the cost of market instabilitty in credit supply.

In those and earlier policy initiatives, farmers were singled out for preferential treatment in terms of lending, for example interest rates and loan maturities. Also, owing to unit banking and the rural location of most banks lending to U.S. farmers, interest rates on farm loans tended to be lower as well as less volatile than interest rates paid in other economic sectors. Many changes of the 1970's and 1980's have been in the opposite direction. Farmers' financial markets have been deinsulated from national and indeed international market factors, and preferential treatments questioned if not removed.

In the mid-1960's there began a period of inflation that was to be of historic duration. The Consumer Price Index increased by 3% or more in each of the 17 years, 1966-83. In contrast it had increased by 3% or more in only three of the preceding 17 years, 1948-65.

The rampant and persisting inflation rate had profound effects in the farm sector. Between 1971 and 1981, while the Consumer Price Index increased by 125%, farmland prices increased by 292%. Capital gains from increasing land prices encouraged the purchase of farmland and, in general, the use of leveraging strategies to accelerate growth in net worth. Financial risks grew with increasing commitments of cash flow to debt service. By 1980, for the first time since World War II, financial risk was more important than business risk in the farm sector.

Inflation took its toll in liquidity, lifting the share of real estate in farm assets from 58% in 1950 to 75% in 1982 and reducing the share of liquid assets. In 1950, deposits and currency plus U.S. Savings Bonds were 10.3% of total farm assets. By 1982 they had declined to 1.9%. It is ominous to recall Wickens' report in the 1928 Yearbook of Agriculture. At that time less than two percent of farm assets were available as reserves or as a source of income independent of farming. It was concluded that agriculture was over-capitalized and that farmers' portfolios left them ill equipped to respond to risks.

Since 1982 borrowing restraint has become evident among farmers who have credit left to manage. They have sought liquidity in reserved credit to offset diminished liquidity in other forms, especially in the presence of perceptibly higher risks from commodity prices and interest rates. Increased market stability in credit supplies also has contributed to the use of credit reserves as a risk response, while higher and variable interest rates have reduced the appeal of borrowing. I am not describing, of course, those whose leverage positions restrict them to struggling and stressful debt management. All have become aware of individual credit risk, produced by eroding collateral value.

It was during the Great Inflation that the provisions of the Depository Institutions Deregulation and Monetary Control Act were debated. Funds had begun to flow from banks and thrifts to brokerage firms who followed the lead of Merrill Lynch, Pierce Fenner, and Smith, with accounts that automatically "swept" idle cash into interest-bearing government notes. The Act was passed in 1980, followed by the Depository Institutions Act of 1982, and veritable flood of deregulating

legislation. Among many items, the Depository Institutions Deregulation and Monetary Control Act provided for phasing out maxima in interest rates paid on deposits, and authorized interest payable on transactions accounts. The Act also established uniform reserve requirements for all depository institutions.

The Depository Institutions Act of 1982 was largely a response to the severe problems of thrift institutions. With portfolios of home mortgages written at interest rates low and fixed, and with a mismatch in the term structure of assets and liabilities, increased interest rates had reduced the equity of many thrifts to less than zero. The Depository Institutions Act provided for acquisitions of ailing depository institutions across state lines and between banks and thrifts. Such regulatory changes have blurred the distinctions between banks and thrifts, have increased the capacity of both to compete with unregulated financial intermediaries for savings, and have liberalized their options in financial products and services.

Most of the changes were anticipated in recommendations of the Hunt Commission in the early 1970's and of the Commission on Money and Credit, in the late 1950's. Thus the constraining effects of regulations born of the stresses of the Great Depression were recognized well in advance of the stresses of the Great Inflation. However, the changes were precipitated by market events and innovations. Current abatement of deregulation and discussions of reregulation suggest that we now are recalling the risks from competitive lending and funds acquisition that gave rise to the regulations in the first place.

In contrast with changes that affect depository institutions, those modifying the Farm Credit System have been relatively modest. In general they have reduced lending restraints and expanded the scope allowed the Farm Credit System for lending and cooperation with other lenders. Debates preceding the deregulations reopened old issues and renewed complaints of depository institutions with respect to regulations that affect their capacity to compete with Farm Credit System lenders, especially in the acquisition of loanable funds.

