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. . . From you

From: ***Vernon McMinimy***
Director, Commodity Research
A. E. Staley Mfg., Co.
Re: ***Babcock and Schmitz "Look at Hidden Costs," A Second Response***

I am not satisfied that Messrs. Babcock and Schmitz understand the essence of my comment on their article "Look at Hidden Costs" that was included in the Fourth Quarter 1986 issue of CHOICES. My point is, that they used an inappropriate standard for measuring the "hidden costs" of the U.S. Sugar Program. The authors maintain we need to predict the reactions of foreign governments to changes in U.S. policies and that is a problem with today's state of the arts in model building.

If one were involved in estimating what the world price would be as the result of a change in U.S. policy, their comment would be appropriate. But that is not what we are trying to establish. We are trying to establish the appropriate price to use for measuring "hidden costs." If one is measuring the "hidden costs" of a government program, it is not appropriate to use a price that is itself heavily affected by one or a multitude of countries' policies as the standard. To measure the hidden costs, one needs a price that reflects the marginal economic value of the resources that are utilized to produce the last marginal quantity of that commodity the world consumes.

In order to measure the "hidden costs" we need to know what the world price is if no country has import quotas, no country has export subsidies, no country provides any direct or indirect assistance or taxes to the producers and consumers within their borders or outside their borders. If we can't know or have a reasonable estimate of the world price of a commodity under such circumstances, then we cannot have an appropriate measure of the "hidden cost" of a commodity (e.g., sugar) either in the U.S. or any other country. If we simply compare two prices, both of which are affected by government, then we simply get the differences of two manipulated prices times some quantity. I would prefer to call such a result the "differential value." The term "hidden cost" at least to me, and I suspect to the public in general, carries the implication that I am paying more than I, by all rights, should have to pay. In fact, that's the manner in which the term has been used.

What should I expect to have to pay for a given commodity? I should expect to pay what it *costs* to supply the last quantity demanded. That can be reasonably estimated through the use of economic engineering procedures. By estimating the cost of producing and delivering the commodity for each producing country, one can effectively describe a world supply function. The point at which supply, thus described, equals world demand is the estimated world price, an estimate of what I should reasonably expect to pay for the commodity. One can then take that estimated price (which is absent the influence of governments) and compare it with the price one actually pays to determine whether I am paying "hidden costs" or receiving "hidden benefits" under my government's programs.

Landell Mills, Inc., a consulting firm based in London, recently completed a study in which, through the use of economic engineering procedures, they estimated the world sugar price absent any government intervention. They estimated the world price of sugar for 1987 (in 1985 dollars) would be 19.9 cents per lb (raw basis) *adjusting* for inflation that is equal to 21.2 cents in current dollars. The world price now is near 7 cents (raws) per lb and U.S. sugarcane price (raws) is presently near 21.75 cents per lb. The Landell Mills study suggests today's world trading price is much more removed from the *estimated world price* as a result of government intervention than is the U.S. price. That analysis would imply that there is essentially no "hidden costs" to U.S. consumers as a result of the current U.S. Sugar Program.

The issue is, how one determines the appropriate basis for evaluating the economic value of a commodity that is impacted by government intervention. In a case, such as that for sugar, where all prices are affected by political as well as economic forces, it is necessary for the analyst to select the appropriate procedure for estimating the economic value. This is particularly so when it is evident that all readily available indicators (prices) are impacted by policies and programs that separate the price of the commodity from the cost of the resources utilized to produce that commodity. To fail to undertake the effort to attain the best standard possible is to fall short in providing the public the best estimate of their situation.

■

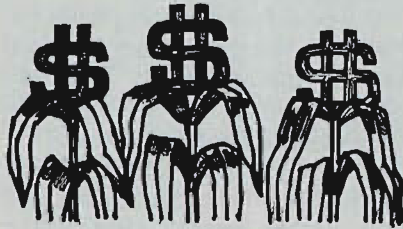
From: ***Babcock and Schmitz***
University of California, Berkeley
Re: ***The Authors Respond***

McMinimy's letter points up the importance of clearly specifying the relevant question for specific policy choices. We argue that a relevant question for U.S. society is: What would sugar cost U.S. consumers if the U.S. changed its sugar policy and the rest of the world did not change theirs? And that is the question we answered—10-15 cents less than they now pay.

Admittedly, one can ask a different question. McMinimy's question—what would world sugar prices be if all countries liberalized their sugar regimes—is one. But the answer is not very useful unless you are trying to justify current large transfers from U.S. consumers to U.S. sugar producers, processors, and manufacturers of sugar substitutes.

The United States has little or no chance to bring about a liberaliza-

tion of the sugar policies of all countries. But the Congress can change U.S. policy and save U.S. consumers 10 to 15 cents per pound.



From: ***Emery N. Castle***
Chairman
University Graduate Faculty of Economics
Oregon State University
Re: ***William McD. Herr's "Farm Land Prices"***

There is little in the article with which I disagree although I find it incomplete in one very important respect. Herr fails to consider the value of debt as a component of expectations concerning land prices.

