SOCIAL INDICATORS, BASEBOOK, BASELINE AND INDICATOR MODEL

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This paper is about the implementation of a basebook, with social indicators plus a modeling and intellectual interface process for downstream projections (baseline) for rural communities. It is based on several meetings with researchers in the Rural Policy Research Institute (RUPRI) plus Glenn Nelson's social indicator paper of September, 1991.

At this juncture, it may be helpful to define some terminology that filters through from the Food and Agricultural Policy Research Institute (FAPRI) experience. *Basebook* often refers to our historical data series that feeds model development and serves as a basis for other analysis plus projections. *Baseline* refers to our base ten-year set of projections that generally hold government policies constant. It is the base of reference from which all measured alternatives will be compared. Considerable effort is put into this project by FAPRI researchers. For instance, a ten-year preliminary baseline is usually developed in mid November. This takes about three weeks of preparation and one intense week of analysis with Iowa State, Texas A&M and the University of Missouri convening at one location. This is an interactive process whereby Missouri handles the domestic agriculture scene; Iowa State, international; and Texas A&M, representative farms. About seventy-five people will come to Kansas City, Missouri, in January to review this baseline. This process takes about one and one-half days. FAPRI researchers review each commodity with at least two outside respondents—the audience is also invited to comment.

The following week a new baseline is developed, conditioned on comments from this expert panel of reviewers. This process is designed to communicate to all policy staffers and analysts our best guess about probable downstream consequences for world food and agriculture policies that may be considered to avert projected pressures.

Many of the thoughts that follow, as you might expect, are conditioned on FAPRI experiences—so these biases are admitted up front. From this perspective, two things are crucial: 1) that we place a healthy portion of our focus on a downstream process and 2) that

considerable effort is devoted to a process that insures broad interaction. Since modeling and theory lag in many relevant areas, it will be necessary to establish a process that interfaces from fifteen to thirty experts across major subject areas. Models hopefully can be developed, but the issue here is to harness a broad collection of our colleagues and get a consensus statement on where we are headed over the next ten years, based on a reasonable set of assumptions that may include a baseline economic forecast plus no change in public policy.

To achieve these two objectives the following steps are suggested:

- Develop policy objectives for the rural community.
- Identify relevant indicators that adequately reflect each objective.
- Select internally consistent indicators that can be used to estimate social cost.
- Construct quantitative models to support the longer-term process.
- Develop an interaction baseline process that moves indicators out over a ten-year horizon.
- Identify and react to priorities from the policy environment.

Desired Objectives

We must have a target at which to shoot and a standard of measure that helps focus desired directions. We tend to breathe a sign of relief when unemployment is in the 2 to 3 percent range, but become alarmed at numbers above 6 percent. It may not be necessary to be this specific in our base set of objectives; however, it must be clear whether we have a problem, do not have a problem or are in a zone of concern. At issue are the appropriate categories that communicate the desired objectives for rural policy. Glenn Nelson suggested a set of categories plus some possible indicators. His categories serve nicely as a vehicle for deriving a set of objectives for rural committees.

The question posed is whether we can take these categories and move to *desired objectives for rural policy*, similar to the objectives used in farm policy. As an example, farm policy objectives are generally stated in the following fashion:

Table 1. Farm Program Policy Objectives

(1) **Income** - Maintain adequate net farm income for livestock and crop producers
(2) **Food** - Maintain an adequate food supply at reasonable prices to consumers
(3) **Exports**—Maintain a competitive trade position
(4) **Reserves**—Maintain adequate food reserves or stocks
(5) **Environment** - Enhance environmental quality
(6) **Conservation** - Enhance conservation practices
(7) **Inputs**—Maintain a viable input industry
(8) **Government Costs** - Achieve all objectives at the least government cost

In this case, there are eight categories with broad sets of objectives—very loose—implying wide ranges for quantification of success or failure. Assessment of the current farm policy environment is generally conveyed in three basic categories: acceptable, some concern and major pressure. Most of our presentations in Washington, D.C. have relied on a color scheme to convey this message: green—acceptable; yellow—concerns; and red—major pressure. I would judge the current situation as reasonably favorable with downstream concerns. Based on our latest ten-year run, the color code illustrated in Figure 1 is most likely.