Added emphasis in the Farmers Home Administration has been given to emergency lending, as opposed to loans financing beginning farmers. The result has been a proportional shift of loans toward borrowers in higher relative to lower income strata. The permanence of this shift depends on future roles assigned to the Farmers Home Administration, future evolution of other aspects of farm policy, on the performance of the non-farm economy, and the role of the public sector in risk management.

These then are the kinds of changes that have so altered the domestic financial environment in which farmers make their decisions. Differences between farm and non-farm borrowers have greatly lessened, in level of interest rates paid and in volatility of those rates.

A constructive result is that although financial risks have risen in terms of interest rates they have lowered in terms of credit supply. Qualified borrowers now are less constrained by credit limits. For farmers who learn to use liquidity in the form of credit reserves for risk management, there may well be a net gain in efficiency. Risk management has become increasingly costly in the past decade. Credit

management can help reduce the cost of risk management.

The environment in which the domestic financial markets evolve is itself far from static. Changes in international financial markets over the past three decades have been even more dramatic than those in domestic markets.

CHANGES IN INTERNATIONAL FINANCIAL MARKETS

Each country has a "capital flow" comprised of a net balance of payments (exports less imports) plus net balance of loans (loans and savings in, less loans and savings out) plus net currency exchange (home currency sold, less foreign exchange bought). The international financial markets consist of financial intermediaries whose trading produces the net balance of loans and net currency exchange. Between 1957 and 1982 world trade in goods and services grew at an annual compound rate of nearly 10%. In the same period, Eurocurrency deposits grew at an annual compound rate of 20%. (Williams)

Intermediaries in the international financial markets are depositories for savers with demands for financial assets that are low risk and high in liquidity. Since the early 1970's funds from members of the Organization of Petroleum Exporting Countries (OPEC) have swollen the volume of savings available to the international financial markets. In turn intermediaries in international financial markets lend to foreign borrowers with demands for loans of varying maturities. Developing countries (LDC's) and certain centrally planned countries (CPC's) have swollen the volume of international lending.

The international financial markets as we know them are largely phenomena of the post World War II era. (Gisselquist) Much of the demand early in this period came from countries whose currencies were and still are non-convertible, prominently the CPC's. As the markets grew, increasing participation occurred from LDC's, on the demand side, and the more developed countries, on the supply side, along with members of OPEC.

The international financial markets are relatively free of public sector regulation and control, doubtless owing to the fact that there is essentially no public sector with the sovereignty necessary to exercise much regulation and control. Though the effectiveness of international financial markets may have been overstated (Penati and Dooley) it is apparent that they are, as they develop, generating new opportunities for the international allocation of financial assets.

Since World War II, and especially in the past decade or so, international financial markets have been called upon for heroic efforts. They have accommodated adjustments to changes in exchange rate regimes, the recycling of "petrodollars", and huge increases in demand for development financing. At the end of 1981 foreign loans comprised nearly 31% of total U.S. bank loans outstanding.

In 1972-74, the U.S. dollar was decoupled from gold, devalued and floated, in concert with other currencies defined in terms of the U.S. dollar. At the same time oil prices were substantially increased, reversing at least temporarily a century-old pattern of decline in real terms. And the world faced a sudden crisis in food reserves, arising from unanticipated supply conditions in exporting countries and the wheat trade agreement negotiated between the U.S. and the U.S.S.R.

In 1978-80 a second-round increase in oil prices was accompanied by accelerated lending to LDC's by banks in the international financial markets, many of whom were depositories for OPEC funds. In effect these banks provided riskless havens for OPEC surpluses and assumed high risks of lending to LDC's and CPC's. Subsequent delinquencies have focused the attention of these lenders, their stockholders, and citizens who face prospective liabilities through tax-supported relief, on multilateral lenders, especially the World Bank and the International Monetary Fund.

The World Bank and the International Monetary Fund are institutions originated in the Bretton Woods agreement, negotiated at the end of World War II. The World Bank is designed to finance economic development in two programs. One is supported with funds acquired from capital markets of member countries to finance development projects at market rates of interest. The other is financed with funds contributed by donor countries to make loans at concessionary rates. Responses to demands to finance development projects at market rates in East and Southeast Asia and elsewhere are reflected in interest rates paid in the U.S. and elsewhere. Responses to demands for concessionary loans produce less direct effects, the specifics of which depend on methods used by donor countries to finance their contributions to the World Bank's "soft window".