Suppose that a 1280 acre farm is purchased for $1000 per acre and that the purchaser finances the purchase by an acquired debt for 75 percent of the purchase price in the form of a mortgage of $960,000 amortized over 30 years at an eight percent interest rate. When the mortgage is written, the lender believes that the rate of time preference plus the rate of inflation that will prevail in the future will be eight percent or less; the borrower believes that the rate of time preference plus the rate of inflation will be eight percent or more. Which expectation turns out to be correct is not a trivial matter. The wealth transfer from lender to borrower amounts to $18,000 per year on a $900,000 mortgage if the time preference plus the rate of inflation were 10 rather than 8 percent. If such wealth transfers were a random occurrence on a year-to-year basis, yearly gains and losses would tend to be offsetting. But that is not the way things have been working in this country. From the time of World War II until 1980, interest rates seldom were sufficient to compensate lenders for time preference and inflation; since 1980, interest rates generally have been considerably higher than would be necessary for such compensation.

Expectations about the relation of interest to inflation rates need to be formulated as well as the per-acre return when the bid price of land is decided upon if debt is to be used to finance the land purchase. Some may argue that fluctuations in the real value of debt should be considered under the category of paper gains or paper losses. In some instances this may be appropriate but that usually is not the case. Clearly, when interest rates persist in being too high or too low for more than three decades (more than the life of most mortgages), changes in the value of debt clearly becomes an important factor in land purchase decisions and, hence, on land values. Even in a shorter run setting there are numerous ways that changes in net worth can affect both business and personal financial decisions.

In conclusion, land prices will undoubtedly be much influenced by the effect of monetary and fiscal policies on price level stability and interest rates. It will be in the farmers' interest to consider these matters not only in the making of individual decisions but also in a public policy context.

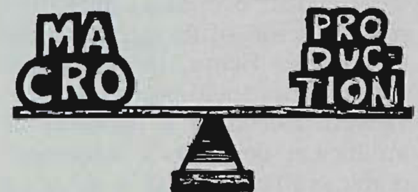
■

From: ***William McD. Herr***
Southern Illinois University
Re: ***The Author Responds***

One must agree with Dr. Castle that finance can play a role in determining land prices and his more general conclusion that participants in the land market should include the influence of monetary and fiscal matters in their decision matrix.

However, some other aspects of Dr. Castle's comments are disturbing. He says, ". . . interest rates generally have been considerably higher than . . . necessary . . . and . . . persist in being too high . . . " I do not think we should readily accept his judgment regarding the level of interest rates. Recent high (by historical standards) real interest rates may reflect large demands for funds to finance the federal deficit, low national savings rates, higher risks in foreign and agricultural lending, deregulation which permits market forces to operate more fully than previously, as well as other factors. Assuming these and other factors determine the general level of interest rates, agricultural lenders would be amiss if they did not consider their opportunity costs when making loans to finance farmland.

Perhaps more important than Dr. Castle's recognition that in the past wrong expectations concerning interest rates cause large wealth transfers is the development of a variety of risk strategies which seek to mitigate the impact of changing interest rates. In the past decade or so participants in financial markets have greatly expanded their abilities to handle interest rate risks by utilizing variable rate and shared equity loans, hedging using interest rate futures, etc. As these and other methods are perfected any impact of finance on land values should decline.



From: ***Paul T. Prentice***
General Partner
Farm Sector Economics Associates
Re: ***Kenneth Robinson's "Commentary"***

I read with some interest, amusement, and dismay Kenneth Robinson's Commentary article on macroeconomic variables in the last CHOICES issue (Second Quarter 1987). He is partially right when he points out that "the most important single factor contributing to low grain prices has been increased production." However, Dr. Robinson couldn't be more wrong in his hy-

pothesis that "the current agricultural depression is only weakly related to changes in conventional monetary and fiscal policies."

Increased production did not happen in an economic vacuum. Wheat prices do not show up out of the blue in Kansas City. And so-called "excess supply" is only excess in relation to demand. Finally, farm asset values (primarily farmland) depend on more than income returns.

Let me elaborate. First, the soaring dollar (until recently) and massive international debt are partially responsible for booming grain production. The "price umbrella" created by high U.S. target price and loan rates was widened significantly by the near-doubling of the dollar from 1980-1985. In addition, many countries had to shut down imports and produce grain for export in order to meet international debt obligations, as well as to meet constraints imposed by lending institutions (both private and public). High interest rates and a strong dollar are macroeconomic phenomena.

Second, commodity prices are determined by an incredibly complex interlocking web of supply and demand factors. World grain demand has been weak because of weak global economic growth—partly a result of fiscal and monetary policies. Hence, the excess supply problem could just as well be viewed instead as a problem of insufficient demand—a macroeconomic problem.

Finally, the farm "depression" is not an income problem. Nor is it a low commodity price problem. Incomes have been, still are, and will continue to be quite high—as government payments continue to replace cash receipts. Although the market price of corn may have fallen to $2 per bushel, this is irrelevant when the target price is $3. Rather, the farm depression is a financial restructuring of debt that got out of line with repayment capacity, and of asset values that reflected incomes capitalized at low real interest rates.

When the bad debt is liquidated and the assets revalued to reflect high real interest rates, the farm depression will be over. Real interest rates (nominal rates minus expected inflation) are a macroeconomic variable—perhaps the single most important exogenous variable (determined outside of the farm sector) to all of agriculture.