Figure 1. Color-Coded Assessment of Current Farm Policy Environment

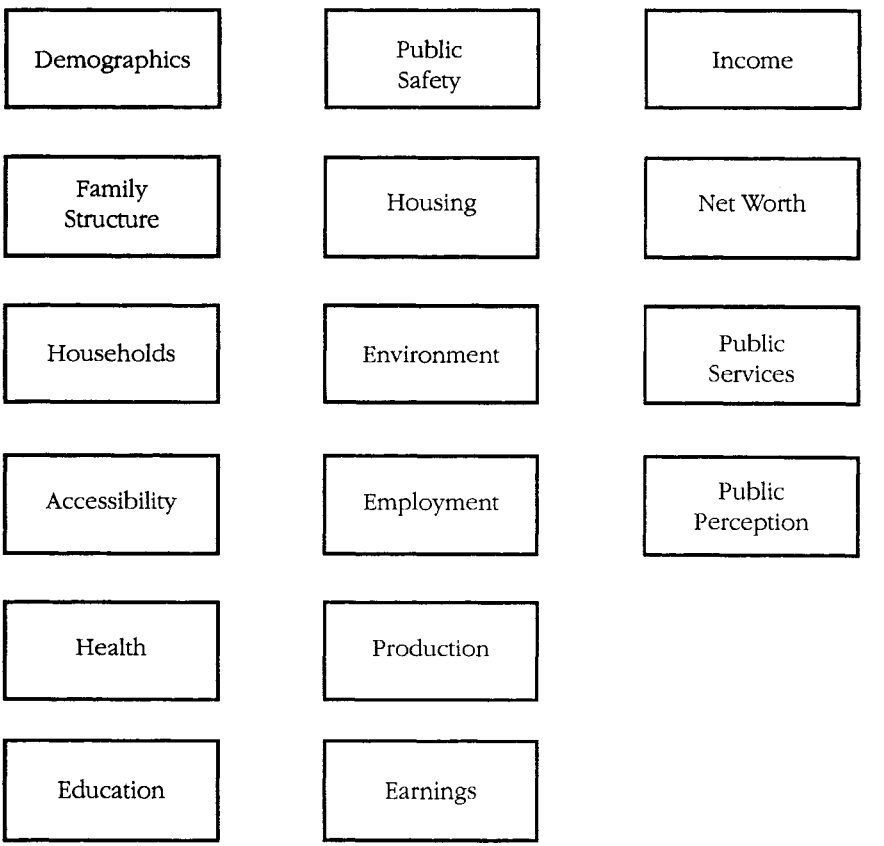
Farm Policy Indicators	Current Situation	Five Year
Farm Income	Green	Yellow/Red
Food	Green	Yellow
Exports	Yellow	Yellow
Reserves	Red	Yellow
Environment	Yellow	Yellow
Conservation	Yellow	Green/Yellow
Input Industry	Yellow	Yellow
Government Cost	Green	Yellow

Note the objectives reflect different priorities that compete with each other. Also note it is fairly easy to move toward an assessment of the current situation. For judgmental purposes, plenty of indicators are available from the U.S. Department of Agriculture (USDA), the Congressional Budget Office (CBO), the Office of Management and Budget (OMB), private sources and FAPRI. While pressures exist in specific areas such as dairy and sheep, the agriculture industry is doing fairly well; however, the number of "yellow" categories spells trouble down the road.

Social Indicators for Rural America

Nelson suggested sixteen categories, as shown in Figure 2, which serve as a starting point. A first pass at Nelson's categories by Jim Scott, Shirley Porterfield and I resulted in approximately the same

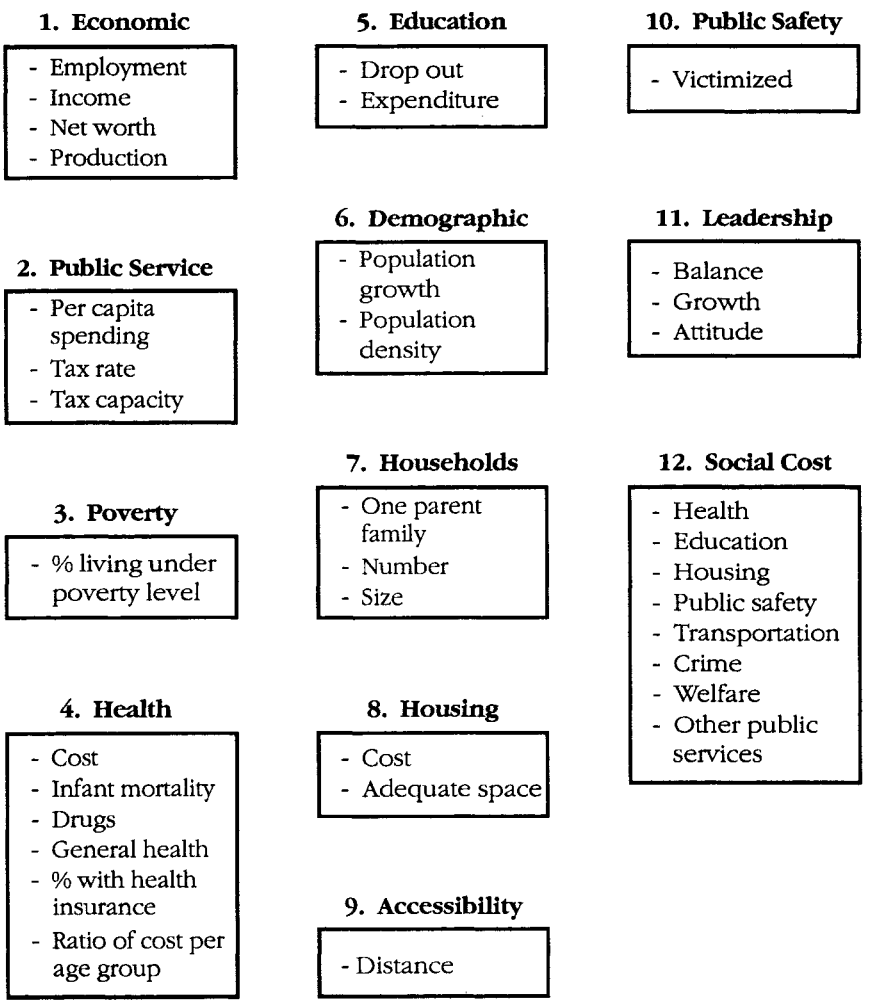
Figure 2. Nelson's Rural Policy Indicator Set



set. We combined two categories and added two other focus areas, *Poverty*, and *Leadership*, as shown in Figure 3.