The International Monetary Fund was established to finance short term adjustments created by balance of payments problems so as to avert the chaotic international trading that preceded World War II. Its objectives were to monitor and advise on changes in exchange rates and exchange practices, to borrow from and lend to member countries, and to use its "Special Drawing Rights" to buy and sell currencies so as to stabilize

currency markets. Recent events have made the International Monetary Fund a lender-of-last-resort, a counselor for debtor countries that are delinquent in debt service, and a coordinator among international financial market lenders in the management and rescheduling of delinquent loans.

Much of the current role of the International Monetary Fund is a considerable departure from objectives assigned to it in the Bretton Woods agreement. Most plausible scenarios for institutional change would strengthen the capacity of the multilateral lenders to link participants in the international financial markets. Implications for exchange rates and for inter-country differences in interest rates are clearly important.

INTEREST RATES AND EXCHANGE RATES

For the past five decades interest rates have cycled about an upward trend. Some explain the cycle with a rational expectations hypothesis related to contra-cyclical fiscal policies of public sectors. Some suggest that the upward trend is the result of a gradual assumption by public sectors of business risk in private sectors. Arrow and Lind have argued that the public sector can bear risk more cheaply than the private sector. Even so, the risk-balancing hypothesis (Gabriel & Baker) suggests that the shift increases tolerances for financial risk in the private sector, and thus increases the risk premium in the interest rate.

A more tangible source of increased interest rates is found in the upward bias given nominal interest rates by the combined effects of the income tax and inflation, first suggested by Michael Darby. The effect is important inasmuch as most interest received by savers is taxable but most interest paid by borrowers is deductible for tax purposes. Ayanian has confirmed the Darby Hypothesis with an analysis of quarterly time series, 1952/I - 1979/IV.

Others would suggest an increase, over this period, in the marginal value product of capital, relative to marginal propensities to save, implying upward pressure on real rates of interest. Between 1952 and 1958, before the Great Inflation, Fisherian real rates ranged between 1.3% and 2.6% when calculated as the difference between the rate paid by the U.S. Treasury on 3-5 year obligations and changes in the Consumer Price Index. From 1959-72, into early years of the Great Inflation, real interest rates drifted up to 3.8% and down to 2.0%. But in five of the ten years beginning with 1974 real rates of interest were negative: increases in the Consumer Price Index exceeded the nominal interest rate paid on Treasury Bills.

Wilcox has explained low real rates of interest with a statistical relationship he fitted to annual time series, 1952-79. The relationship includes changes in the supply price of factors affecting the productivity of capital assets. He found that increases in factor supply prices in this period reduced the demand for capital and thus were reflected in the decline in real interest rates. A question of current importance is why real rates are so high. Nominal interest rates reached record highs in 1981. While abating in the next two years, they did so by less than the decline in the Consumer Price Index. Real rates in 1984 are historically high, more than twice those that existed in the "stable" 1960's. By extension of Wilcox's results can we not link decreases in factor supply prices since 1979 to increases in the demand for capital and thus increases in real rates of interest?

The Wilcox, Darby and Ayanian results are of great significance in interpreting the effects of changes in agriculture's financial environment. Wilcox' results suggest that factor supply prices modify

real rates of interest through capital demand. The Darby Effect is heightened by (tax) bracket creep from inflation, which then increases the averages of marginal rates of taxation.

Speculations on future nominal and real interest rates vary widely. Much current attention is focused on prospective federal fiscal deficits. Some argue that the prospect of such large deficits supports expectations that the inflation rate will creep upward again, feeding an increase in nominal interest rates. An analysis of data from five developed countries had led Saracoglu to argue recently that policies changing expected inflation rates change real rates of interest as well, with nominal interest rates adjusting almost fully to the new time-path of expected inflation within six months. Should inflation expectations be re-kindled the Wilcox and Darby effects will magnify the subsequent increase of nominal interest rates. In its most recent Annual Report, the Council of Economic Advisers bravely states that "interest rate fluctuations around the declining trend should be anticipated." But they do not establish that the trend is declining!