We, as a profession, have come a long way in breaking the provincial attitudes of the past that viewed the farm sector as an insulated, isolated supply-driven economic system. If Dr. Robinson really believes that "macroeconomic variables will add little to models designed to forecast future exports or the prices of export crops," can he attribute the surge in commodity prices this spring to weather alone? Does he not know that feed demand follows livestock demand that follows consumer incomes?

My model says that the 15 percent growth in the money supply and the 15 percent fall of the dollar over the past year explain nearly all of the commodity price surge. The rest of it is explained by the 10 percent growth in the money supply and the 25 percent drop in the dollar the year before. Very little residual error is due to unexpected weather. I would challenge Dr. Robinson to a forecasting contest whereby I could use macroeconomic variables and he couldn't. Furthermore, the contest would occur out here in the real world where the results count on the bottom line. What better test of his hypothesis could there be?

From: *Kenneth Robinson*
Professor, Agricultural Economics
Cornell University
Re: *The Author Responds*

My reading of the facts differs somewhat from that of Dr. Prentice. The deficiency of demand to which he refers is attributable mainly to improved technology and, in some cases, to more favorable weather and policy decisions made within the principal importing and exporting countries. Export demand for U.S. farm products has declined because of shifts in both supply and demand. What has happened to grain production in current and former importing countries or regions such as India, China, the Soviet Union, and the European Community cannot by any stretch of the imagination be attributed to U.S. macroeconomic policies.

I have no disagreement with Dr. Prentice's statement that the price umbrella maintained by relatively high U.S. loan rates in the early 1980's contributed to the loss of export sales. My disagreement is over the role of interest and exchange rates. Lower interest rates and a cheaper dollar have not revived exports during the past two years. Clearly there are factors other than macroeconomic variables that are affecting the demand for U.S. grain and soybeans.

I agree that commodity prices are determined by a complex array of forces including livestock numbers. In my article, I simply tried to assess the relative importance of different variables. U.S. macroeconomic policies obviously have had some influence on prices, but the evidence suggests their relative contribution to explaining recent price and export behavior is much less than other variables.

Dr. Prentice claims credit for predicting the upturn in prices that has occurred in recent months. Most traders think the upsurge is due to weather and government programs. His model may be right for the wrong reasons. Those addicted to macroeconomic models run the risk of confusing correlation with causation.

From: *John E. Butcher*
Logan, Utah
Re: *Cochrane's "Saving the Modest-Sized Farm"*

Cochrane's "Saving the Modest-Sized Farm" really reaches me, because we are modest in size and

farm part-time. I must believe it or I wouldn't be in it. Part-time farmers are a real threat to full-time farmers as the part-timers are *self-subsidizing* from their other job as well as getting federal aid in many cases. Do you realize how much easier it is to borrow money for farming if one or more of the family members is employed off the farm and will pledge that salary? On the other hand, I am even more bitter about the absentee corporations in agriculture, and that can be a long story.

From: ***Patrick J. Borich***
Dean and Director
Minnesota Extension Service
University of Minnesota
Re: ***Cochrane's "Modest-Sized Farm"***

I read with interest the article by Professor Willard Cochrane "Saving the Modest-Sized Farm—Or—The Case For Part-Time Farming." We in the Minnesota Extension Service have spent a great deal of time the past two years looking at agriculture in Minnesota and have come to a similar conclusion—that part-time farmers are a very significant factor in the social and economic well-being of rural Minnesota. It is obvious that our community economic development and agricultural programs must provide educational programming for all residents of rural Minnesota regardless of their level of farming.

One of the disappointing aspects of Professor Cochrane's article was the relative haste with which he categorized the Cooperative Extension Service and the Farmers Home Administration as agencies that are old and tired and reluctant to take on new policy directions. I suspect Professor Cochrane was attempting to be controversial, and I think it is as unfair to say all cooperative extension services are old and tired and reluctant to take on new policy directions as it would be to say all agricultural economists are old and tired and reluctant to take on new policy directions. The Minnesota Extension Service has spent a great deal of time regaining the verve and enthusiasm it once had through involvement of local people and careful strategic planning and focusing on issues important to the people in Minnesota. To have an offhanded comment by a well-respected agricultural leader suggesting we're not capable of changing makes one better understand why criticism of the Land Grant system and cooperative extension is so rampant across the country. It also makes it extremely difficult to convince people we have changed when change is either disregarded or ignored by those whose opinions we respect.

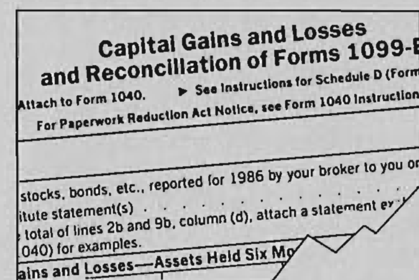
I expect that part-time farming in Minnesota will take on added importance in the years ahead. I also expect the Minnesota Extension Service will be the number one provider of education based on research from the people who follow in Willard Cochrane's footsteps.