There are many logical combinations that easily convey the message about social objectives in the nation, region or community. Since my interest is model oriented, part of this flow reflects a possible sequencing wherein the information from the upper tier is useful in the lower tier. However, some tinkering with the process suggests a system that is more simultaneous than sequential or recursive. For this reason, the sequencing may be more of a communication vehicle

Figure 3. Social Indicator-Consolidation Reflecting General Economic and Policy Interface



than a modeling issue. If the system is simultaneous, then it does not matter which equation is placed in the system first, second, etc.

The following categories and ordering are also an attempt to bring "under one roof" all of the variables associated with the general economy. If this can be achieved in a reasonable fashion, it will be possible, for example, to hook into ten-year projections made by econometric units such as Wharton and DRI on a regular basis. My suspicion is that we are going to find that a good deal of the variation in many of the data series reflecting major categories will be highly correlated with, and influenced by, the general economy. At any rate, longer term projections will have to be conditioned on economic and political events. So a baseline (ten-year projections) will require a forecast of general economic variables plus enough knowledge of policy variables to decide on a baseline run.

To stick my neck out further, I have constructed a first pass at a broad set of rural policy objectives, they are strongly conditioned on the general objectives mentioned previously for farm policy. Certainly, we need to be comfortable with these broad targets—at least to the extent that we can communicate the current situation and possible downstream consequences.

This final step is the general focus of Step 1, Develop Rural Policy Objectives.

Table 2. Rural Objectives

(1) **Economic**—Reasonable opportunity for employment and an adequate income
(2) **Public Service** - Adequate funding and funding base
(3) **Poverty** - Maintain adequate programs to deal with short-term and long-term problems
(4) **Health** - Maintain a reasonable opportunity for accessibility and availability of food and medicine
(5) **Education**—Maintain a reasonable opportunity for an adequate education
(6) **Demographics** - Maintain an adequate environment-space for growth and development
(7) **Households**—Adequate family structure for growth and development
(8) **Housing**—Adequate space at a reasonable price
(9) **Accessibility** - Reasonable transportation at adequate distance from basic services
(10) **Public Safety** - Reasonable safety and security
(11) **Sustaining Leadership** - Viable public and private leadership base to sustain short-term and longer-term balanced growth
(12) **Social Cost** - Maintain all objectives at the least social cost

Accomplishing this task makes it possible to *communicate* downstream consequences. Without this vehicle, it is going to be difficult for us to assess whether the complete package is moving in a more or less desirable direction. To reinforce this point, I will take these objectives a step further by attempting to evaluate the current situation for the United States, the state of Missouri and the city of Columbia (Figure 4). The next step would be a comparison of where we expect to be in five years, then ten. If these directions can be established, then we have a base (baseline) of reference for further evaluation.

Figure 4. Current Social Indicators Situation

Social Indicators Current Situation for the Nation, State, and the City of Columbia-Abner's Best Shot

	National	State	Local
Economic	Yellow	Yellow	Yellow
Public Service	Yellow	Yellow	Yellow
Poverty	Red	Yellow	Yellow
Health	Red	Yellow-Red	Yellow
Education	Red	Yellow-Red	Green
Demographics	Yellow	Yellow-Red	Green
Households	Yellow	Yellow-Red	Green
Housing	Yellow-Red	Yellow-Red	Green
Accessibility	Yellow-Red	Yellow-Red	Green
Public Safety	Yellow-Red	Yellow	Green
Sustaining Leadership	Yellow	Yellow-Red	Green
Social Cost	Red	Red	Yellow

** I have noticed that the Governor of Colorado is using this strategy in making comparisons between the United States and other developed countries. We rank No. 5 in many of his categories--tends to convey the mesage, albeit in very broad terms.*

To reinforce the importance of this exercise, we have an ongoing series of debates conducted by David Webber in the Political Science Department at the University of Missouri that interfaces faculty with state staff and legislators. In one of the recent meetings, a senior staffer from Jefferson City expressed the frustration of having many objectives with no consensus and being generally at cross purposes. So, again, it seems to me a first hurdle in dealing with this

problem is consensus on the set of categories that reflects rural policy objectives so we can communicate where we think we are and concentrate on where we best want to go "at the least cost to society," but at the highest expected gain.