There is room for debate on the size of the pool of funds relevant to financing fiscal deficits. Markets in domestic financial assets consist of supplies and demands of some $600 billion, the amount depending on monetary policy and response. But Rutledge has argued that the relevant market includes some $10 to $20 trillion in capital assets as well, thus increasing the market's tolerance to prospective fiscal deficits. Hale has suggested further that the internationalization of financial markets also enlarges the pool of funds to finance fiscal deficit in the U.S.

There is much appeal in the argument that nominal interest rates have

been increased and will continue to be increased by higher risk premiums. Deregulation of financial markets has made domestic savers more sensitive to nominal interest rates. It might be argued that the internationalization of financial markets has diversified supply sources and thus might be expected to reduce risk costs. However, any reduction may well be neutralized by risk-balancing responses. In any event the enlarged pool available to finance fiscal deficits in the U.S. is available to finance fiscal deficits elsewhere as well.

There is a further hypothesis that nominal interest rates have remained high and may continue to be historically high simply because real rates of interest have risen. Important to the credibility of this hypothesis is the possibility that the increase in interest rates has been masked earlier by ingenious policies to suppress nominal interest rates. More developed countries intervene in international financial markets with exchange practices that restrain capital outflows instead of allowing domestic interest rates to rise. Such policies are understandable as responses to domestic demands for macroeconomic stability.

In LDC's nominal interest rates frequently are suppressed to lower the cost of managing public sector debt, to restrain profits earned by concentrated banking, and to encourage domestic investment. But suppressed nominal rates of interest restrain savings (Adams) and financial deepening -- i.e. economic participation of financial intermediaries (McKinnon) -- and encourage borrowing as a hedge against the inflation that tends to be generated. The results are seen in fragmented financial markets that produce comparative advantages for informal lenders in the microeconomy, and restricted access to the international financial markets in the macroeconomy.

Is the feasibility of such domestic actions now being reduced by the growing effectiveness of international financial markets and the growing significance of multilateral lenders? These are the markets that may be telling us that real rates of interest have indeed risen. The appeal of the argument lies largely in the area of economic development, both domestic and international.

Domestically it is apparent that the private sector is adjusting,albeit painfully, to higher interest rates, some of the pain reduced by the tax treatment of interest payments. In addition there is a considerable backlog of investment "required" to arrest capital erosion in our infrastructure. In 1983 the Congressional Budget Office estimated a need for $427 billion over eight years for major infrastructure categories, mainly highways. That estimate is conservative compared with $500 billion dollars over three years reported by Claudia Copeland from a Morgan Guaranty Survey. To be sure, "needs" are not equivalent to demands and institutional implementation. Yet it is likely that capital required to sustain our infrastructure, not to say improve it, represents a high demand area for the foreseeable future. Moreover, the demand summarized for the U.S. is illustrative of demand among more developed countries generally.

A significant share of the world's population is located in areas now highly oriented to economic development. Most growth in the past has been won in the already more developed countries of North America, Western Europe and, more recently, Japan. Close behind are the Japan-related countries of South Korea and Taiwan, the ASEAN countries of Southeast Asia, and certain Latin American countries. In these countries increasing opportunity costs have increased the supply price of labor for the development process, compared with

the price of labor in earlier economic development. Modern economic development requires capital formation at high rates, and capital formation is related fundamentally to interest rates, exchange rates, capital movements, and many other items that make our current headlines.

U.S. interest rates are linked with interest rates elsewhere in relationships that include current and prospective exchange values of the U.S. dollar. The relationships are distorted by differences in national policies toward interest rates. Yet with developing international financial markets interest rates and exchange rates are being made increasingly interdependent through arbitrage opportunities. Schuh has reminded us forcefully that agricultural trade and welfare are closely linked with exchange rates. Interest rates in relation to exchange rates are equally important.

Nowhere is this illustrated more dramatically than in the current high level of nominal interest rates. At such high levels, capital is attracted through the international financial markets, supporting the exchange value of the U.S. dollar and thus restraining export demand for U.S. commodities while lowering the prices of imports to the U.S. when stated in terms of the U.S. dollar. Lower prices of imports are critical to containment of the domestic inflation rate.