From: ***Willard W. Cochrane***
Professor Emeritus
University of Minnesota
Re: ***The Author Responds***

I am pleased to learn that Dean Borich and I are in agreement on the central point of my article, namely, "—part-time farmers are a very significant factor in the social and economic well-being of rural Minnesota—." And I sincerely hope that he is correct in saying that the Cooperative Extension Service will do a good job in providing part-time farmers with needed technical know-how and business organizational practices in Minnesota. This is the case because I am fearful that the money will never be forthcoming to underwrite the Part-Time Farmers Agency that I made my first program choice in the article.

But Dean Borich is wrong when he suggests that I was trying to be controversial when I wrote "—in my judgment both of these agencies (the Cooperative Extension Service and the Farmers Home Administration) would undertake new programs to work with part-time farmers reluctantly, hence, ineffectively." I have watched the Cooperative Extension Service in operation from California to Washington, D.C., and back again from 1935 to 1987 and, with few exceptions, I have never seen the Extension Service tackle the problems of small farmers enthusiastically, hence, effectively. The Cooperative Extension Service from one end of the country to the other has consistently focused its attention on the large commercial farmers. And for the most part it has done a good job working with these large farmers.

But this effective work with the big, aggressive guys has not helped the little, laggard guys; in fact, if you accept my Treadmill Theory, it has contributed to the demise of the little farmers. Now we have the new phenomena of part-time farmers with small farming operations, often of a speciality nature. Will the Extension Service reach out to these part-time farmers in the future in a more effective manner than it did to plain small farmers in the past? To repeat, I sincerely hope so. But I have grave doubts.



From: ***W. E. Hamilton***
Wheaton, Illinois
Re: ***Tax Reform***

CHOICES has done an excellent job of covering the probable effects of the Tax Reform Act of 1986 on commercial agriculture. I hope you will follow up with a well researched article on the probable effects of tax reform on retired and retiring farmers who have appreciated investments in capital assets. If I understand the new rules correctly, it seems to me that such individuals have been dealt a rather heavy blow.

Prior to Tax Reform, the maximum effective tax rate on long-term

capital gains was 20 percent. The effective rates actually paid on such gains often were well below the maximum due to the graduated rate structure, income averaging and the installment sales option. Under the Tax Reform Act the maximum rate on long-term gains is 28 percent for 1987; taxpayers are more likely to be subject to the maximum rate; and income averaging is no longer available. The installment option is still available, but its value appears to have been reduced for at least some taxpayers.

The new rules have a special significance for taxpayers who are, or soon will be, eligible for Social Security benefits. Elimination of the capital gains exclusion provided by prior law means that 100 percent of such gains are now counted in determining the extent, if any, to which Social Security benefits must be reported as income. By taking capital gains, taxpayers (who otherwise would be in the 15 percent bracket with no liability for taxes on Social Security benefits) can find themselves in the 28 percent bracket with up to one half of their benefits subject to tax. Taxpayers may be taxed at a marginal rate of 42 percent if their income falls in the transition zone where a dollar of Security benefits that otherwise would not be taxed is, in fact, taxed. The marginal rate, of course, drops once a taxpayer's income passes the level at which one half of Social Security benefits must be reported as income.

As a minimum, it seems to me that the new rules have increased the need for retired and retiring farmers to do some careful tax planning before making any significant sales of appreciated assets.

■

From: *Harold F. Breimyer*
Professor (Retired)
University of Missouri-Columbia
Re: *"Tax Reform"*

In addressing the significance to agriculture of the 1986 tax law, Nixon and Richardson, and Stinson and Boehlje, play a game that is so popular these days, that of examining a situation of their own creation. Years ago the phrasing for such an instance was that economists were attacking straw men. In the new era of model building maybe we should shift the language to straw houses.

Nixon-Richardson are more guilty than Stinson-Boehlje, but both teams address some version that they develop of typical or representative taxpaying situations. The tax laws themselves accord some validity to the approach. The infamous 1981 law was notorious for denying even the idea of a truly typical taxpayer, particularly in the higher brackets. The law was a hunting ground for avoidance. Therefore, to construct some representation of that law and treat it as reality is justified in one sense. It is also fraught with analytical peril.

First of all, the authors fail to distinguish between corporate and personal tax rules and payments. For the larger and higher-income farms the distinction is important; farm and farmer (or farm family) tax obligations can differ.

To give the authors a brief due, it is true that if one looks only at basic, nominal rates and assumes some sort of normal or average pattern of expenses and deductions, the more progressive marginal rates in the 1981 law make it appear relatively unfavorable to higher income taxpayers. It follows logically that those taxpayers, in farming and elsewhere, will fare better under the new law with its lower marginal rates. That is what the four authors are telling us.

But heavens! Under the 1981 law higher income people did not pay the amount of tax calculated from nominal rates. They took advantage of the loopholes with which that law was replete. More than a few rich people paid not a dollar.

I have seen no study for the years 1982-86 of the amount of tax paid by farmers of various income levels. A number of studies for all taxpayers show clearly that the actual payment rate was virtually flat. Rich people paid at the same rate (proportion of income) as lower income taxpayers did.

Therein lies the grand anomaly of the 1986 law. It appears to reduce progressivity in the tax system. In reality, because tax avoidance had previously almost washed out any progressive feature, by ending many shelters and plugging a host of loopholes the new law restores a degree of progressivity.