Identify Relevant Indicators for Each Objective Area

An additional constraint will be to select, wherever possible, indicators for which we can obtain historical data on at least a quarterly or annual basis. An objective is to ascertain a set of indicators for which historical data would serve as a stepping off point for downstream estimation. This carries the process into a second phase during which an historical basebook is complemented by a corresponding set of projections. As Nelson has suggested, it would be worthwhile to canvass a larger group, possibly in a workshop setting that facilitates the historical basebook process.

This paper, hopefully, is a bit of a warm up for such an exercise and, at the same time, will help to condition our thinking around a set of downstream estimates that move toward understanding social costs and benefits.

From a modeling perspective, it would be useful to have about ten indicators for each selected category. Obviously, there are many more that should reside in the basebook, but an indicator model will probably be restricted to one or two indicators per category on the first pass. Certainly, these models will become more sophisticated over time. The issue here, from a modeling standpoint, is to select indicators that the public can easily identify and, at the same time, will be useful in guiding our thinking relative to longer term measured consequences.

Since Nelson has made a first cut at such a set, most indicators below reflect his suggestions. I have taken the liberty of rearranging—with logical sequence and flow again being a primary concern. As Nelson suggested, this process may help stimulate discussion that complements the basebook set of indicators. Certainly, a broader canvassing will be necessary; however, since my concern involves a first pass at the model specification, best guesses at this point will be extremely helpful. Following Nelson's lead primarily, his suggested set of indicators are included.

Also, to help facilitate this process, I have listed each category with a summary of Nelson's suggested indicators. We will be working continuously on data development for the basebook; but, from my perspective, we need indicators that the public can relate to and for which continuous historical data is available. My selection, based primarily on the 260 variables suggested by Nelson, is shown in Table 3.

To reiterate, the macro modeling activity can utilize, at most, two to three indicators per category as dependent or endogenous vari-

Table 3. Possible Indicators for Rural Policy Objective Categories

1. ECONOMICS

- Labor
  - ▲ total employment
  - ▲ unemployment rate
  - ▲ labor force (participation rate, and working age)
  - ▲ labor force (participation rate by sex)
  - ▲ rate of change in job
  - ▲ employment by occupation group
- Income
  - ▲ total personal
  - ▲ per capita personal
- Earnings
  - ▲ 13 major sectors
  - ▲ per job, 13 major sectors
- Net Worth
  - ▲ percent of population (most to least wealthy)
- Production
  - ▲ total gross product
  - ▲ per capita gross product
  - ▲ gross product (value-added)

2. PUBLIC SERVICE

- Tax Rate
- Tax Capacity (percent of population living in poverty)
- Per Capita Spending
  - ▲ schools
  - ▲ health
  - ▲ housing
  - ▲ welfare
  - ▲ crime prevention
  - ▲ transportation
  - ▲ sewage/water

3. POVERTY

- Incidence of Poverty
  - ▲ % of counties with 20% in poverty

4. HEALTH

- Insured and Uninsured (percentage)
  - ▲ cost per capita-insured
  - ▲ cost per capita-uninsured
- Infant Mortality Rate
- Child Death Rate
- General Health Conditions
- Drug Abuse
- Expenditures by Age Group
  - ▲ first year of life
  - ▲ last year of life

5. EDUCATION

- Per Capita Public Expenditures
  - ▲ primary and secondary
- Public Expenditures for Primary and Secondary
  - ▲ per student
- Achievement
- Drop-out Rate
- Years of School Completed by Adults

6. DEMOGRAPHICS

- Total Population
- Population Growth Rate
- Population Density
  - ▲ per square mile
- Population Change
- Population by Race and Ethnic Group
- Population Age Structure, by Sex
- Age Dependency Rates
- Births
- Deaths
- Birth Rate, per Woman Age
- Immigrants
- Out-Migrants
- Number of Unrelated Individuals
- One Parent Families, by Sex of Parent
- Percentage of Children with One Parent

7. HOUSEHOLDS

- Population in Non Household
- Number and Average Size of all Households
- Number and Percent with One Person over 64
- Number and Percent with One Person over 74
- Others?

8. HOUSING

- Adequate Space
- Cost per square foot

9. ACCESSIBILITY

- Average Distance to Nearest Interchange
- Average Distance to Nearest Airline Service
- Average Distance to Nearest Medical Facility
- Average Distance to Nearest School

10. PUBLIC SAFETY

- Probability of Being Victimized

11. LEADERSHIP

- Rank Personal Situation
- Personal Confidence (self esteem)
- Alienation

12. SOCIAL COSTS

The sum of public cost for each of the major categories—total federal, state, and local government expenditures on all public services.

- Social cost = sum of cost for:
  - ▲ health
  - ▲ education
  - ▲ housing
  - ▲ public safety
  - ▲ poverty
  - ▲ transportation
  - ▲ all other

ables. Otherwise, we are likely to create more of a monster than we can tame in the near term. My impression is that a selection of one or two indicators from a broader set will be most useful. If certain series are not available or do not work in the model, etc., then a layman such as myself has a broader set from which to chose for the next iteration of model development and testing.