Pending reduction in the exchange value of the U.S. dollar, non-farm business exporters are responding to depressed export demand with price reductions, substitution of imports for domestic components in production, with joint ventures, and with counter-trading (a form of barter). Adjustments in agriculture are particularly painful since the primary response is non-administered price reductions.

IMPLICATIONS FOR AGRICULTURE

Starleaf has found U.S. farm output prices to vary significantly and positively with domestic demand, and significantly and negatively with the exchange value of the U.S. dollar. Interest rates vary positively with the exchange value of the U.S. dollar and thus negatively with the demand for and prices of farm commodity exports.

The effects of interest rates on cost and supply are more complex. Chambers has argued recently that higher interest rates increase storage costs, adding in the short run to the supply of farm commodities in export markets. In the longer run production expenses are influenced by interest payments. On the one hand, higher interest rates increase farm costs in the absence of offsetting decreases in demand for farm loans. On the other hand higher interest rates eventually decrease prices of domestically supplied farm inputs by decreasing the demand for non-farm exports. Also through the exchange rate linkage, increased interest rates lower prices of imports and thus farm costs, as well as costs more generally. But adjustments to decreased farm costs can be expected to increase the supply of farm commodities. So the effects of interest rate fluctuations on cost and supply vary depending on time lapse.

The implications for agriculture are pervasive, reflected in levels, relationships and stabilities among prices received and paid by farmers, in risk sources to be monitored, and in policy issues of relevance. Consider farmland prices as an example. When interest rates were suppressed, those who levered farmland purchases gained from the financial component of the transactions as well as from the associated commodity boom. Subsequent changes in financial markets have reduced farmland

prices not only through diminished net cash flows but also through increased cost of capital, and have eliminated gains from the financial component of a levered purchase. Needless to say, all the changes are reversible! As an aside we note that indexing tax brackets, by reducing a source of upward bias in nominal interest rates, would generate a positive effect on farmland prices.

Time and space have precluded consideration of equity markets in agriculture's financial environment. Traditionally, farmers have been financed with debt capital and internal equity. The changes we have reviewed imply the prospect of gain in the appeal of external equity. Needless to say there are issues fundamental to the structure of agriculture that are affected by alternatives in the means with which such financing might be expanded.

We have come to learn that agricultural policy includes food policy, with a constituency to be taken into account. It now is apparent that agricultural policy is but a component of general economic policy, the latter subject to increasingly important international dimensions. Agriculture is affected more by fiscal-monetary management and the state of international markets in commodities and financial assets than by politically achievable targets in commodity prices and loan supports. Benefits to agriculture from sector-oriented price and income policy must be weighed against any negative general consequences as they are transmitted back to agriculture through financial and commodity markets.

Some who have reviewed this paper have been struck with its negative implications for U.S. agriculture. That there are negative implications are undeniable. But there are positive aspects as well. Interest rates

driven upward by market events reflect expectations of increasing marginal productivities of capital. With a widening of economic recovery and a global spreading of economic growth and development, increased economic benefits are implied for U.S. agriculture through growth of export markets. Diversifying agriculture's financial markets may also bring unanticipated benefits.

A glance at our program reveals the increased attention given to financial markets and macro-economic events. These are topics with which many agricultural economists are uncomfortable. Yet it is unlikely that we can ignore them in the foreseeable future. They are prominent among outlook factors, and among issues shaping policy debates. It is encouraging to see the current activity incorporating financial variables in outlook and policy models. But we have a long way to go to achieve successes we expect in other areas of our activities.

REFERENCES

Adams, Dale W., "Mobilizing Household Savings Through Rural Financial Markets." Rural Financial Markets in Developing Countries, ed. J. D. Von Pischke, Dale W. Adams and Gordon Donald, pp. 399-420. John Hopkins, 1983.

Alston, L. J., "Farm Foreclosure Moratorium Legislation", American Economic Review, 74:3 (June 1984) pp. 445-457.

Antle, John M., "Infrastructure and Agricultural Productivity: Theory, Evidence and Implications for Growth and Equity in Agricultural Development." Growth and Equity in Agricultural Development, ed. Allen Maunder and Kazushi Ohkawa, pp. 181-190. Gower, 1983.