It is conceivable that farmers did not exploit the 1981 law to the same degree as nonfarmers did, and to whatever extent this is true the Nixon-Richardson analysis becomes more credible. Yet it is hard to believe investors earning high incomes in farming were less clever than other wealthy taxpayers.

In any event, a more significant analysis of the new tax law would match it against the tax system prior to 1981. After all, the five years of the 1981 law were a detour, an aberration. Compared with earlier law, the 1986 law does indeed treat higher income farmers more kindly. My strong hunch is that such a historical comparison would make a valid case for the conclusion Stinson-Boehlje reach on other and less convincing grounds, namely, that the new tax code provides "pressures for a bi-modal size distribution of agriculture."

■

From: *Chuck Hassebrook*
Center for Rural Affairs
Re: *"Tax Reform"*

The article in the Second Quarter CHOICES ("Tax Act Signal to Commercial Farmers: Get Big or Get Out" by Clair Nixon and James Richardson) presented a misleading analysis of the 1986 Tax Act based on a computer model clearly inadequate to the task at hand. That model makes the unlikely assumption that large farms were sole proprietorship in the 50 percent bracket prior to tax reform. That contradicts a large body of research which indicates that incorporation was the business organization of choice for large profitable farms. It reduced marginal tax rates substantially, often by more than 50 percent. In spite of this fundamental flaw in their analysis, the authors proclaim that the new tax law grants big tax savings to the largest farms and thus tells farmers to get

big or get out. A more accurate description of their findings is that large farms would gain a great tax advantage from the new tax bill relative to the old tax code if they failed to avail themselves of the old code's most beneficial provisions. The finding is irrelevant.

Thomas Stinson and Michael Boehlje reach some similarly tenuous conclusions in a companion article. Specifically, they charge that the new tax bill will encourage a shift to cash rents, as landlords seek to stabilize their incomes in response to the loss of income averaging. However, the loss of income averaging creates an equal or stronger incentive for farm operators to resist cash rents. Furthermore, there is a direct incentive in the passive loss rules for some landlords to avoid cash rents, a point the authors acknowledge but ignore. Stinson and Boehlje also charge that the lower rates in the new code will make farming more risky because in losing years farmers will gain less savings by deducting farm losses.

That is a minor factor in the risk equation. The greater impact of the '86 Tax Bill on farmers' risk and well-being will be in its macro impacts. The elimination of tax incentives to add to meat and milk supplies should reduce the tendency to over respond to favorable prices and thus soften price cycles. The elimination of the capital gains exemption will reduce incentives to over bid land prices in profitable and inflationary times and thus reduce the severity of boom bust cycles in the land market. Finally, the elimination of tax breaks which encourage farm enlargement and grant a competitive advantage to high bracket taxpayers will open opportunities for moderate sized and beginning farmers.

■

From: *Clair J. Nixon and James Richardson*
Texas A&M University
Re: *The Authors Respond*

It appears that the main problem Mr. Hassebrook has with our analysis is that we used a sole proprietor rather than a corporate farmer. He states that all profitable large farmers should have incorporated and therefore the analysis is inadequate. Our response is several fold: First, there are a significant number of farm operators that still utilize the sole proprietorship form of business operation that has been highly profitable over the past several years. When the marginal tax rate dropped from 70 to 50 as a result of the Economic Tax Reform Act of 1981, the difference between corporate taxation and individual taxation at the highest levels became relatively small (50 percent for individuals compared to 46 percent for corporations). Another reason for using sole proprietors is that while many farmers have incorporated, over one-third have elected Subchapter S status and thus the effective tax rate becomes the individual rate. The most recent study indicating the relative number of Sub S versus Regular Corporations is in *Corporate Farming* by Kenneth Krause, USDA, Agricultural Economic Report Number 506.

Another problem of focusing on corporate farming is the number of farming corporations that are a subsidiary of a multinational corporation. For example, Tenneco West, Inc., which operates large tracts of almond groves, etc., in California reports results of operations on a consolidated basis with Tenneco, Inc. Corporations also account for only a minor part of all profitable farm operations. Granted, corporate farming produces a significant share of total farm production. Nevertheless, not all profitable farms are regular corporations. In addition, many states have restrictive covenants in regards to corporate farming. Furthermore, in states such as Texas, the state franchise tax for corporations can, in many cases, be a greater burden than income taxes because the assessment is based on assets rather than profitability and is therefore a disincentive to corporate farming. Finally, the 1986 Tax Reform Act should encourage more farm operations to use the sole proprietorship framework because the marginal rates will be below the corporate marginal rate.

With respect to Professor Breimyer's comments, there is no question that each time the tax law is changed, the tax planning environment changes with it. Furthermore, there have always been loopholes in the tax law and there will continue to be loopholes. Just take a close look at the Tax Reform Act of 1986. While more than a few rich people paid no tax, a greater percentage paid significant amounts of tax. A close look at Edgar Browning's study in the National Tax Journal (1985) would provide an indication that there are differing marginal rates across taxpayers and that this rate increases as income rises. I agree, however, that the top "average" rate is not 50 percent but more like 30 percent.