Indicator Model—General Specification Based on Time Series Data

The indicator model is a first step at measuring downstream consequences. Several components must be carried in the system if it is to be useful in this policy environment. Since we do not have a total theoretical framework to guide this process, some parts are necessarily judgmental. After trying to piece the system together, we may find that several related pieces of theory can be applied. For example, many of the economic variables can be derived directly from a Wharton-type model, developed to reflect the economic structure of the general economy.

For other components of the model, I am going to use a term suggested by Professor Willard Cochrane—*factors affecting*. He tells me that when modeling work for the agricultural sector began in the 20s and 30s all theoretical components were not known. But if the issue from Congress was a cotton price forecast, a model was developed to explain "factors affecting" cotton prices. Naturally, things like cotton production, income, and processing cost entered this equation.

I have reviewed this process of model specification, estimation and application in the policy arena several times. From my perspective, the demand side began to take shape in the 30s with a first simultaneous model suggested for the watermelon industry, of all things, in the 1940s. But it was not until the late 50s and early 60s that an attempt was made at a theoretical treatment and specification of the supply side. Even then, several attempts were made without major success until Houck and Subotnik unraveled the theory of combining market and government variables in a single supply response equation in the mid to late 1960s, with first publications on the soybean industry in 1971.

Perhaps we are further along on some pieces, but my experience with model development tells me this will be a slow process. So, this is an attempt to try to convey a complete system that reflects very crude first steps toward an internally compatible model.

The process suggested follows Fox, King, Foote and several others who began to fashion the first aggregate, four-equation model for agriculture in the early 50s. It was evident in looking at these specifications that they had already contemplated larger frameworks; however, some simpler models were specified on the first round.

Although only one to two variables are selected per category in the following treatment, downstream models can be inserted with considerably more detail. In fact, we are likely to get questions about a particular category that expands some components faster than others. As with the earlier work by the pioneers in the agriculture modeling side, many sectors were aggregated to get a first notion of total movement or momentum. This strategy is primarily the motivation for the following set of specifications.

In considering "factors affecting," some variables necessarily must be in the system. These include measures of the 1) general economy, 2) public expenditures and, perhaps, 3) education. The general economy proxy is a necessary component because of its cyclical nature—good and bad times. Education also appears to be a general balance factor; however, as Daryl Hobbs and others suggest, the poverty component may be overpowering.

With these broad concepts in mind, a first crack at internal compatibility may proceed as follows:

General Specification of a Socio-Econometric Model of Rural Communities

General Economy

1. *Economics* = f (Wharton Econometrics)

Public

2. *Public Revenue* = f [Economics, Education, Health, Tax Policy, Tax Capacity]

   = f [GNP, Drop-out Rate, Infant Mortality, Tax Rate, Poverty Index]

Poverty

3. *Poverty Index* = f [Economics, Education, Public Support, Health, Accessibility, Sociological Indicator]

   = f [GNP, Drop-out Rate, Infant Mortality, Distance, Average Age Marriage]

Health

4. *Infant Mortality* = f [Economics, Education, Public Support, Accessibility, Poverty Index, Sociological Indicators]

   = f [GNP, Drop-out, Public Revenues, Distance, Poverty Index, Average Marriage Age]

% Health Insurance = f [GNP, Drop-out, Public Revenues, Distance, Poverty Index, Average Marriage Age]

Education

5. *Drop Out Rate* = f [Economic, Public Support, Health, Accessibility, Poverty Index, Sociological Indicators]

   = f [GNP, Public Revenues, Infant Mortality, Distance, Poverty Index, Average Marriage Age]

Demographics

6. *Population Growth* = f [Economic, Education, Public Support, Health, Sociological Indicators]

   = f [GNP, Drop-out Rate, Public Services, Infant Death Rate Average Marriage Age]

Household

7. *% One Parent Families* = f [Economic, Education, Public Support, Health, Poverty Index, Sociological Indicators]

   = f [GNP, Drop-out Rate, Public Revenues, Infant Death Rate, Poverty Index, Average Marriage Age]

Housing

8. *Cost* = f [Wharton Forecast]

9. *Accessibility* = f [Economic, Public Support, Tax Capacity, Education, Demographics]
   Average Distance
   from Metro?
   from interstate?

   = f [GNP, Public Revenue, Poverty Index, Drop-out Rate, Population Growth]

10. *Public Safety*
    % of Victimization = f [Economic, Education, Public Revenue, Poverty Index, Sociological Indicators]

    = f [GNP, Drop-out Rate, Public Support, Poverty Index, Single Parent Families]

11. *Leadership*
    Composite of the movement of the above set of indicators.