Arrow, K. J. and R. C. Lind, "Uncertainty and the Evaluation of Public Investment Decisions," American Economic Review, 60:3 (June 1970):364-378.

Ayanian, Robert, "Expectations, Taxes and Interest: The search for the Darby Effect," American Economic Review, 73:4 (September 1983):762-765.

Baughman, Ernest T., "Financial Markets that Serve Rural Areas -- Some Observations on Research and Policy Issues," Rural Financial Markets: Research Issues for the 1980's, Federal Reserve Bank of Chicago, 1982, pp. 40-62.

Bressand, Albert, "Mastering the 'World Economy,'" Foreign Affairs, 61:4 (Spring 1983):745-772.

Burns, Merrill O., "Problems, Policy Issues and Research Needs in Rural Financial Markets: The View of a Large Bank," Rural Financial Markets: Research Issues for the 1980's, Federal Reserve Bank of Chicago, 1982, pp. 125-149.

Chambers, Robert G., "Agricultural and Financial Market Interdependencies in the Short Run," American Journal of Agricultural Economics, 66:1 (February, 1984):12-24.

Commission on Money and Credit, Money and Credit: Their Influence on Jobs, Prices and Growth, Prentice-Hall, Inc., 1961, 285 pp.

Council of Economic Advisers, Economic Report of the President, U.S. Government Printing Office, 1984, 343 pp.

Darby, Michael R., "The Financial and Tax Effects of Monetary Policy on Interest Rates," Economic Inquiry, 13:2 (June 1975):266-276.

Fisher, Irving N., The Theory of Interest, Macmillan, 1930, 566 pp.

Gisselquist, David, The Political Economics of International Bank Lending, Praeger, 1981, 251 pp.

Hale, David, "Our Addiction to Foreign Capital," The Wall Street Journal, February 15, 1984.

Hunt, Reed O., Financial Structure and Regulation, Report of the President's Commission, U.S. Government Printing Office, 1972, 173 pp.

Islam, Nurul, "World Agricultural Growth -- Short-and Long-Term Aspects, Past and Present -- An Overview." Growth and Equity in Agricultural Development, ed. Allen Maunder and Kazushi Ohkawa, pp. 197-212. Gower, 1983.

Lewis, W. Arthur, The Evolution of the International Economic Order, Princeton University Press, 1978, 81 pp.

McKinnon, R. I., Money and Capital in Economic Development, The Brookings Institution, 1972.

Mendelsohn, M. S., Money on the Move: The Modern International Capital Market, McGraw-Hill, 1980, 280 pp.

Penati, Alessandro and Michael Dooley, "Current Account Imbalances and Capital Formation in Industrial Countries", Staff Papers, International Monetary Fund, 31:1 (March 1984):1-74.

Rutledge, John, "The 'Structural-Deficit' Myth," The Wall Street Journal, August 4, 1983.

Saracoglu, Rusdu, "Expectations of Inflation and Interest Rate Determination", Staff Papers, International Monetary Fund, 41:1 (March 1984):141-178.

Schuh, G. Edward, "Future Directions for Food and Agricultural Trade Policy," American Journal of Agricultural Economics, 66:2 (May 1984): 242-247.

Sparks, E. S., Agricultural Credit in the United States, Crowell, 1932, 476 pp.

Starleaf, Dennis R., "Macroeconomic Policies and Their Impact Upon the Farm Sector", American Journal of Agricultural Economics, 64:5 (December 1982):854-860.

Triffin, Robert, "The International Role and the Fate of the Dollar," Foreign Affairs, 57:2 (Winter, 1978-79):269-286.

U.S. Congress, Depository Institutions and Monetary Control Act of 1980, Public Law 96-221, March 31, 1980.

U.S. Congress, Garn-St. Germain Depository Institutions Act of 1982, Public Law 97-320, October 25, 1982.

Wickens, David L., "Investment of Farm Savings Not Diverse Enough, Records Show," Yearbook of Agriculture, 1928, U.S. Department of Agriculture, pp. 392-394.

Wilcox, James A., "Why Real Interest Rates Were So Low in the 1970's," American Economic Review, 73:1 (March 1983):44-53.

Williams, David, "Opportunities and Constraints in International Lending," Finance and Development, 20: 1(March 1983):24-27.