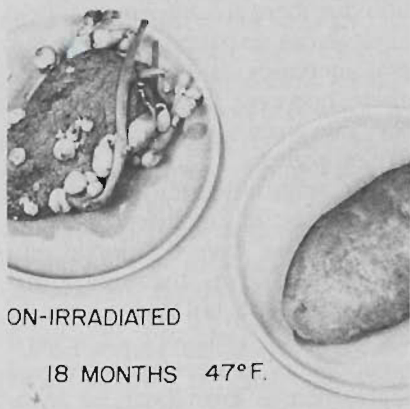
We acknowledge that model building is an imperfect science. However, we have developed representative farms through actual farm data. The tax component of the model is only one of several components in developing overall representative farm financial situations. The tax law incorporated in the model is restricted to sole proprietors but is quite complex and provides a number of alternatives that enable the farm operator to minimize his tax liability. There is no way, however, of modeling all of the possible avenues available for investment by farm operators. This was not our purpose. We are more concerned with the relative impact of the changing tax law on farm operators—not farm investors. We also tried to avoid the "situation of their own creation" problem by using different types of farms from different regions of the country.

We agree with Professor Breimyer that the five years of the 1981 law amounted to a detour from traditional tax law. He suggests a study be conducted to compare the pre-1981 law with the 1986 law. We hope to have just such a study completed by the end of the summer.

Finally, the corporate section of the model is currently under development and will enable farm operators to choose the business organizational structure which maximizes their returns. A companion corpo-

rate study using the same farms will be available some time this fall. It should provide an interesting comparison of the relative benefits of the changing tax law on sole proprietorship versus corporate farming.

A final note—Professor Breimyer provided no alternative methodology for addressing the impact of the tax law change on agriculture. Therefore, our comments are merely in defense of our modeling efforts.



From: ***Sharon E. Bomer***
Director
Government Relations
United Fresh Fruit and Vegetable Association
Re: ***Morrison's and Roberts' "Irradiation"***

I was pleased to see the article on food irradiation in your Second Quarter 1987 issue. The authors correctly concluded that the ultimate place for approval of irradiation rests in the market place. I would like to take this opportunity to comment more extensively on how the produce industry views this technology.

In August 1985, the United Fresh Fruit and Vegetable Association conducted a limited survey of its membership on food irradiation. With 92 percent of the respondents claiming some knowledge of the process, 61 percent indicated an interest in eventually using the technology. The commodities most often identified for possible irradiation were potatoes, onions, citrus, papaya, and apples. The two primary concerns of the survey respondents were the potential cost and consumer acceptance.

Irradiation is one alternative treatment among many others and cannot be expected to replace current methods which are less expensive. Although irradiation may see some use in certain segments, there is little chance that it will see widespread application in the industry. In examining the potential of irradiation for the produce industry, questions of need and cost are of primary importance. It is easiest to discuss the issue by dividing the industry into three parts.

The first segment is domestically grown and domestically consumed produce. With the excellent distribution system already in place in the United States, there is little need to extend the shelf life of most commodities by a few days as offered by irradiation. In the case of apples and root crops, far more economical methods for extending shelf life are available providing little advantage to irradiation.

The second segment of the industry is exports. Irradiation does hold some promise for exported commodities which must meet other nations' quarantine laws such as citrus to Japan. However, before irradiated produce can be exported, the importing country must approve irradiation as a quarantine treatment. For the two most important markets for U.S. produce, Japan and the European Community, this approval has not yet been granted.

The third segment of the industry is imports. Included in this category are imports from Hawaii and U.S. territories since the produce must meet quarantine requirements when entering the continental United States. It is this segment where we may see some irradiated produce, particularly Hawaiian papaya. With the cancellation of Ethylene Dibromide (EDB), the Hawaiian papaya industry had to rely on a double dip hot water treatment to meet quarantine restrictions. This treatment, however, provides a poor quality fruit because it must be harvested when it is less than one-quarter ripe. Recent approvals by the state and federal authorities will allow the Papaya Administrative Committee to operate an irradiation facility in Hawaii. It will take, however, two to three years before that facility is operational.

With the increasing demand for specialty and exotic fruits and vegetables, irradiation may be utilized by countries to meet U.S. quarantine laws if less expensive alternatives are not available. It is important to note, however, that many of the countries interested in shipping fruit to the U.S. are third world and do not have the resources to build irradiation facilities at this time.

In conclusion, food irradiation holds great promise for solving certain problems. However, with the anti-nuclear activities working diligantly to stop this harmless and innocuous technology, retailers are becoming increasingly paranoid about offering irradiated food for sale out of fear of attracting one or two protestors. A recent consumer market test in the Los Angeles area confirmed that consumers will buy irradiated produce. However, before the consumer can make the determination of whether to buy irradiated produce, the retailer must be willing to offer it for sale.

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From: ***Kitty Tucker***
President
Health and Energy Institute
Re: ***Morrison & Roberts "Irradiation: It Could Become a Food Preservation Technology for the 1990's"***

I have to disagree with the Morrison & Roberts claim that "foods irradiated at low doses are safe to eat." Scientific studies have identified serious health hazards from feeding irradiated foods to animals or people. For example:

—Malnourished children fed freshly irradiated wheat developed chromosomal abnormalities of the blood, which have been linked with cancer.