Public Costs—Federal, State and Local Public Services

1.	*Health*	= f	[Poverty Index, Sociological Indicators, Economic, % Public Revenues, Education]
		= f	[Poverty Index, Single Parent Families, GNP, % Public Expenditures, School Drop-Outs]
2.	*Education*	= f	[Economic, % Public Revenues, Poverty Index, Health, Sociological Indicators]
		= f	[GNP, Public Expenditures, Infant Mortality, Single Parent Families]
3.	*Transportation*	= f	[Economic, % Public Revenues, Education, Poverty Index, Population Indicators]
4.	*Welfare*	= f	[Economic, % Public Revenues, Education, Poverty Index, Sociological Indicators]
5.	*Housing*	= f	[Economic, % Public Revenues, Education, Poverty Index, Demographics]
6.	*Crime*	= f	[Economic, % Public Revenues, Education, Poverty Index, Demographics, Sociological Indicators]

May want two to three breakdowns here so that penal institution costs can be directly estimated.

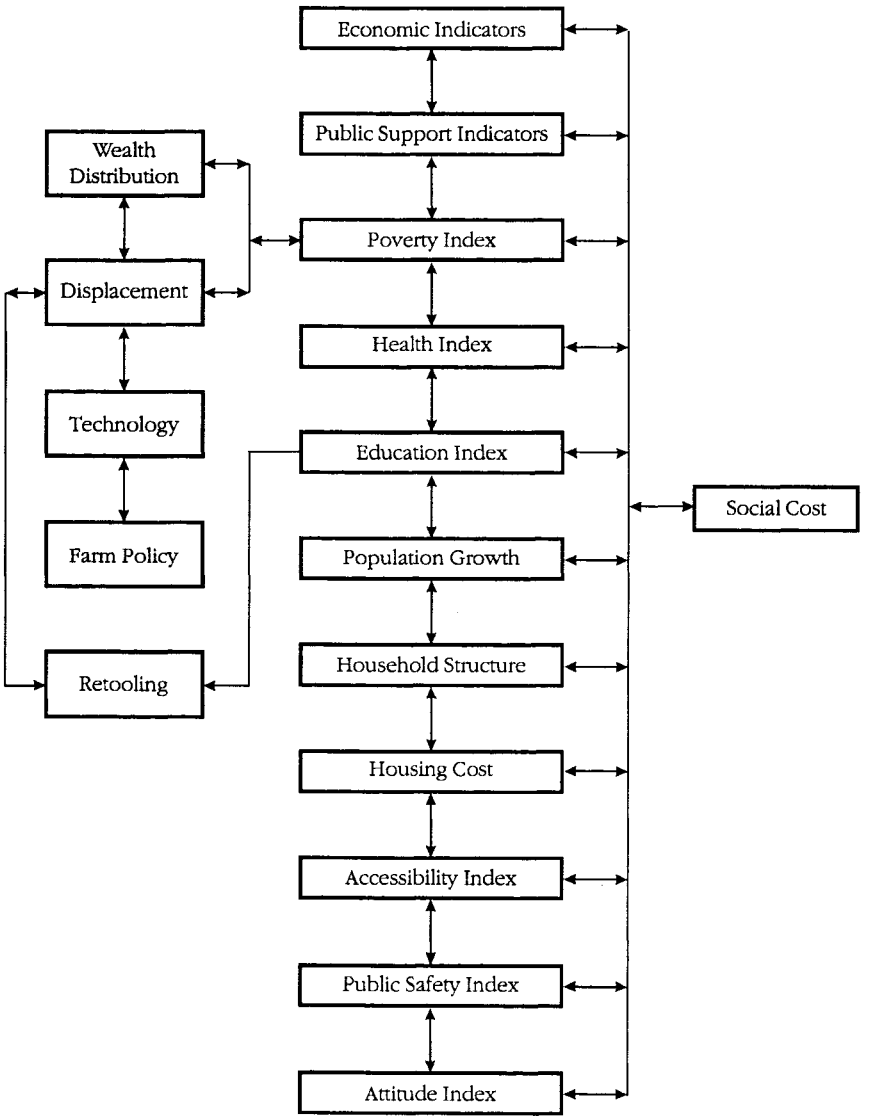
Crime* = Crime cost less penal institutions

	Penal Institutions	= f	[. . . . . .]
7.	*All Other Social Costs*	= f	[Economic, % Public Revenues, Education, Poverty Index, Demographics, Sociological Indicators]
8.	*Total Social Costs*	=	Health + Education + Transportation + Welfare + Housing + Crime + All Others

The above specifications allow for many different combinations of variables, some combinations must be maintained, otherwise downstream consequences cannot be ascertained. If the poverty index is a critical component, then its trace throughout the system of equations must be maintained.

A flow chart depicting this modeling process is reflected in Figure 5. This framework also allows for refinement and modifications. In-depth work that incorporates a larger number of indicators, and hence a broader model, can be inserted. Therefore, a short-term goal is to develop a macro model that can be modified by inserting into this system more refined research as it becomes available.

Figure 5. Model Flow Chart



Interactive Process that Produces Longer Term Projections—Models and Expert Panels

One of the most significant lessons learned in the policy modeling process undertaken by FAPRI has been the necessity of interfacing model projections with expert judgment. There are two reasons for this conclusion. *First*, models take a long time to pass through the stages of testing before meeting the standards of an operational system. Even after development and testing, data limitations plus estimation problems often leave extremely wide ranges of uncertainty around projections. Simply stated, there are many reasons why one could expect model performance to be limited. *Second*, there are many experts with substantial insight into a particular subject area. In our profession, the best example is extension colleagues. They are familiar with many aspects of a particular issue. They also have considerable hands-on experience plus knowledge of a broad set of information that includes data systems, research, policymakers, and other significant individuals. Such individuals have been invaluable to FAPRI modelers, from the standpoint of model development, structural estimation and corresponding projections. A mixture seems to keep things on an even keel.

FAPRI uses a procedure whereby internal projections (the baseline) are made using the current set of models. It takes approximately three weeks to prepare for what is affectionately referred to as the "melt down" week. This is a week during which Iowa State, Texas A&M and Missouri hammer out the actual ten-year projections (baseline). Although this is a model- based process, a great deal of interaction occurs with outside experts. Their judgment is canvassed by phone as the process unfolds. We may, for example, talk to people at Wharton about the economy, staffers with Congressional committees about policy interpretation, USDA officials regarding domestic and foreign policies, plus many extension experts and other academics.

A more formal attempt at interaction with experts takes place in January of each year when from fifty to eighty people are invited to review the baseline. As previously indicated, this involves a one and one-half day conference during which each commodity is presented with at least two outside expert responses. The audience is always invited to make comments. It turns out that this is one of the only occasions during which farm policymakers have a chance to interact informally. So the baseline review is a focal point; however, a significant reason for attending the conference is to pick up information from the Congressional Budget Office, the Office of Management and the Budget, the USDA, congressional staffers, commodity and farm organizations, etc.

After this review process, FAPRI modelers return for a second run of the baseline. Oversights, mistakes, etc., are reworked for a final product. This baseline is widely distributed with approximately

1,700 copies mailed out around the country. We are often asked to present the baseline to several audiences in Washington, D.C., and around the country. Generally this process stimulates questions requiring the evaluation of new options. These options are evaluated by comparing expected consequences with the current baseline. This latter process is again often conducted with direct input from many individuals.

We have been heavily criticized by some of our colleagues for using this interfaced process. Their claim is that a pure model solution should be presented to the public. My reaction, and that of others in FAPRI, is that pure solution and research belongs in journal articles. This is the place where the latest research should reside. It is easy to keep a record of research achievements via publications; but policymakers and others deserve the best shot that we can give them. For this reason, components of the model that do not measure up are turned off and outside judgment prevails. We are very straightforward about which components have been turned off and where judgment prevails. Also, this process takes the pressure off the modeler in that research time can be directed toward problem areas. It is expected that the modeler's batting average will improve over time.

Now the case for RUPRI: we don't have models readily available, so how do we set up an interactive process? As a point of departure, I think the following process may work in generating a baseline.

1. For each subject area invite from three to five seasoned veterans to participate in a downstream exercise during which the objective is to make a five- and ten-year outlook statement. We need to carefully sort through individuals that have worked in an active policy environment such as committees associated with state and national growth and development. These individuals can be interfaced with academics and other specialists in this delphi process.

2. Provide this group with a set of trend estimates based on historical data for each of the selected policy indicators. The trend line should project out five to ten years.

3. Have each group individually evaluate the likelihood of this trend prevailing in the future by using any information at their disposal. It will be important that a consensus is reached and reasons given for departure from trend.

4. Set up a conference that concentrates on blending these projections. The first day would involve a response from each group with some justification of their projection with two outside reviewers. Each panel session would leave time for audience participation.

5. The second day of the conference would involve a re-estimation

process with each panel working on a revised baseline. Panels would be in working groups such that easy access could occur if information was required from other panels.

6. The third day would be devoted to two activities. The first half of the day would repeat the process of the first day. The afternoon would proceed a bit differently. All panels would proceed on a year-to-year basis in developing a compatible forecast. A set of blackboards would be utilized to organize the process. All assumptions, plus first year (1992) projections, would be debated relative to possible interaction or subsequent effect. The debate would proceed along the lines of the sequence presented previously. All participants would have trend estimates with corresponding graphs and could easily follow the process. The objective would be to reach a consensus based on reasonable judgement. In some cases, personality clashes do occur. It would be the responsibility of the moderator to keep the debate open and to minimize discussion that tends to raise blood pressure. No one would be forced to use any number, the objective would be to try to reach a consensus across all categories. In cases in which consensus cannot be reached, one member from each panel would be asked to hammer out a final number.

   My experience with this process is that it is highly educational. Many veterans with different perspectives provide insights that would take many man hours to track down. I have always found this process leads to a high plane of debate and conclusions.