—Fruit flies fed gamma irradiated chicken had *seven* times fewer offspring than those fed heat-treated chicken.

—Chemicals called "radiolytic

products" appear in foods after irradiation, and some of these chemicals are harmful to human health.

—Vitamins and minerals are destroyed by food irradiation, reducing the nutritional quality of our foods.

—Aflatoxins, which are naturally occurring cancer-causing agents, grow more readily on foods that have been irradiated.

—Some bacteria are very resistant to radiation and will grow rapidly on irradiated foods, such as the botulism organism.

Environmental Hazards

There has been no environmental impact statement prepared for the food irradiation process, despite serious hazards to the environment. The hazards include:

—Increased transport of dangerous radioactive materials on the nation's highways.

—Danger of exposures to workers that could cause immediate death or could result in later cancers or genetic problems.

—Possible contamination of the environment due to accidents at irradiation facilities, such as accidents that have already occurred at irradiation sterilization facilities.

—Potential creation of dangerous mutant bacteria or viruses.

—Increased generation of radioactive wastes, for which storage problems are already severe.

I am a co-author of *Food Irradiation: Who Wants It?* From our research, we conclude that Americans can already obtain sufficient nutritious food without resorting to the use of deadly rays of radiation. Surveys of the food industry reveal that the major food companies are taking a cautious attitude toward this expensive technology. After a test marketing of irradiated papayas drew a picket line in California, the food chain declared that it will not carry irradiated foods.

Since the food industry is not about to pioneer this technology, the Department of Energy is taking taxpayers' dollars to build demonstration food irradiators in six states to promote this nuclear technology. The Department of Energy plans to utilize cesium-137 (part of the waste from nuclear bomb making) as an energy source in demonstration plants in Hawaii, Alaska, Washington, Iowa, Oklahoma, and Florida.

Many elected officials recently acted in response to consumer concerns about this expensive and hazardous process being pushed by vested interests. The state of Maine adopted a ban on irradiated foods, modeled after a ban approved by the Senate in New Jersey. The European Parliament prohibits the import of irradiated foods and "rejects on precautionary grounds the general authorization of irradiation as a method of conserving food." The Canadian Standing Committee on Food Irradiation "recommends that methods more cost-effective than irradiation be pursued to contend with the *salmonella* problem in Canada."

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From: ***Rosanna Mentzer and Tanya Roberts***
ERS, U.S. Department of Agriculture
Re: ***The Authors Respond***

Ms. Tucker raises several important questions concerning the safety of food irradiation. FDA and USDA are taking a cautious approach toward approval and require specific tests for individual foods at doses above 100 kilorads. Numerous scientific studies address the food safety issues raised by Ms. Tucker, of which few support and many contradict her assertions.

We agree that radioactive material does present special hazards. The United States has two decades of experience with industrial irradiators used mostly to sterilize medical supplies. The Department of Transportation and the Nuclear Regulatory Commission have developed safety procedures to protect workers and the environment. When compared to low-level radioactive waste generated by hospitals and medical research, the frequency and quantity of low-level waste from food irradiators would be small.

While Ms. Tucker raises concerns about hazards, it's worth remembering that the current interest in food irradiation was sparked by the hazards of EDB fumigation. All other food processing techniques also pose risks, such as the possibility of botulism in low-acid canned foods if proper time/temperature guidelines are not followed. Irradiation's risks, benefits, and costs must be weighed against those of alternatives.

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From: ***Gene L. Swackhamer***
President
Farm Credit Banks of Baltimore
Re: ***John Scott's "Zero" Coupon Bonds***

Professor Scott's article ("One Way to Bail Out the Farm Credit System," Second Quarter 1987) hinges on the employment by the Farm Credit System ("FCS") of "zero" coupon bonds as a funding vehicle. "Zeros" represent an obligation on the part of the issuer to pay principal and interest to the investor at the time of maturity with no intervening cash flows. The difference between the amount the investor pays for this obligation relative to the amount paid back at maturity represents the investor's total return.

From an issuer's standpoint, "zeros" possess several interesting features. They lock-in an absolute level of interest expense at the time of issuance not only on the original principal but also on the intervening accrued interest. The interest expense associated with bonds that pay interest on a periodic basis prior to maturity can only be determined after the bond has "matured." Only then are the opportunity costs associated with the intervening cash flows known with complete certainty. For this reason, "zeros" represent the surest means for an issuer to perpetuate relatively low interest expense should a "zero" be issued at a time when interest rates are rela-

tively low. Conversely, a "zero" issuance when interest rates are relatively high represents the surest means of perpetuating a relatively high level of interest expense into the future. In order to protect against this last eventuality, an issuer will often reserve the right to call an issue prior to maturity.

While "zeros" do result in the postponement of a cash payout by the issuer until either its maturity or call date, they do not postpone the need to account for interest accrued. Any deficit incurred, therefore, between the rental income on an acquired asset and the interest expense associated with financing owned property must be accounted for in each and every accounting period. This requirement carries with it the attendant impact on a bank's balance sheet and income statements and consequently on the cost of providing credit to all borrowers.

The key to Professor Scott's proposal is the implied segregation of the business of owning acquired property from the regular ongoing business of extending loans. Unfortunately, the employment of "zero" coupon bonds, by virtue of the need to account at each and every accounting period, would fail to insulate the ongoing funding needs of the bank from the need to finance an inventory of acquired property.

The risk, therefore, of financing a bank with "zeros" at the wrong point in the interest rate cycle must be the dominant concern. Suppose for a moment that following a "zero" issuance the rate of inflation increases and interest rates rise in concert with land values. Professor Scott's proposal would then result in the premature retirement of the "zeros" at precisely the point in time that they are contributing to the maintenance of relatively low interest expense for the bank. Conversely, falling inflation, interest rates, and land values following the issuance of "zeros" would only serve to exacerbate the reported operating losses of the institution holding the property.

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EMBARGOES
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From: ***Gregory Grossman***
Professor of Economics
University of California, Berkeley
Re: ***The Exchange About Embargoes***

My two excuses for belatedly joining the lively exchange on your pages about the effects of the 1980 grain embargo against the USSR are: first, the discussion and the report which triggered it came to my attention only recently; and second, both seem to have overlooked certain not insignificant economic and, especially, political effects within the Soviet Union, which are worth noting.

Even a relatively small denial of grain, affecting chiefly the domestic supply of livestock products, may have had a significant effect on the Soviet economy because of the particular (if unintended) timing. It came not only in the wake of one of the worst grain-crop failures in postwar Soviet history, which was of course known in Washington by January 1980, but also in the early stages of a steep and protracted upswing of internal inflation. This inflation, both "repressed" and "open," contributed to a chain of economic and socio-political developments—such as redistribution of private income and wealth, and further spread of the underground economy and of corruption—which assumed unprecedented importance in both the public mind and in the estimation of the country's leaders during the first half of the eighties. It is not too bold to presume that, in some degree, they may have contributed both to Mr. Gorbachev's rise to power and to the severity of the problems facing him.

Next and possibly more important, the embargo impinged on a pressing domestic policy issue of that moment, namely, the extremely large allocation of the state's funds and resources to agriculture and related industries for investment, price subsidies, and grain imports. These outlays pressed heavily on other major end-uses of the national product, including other civilian investment and defense, and had been under criticism from various directions. But judging from Brezhnev's post-embargo speeches, the policy received a new lease on life by dint of the embargo's disturbing implications for the security of Soviet food supplies. (Especially noteworthy in this connection is Brezhnev's speech to Soviet military commanders, in which he defended the very high capital investment in agriculture even at partial expense of military appropriations. See *Pravda*, October 28, 1982.

Thus, the embargo's probable role in sustaining the policy of immense expenditure on agriculture, and in aggravating inflation and other social problems, at a time when Soviet resources were becoming increasingly scarce, may be counted as a historical event of considerable significance with long-lasting domestic consequences. Again, the effects may have been both to promote Mr. Gorbachev's chances and to aggravate his problems (among the latter, the continued Soviet presence in Afghanistan, which of course was the proximate reason for the embargo). None of this seems to have been expected (let alone intended) by the White House in January 1980. Yet, in these ways, the embargo's indirect and longer-term consequences need not, on the whole, have been inconsistent with U.S. national interests abroad.

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From: ***David C. McCoy***
Dairy Farmer
Fredericktown, Ohio
Re: ***Maximize Profit or Production?***

The dairy industry today is always talking about production and

milk per cow when the real problem is actually profitability.

There are ways of making money milking cows without outstanding herd averages or scores and scores of cows. And most of these techniques I didn't learn at good ol' Ohio State—except one. The curve where it is most economical to produce usually peaks way before the curve where one can maximize production.

If we farmers would realize this basic economic fact and change our goals from the greatest production to the greatest profit for our particular operation, I think it would come a lot closer to bringing supply into balance with demand than anything else we could do. I also believe this would highly reduce the need for most of the government's "rob Peter to pay Paul" programs.

For example, I usually hover between 10,000 and 12,000 pounds milk/cow per year from 40-45 grade Holsteins on 200 acres; but I've had a net operating benefit (total cash income minus total cash expenses) of nearly $20,000/year average for 7 years using these principles. This translates to about 25 percent net profit over gross profit or about 4 to 5 times the national average. All the while, I'd probably win the county booby prize for my milk per cow!

Now I need to admit that I don't drive around in an "87" Seville—nor are any of my machinery or buildings new.

From: *Walter Wilcox*
Former USDA Director of Agricultural Economics
Re: *A Look at History Needed*

Reorganization of the Farm Credit System is of first priority to prevent future financial distress of that institution. Logically, many people are giving attention to how this might be accomplished. However, I am concerned that agricultural economists are not inquiring into the institutional arrangements that permitted the farm credit banks to follow policies that led to insolvency. A farmer friend believes that the banks actually fostered the excessive agricultural land boom, now only a memory.

In view of the trauma that has engulfed rural America the past several years, agricultural economists should be devoting at least a small part of their talent to an historical review of the factors which contributed to the current distress of these institutions and the related social and financial upheavals of many people in the sector. The findings of such reviews are critical to wise choices by policymakers as they reorganize the system of farm credit in this country.