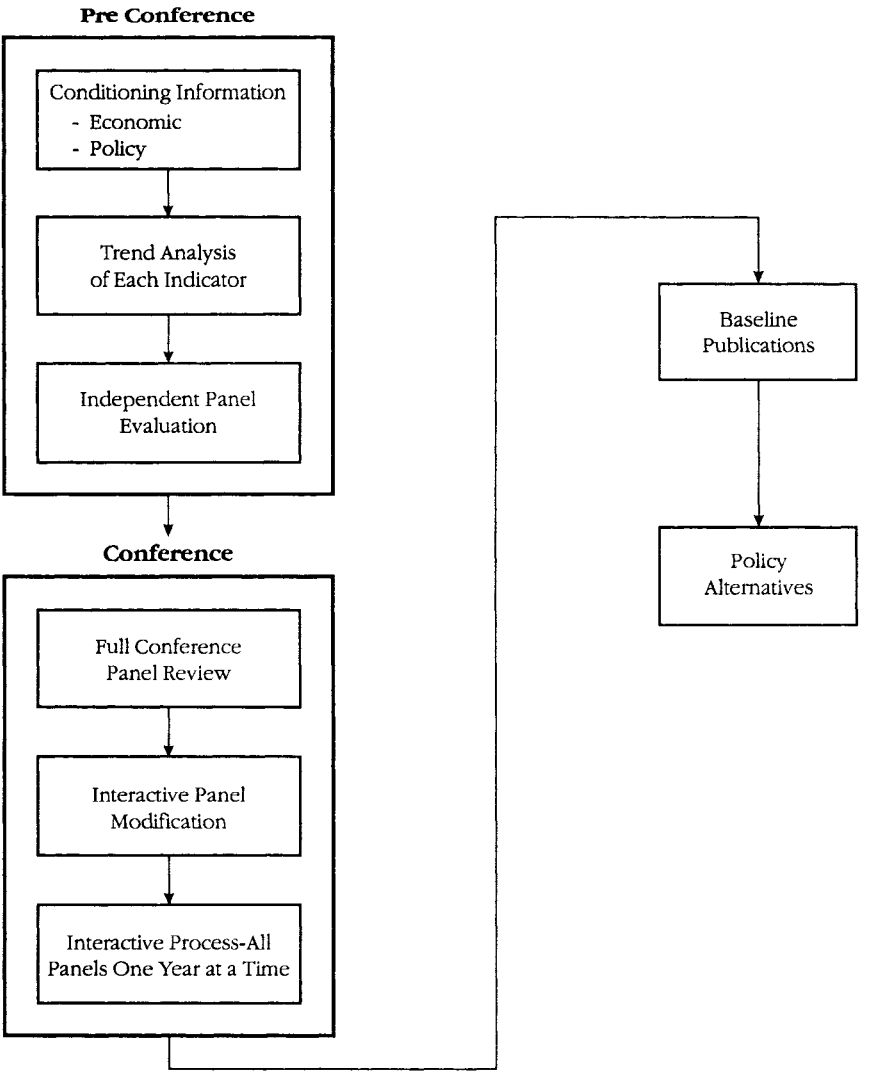
7. Final estimates are formalized and sent to each member after the conference has been completed. A baseline publication is developed that contains a brief discussion of the projections, expected consequences, and qualifications.

8. After publication and distribution, policy options are considered that may be evaluated by a subset of the above individuals. This essentially involves a new set of projections given some desired changes. It is likely that these events, whatever the focus, will require a new run through a macro economic model like Wharton. For example, a redistribution of government expenditures leading to relatively more monies in social programs and less spending on military will require interaction with a global economic system. We already have access to some of these runs. It may be desirable to begin to trace these impacts through this process to see if directions can be ascertained.

There is also a likelihood that model components can make a contribution. Simple correlations and previous research can certainly complement this process. For this reason, spreadsheet models can keep track of these subsets of equations for cross reference. It is also likely that specific budget information can be used in the process.

The following flow chart highlights this process (Figure 6):

Figure 6. RUPRI Baseline Process



Policy Environment and Priority Setting

We have been advised in FAPRI to be visible in Washington. Simply put, this amounts to a substantial amount of hall walking and listening. It is not unusual to find staffers that are completely turned off by the academic environment. They feel universities are non-re-

sponsible—leaving them with long periods before receiving answers, running through several departments to track down answers, and left with piecing information together with little feedback. All of the above factors are real and, in my mind, reconfirm the necessity of a central focus where information, data, and experts can be tracked down.

Simply stated, someone needs to be walking the halls in Washington on a continuous basis. This hall walking should focus on areas of interest, upcoming legislation, and key committees that will be studying these problem areas.

You can see from the direction of this paper that it is Washington focused. It is my expectation that we will get the most "bang for the buck" if we can establish a basebook, baseline, and specific subject area papers that help focus and clarify issues ahead of us. For this reason, I am convinced that processes that begin to focus us on downstream consequences will be valuable in blending our research and attention to the total environment in front of us.

Washington is not the only policy game in town. RUPRI needs a clear link into the dynamics of state government. We need to identify about twenty individuals who have a very good historical perspective and knowledge of recent issues plus legislation that is on the books or is being considered for the next five to ten years. The same strategy of hall walking, phone calling, and canvassing needs to occur with this group.

Since a considerable portion of public funding comes from state and local governments, we need to be sure our subject area of priority research is discussed with these people so we establish a two-way interchange early on. My experience with this process is that state staffers become very interested and will generally spend time going over issues, data, and legislation. This interaction is absolutely necessary if our work is to remain relevant.

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