TEACHING THE POLICY-MAKING PROCESS

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What is the policy-making process? What information do we need to evaluate the economic impact of a particular agricultural policy? What factors are involved in formulating effective agricultural policies? Agricultural policy courses confront students with these and other questions. Students sometimes have the mistaken impression that policies just happen, and they give little thought to the policy-making process and how it functions. Policy formation can best be described as problem solving; policies are formulated so that they appeal to a sufficient number of involved parties to implement the policy (Bauer, pp. 2-3). Thus, understanding the environment and operation of the political process is an essential part of understanding the nature of public decisions.

Understanding the process by which policies are formulated is especially important for students of agricultural policy. First, the political environment affecting agriculture is constantly changing. Support for farm legislation by producers and consumers depends on prices and quantities of farm products which vary greatly. Agriculture's political power base is changing as the result of rural-urban migration, decline in the power of individual legislators with farming interests, and changes in the makeup of the agriculture committees. Secondly, the formulation of agricultural policy has

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increasingly involved issues that are of concern to people with a wide array of political and economic interests. Such issues as domestic and foreign food aid, foreign agriculture trade, and price supports for farm products affect the general economic situation, and thus decisions concerning these issues will not be left solely to farm groups.

An important goal of agricultural economics education is to help students understand and formulate critical judgements concerning important economic policy issues. To achieve this goal, we must find ways to make economic abstractions meaningful to our students, to get our students actively involved in the learning process, and to give them opportunities to apply economic reasoning to problems they consider relevant (Joseph 1969, p. 91). Students can actively participate in a policy formulation learning process through role playing. In this simulation, students represent people involved in real-world situations and make decisions based on available information. Such simulation helps students understand the policy-making process and the relationship between policy making and its results. This paper tells how we used the role playing simulation in agricultural policy classes.

SIMULATION AND GAMING

One way to increase a student's ability to apply economic theory in a policy situation is to cast him in the role of economist and policy maker by simulation. In simulation, students participate in a decision-making experience within a controlled environment. The complexities of a real world process are simplified and certain representative features can be easily understood and readily manipulated (Taylor, p. 43). By directly involving the student, he understands because of his own experience, observations and analysis. The student is able to move from abstraction to reality after

interpreting his behavior and analyzing the results (Joseph 1969, p. 91).

Self-learning and active student participation in the learning process are essential for role playing to be effective (Joseph 1965, p. 565). Role playing can be used to help students understand the perspectives of individuals whose viewpoints differ substantially from their own. Class lectures, readings and case material provide a context for student participation in the simulated situation.

Simulation benefits the student in several ways. Students are exposed to a variety of viewpoints and a range of outcomes related to particular situations (Taylor, p. 45). He can act on more decisions than in real life and the results of the decisions are immediately revealed. With the results known, decisions can be evaluated through individual review or group discussion.

For almost a decade, agricultural economists have been interested in using simulation to teach university students. During this period, instructional simulation has been applied to several areas (Kendrick, p. 764). One of the most popular applications has been in the field of commodity futures trading. To relieve burdensome clerical chores, to introduce greater market realism, and to provide timely feedback on market activity, exercises in trading on futures markets were computerized (Eiler and Goodrich, p. 1). Simulation games have also been used to emphasize the processes of planning, implementation, and control in farm management (see Boehlje, Eidman, and Walker; Curtis). A key component of these procedures is students using computerized tools to solve farm management problems. Simulation games have been widely used to help students understand aggregate behavior of the economy (see Attiyeh; Nelson and Doeksen). These games also show students how public policies affect the economy.

All of these procedures have one factor in common: they measure the impact of a particular decision. However, simulation procedures have not been widely used in economics to explore the decision-making process--an important part of policy formation. Usually, two opposing groups contest proposed economic policies, while the rest of the population is essentially uninterested. How can policy decisions be reached on such issues? The next section of the paper tells how we applied policy formation simulation in an agricultural policy class.

APPLYING SIMULATION

We have used simulation in undergraduate agricultural policy classes to help students learn how policies are formulated, but more importantly to help students learn to make decisions on key policy issues. Simulation is the theme that runs throughout the course. The instructor can choose to pick up with simulation at any time during the course depending on the topic under consideration. Different simulation games can be utilized with this approach. However, simulation itself is much broader than these games. To be most effective, policy formation simulation must be used in the proper setting. It should be used only after the students have sufficient background in such areas as: factors and institutions affecting agricultural policy, values and beliefs of people involved in the policy issue, history of government programs, and application of economic analyses to alternative programs. Through lectures, individual readings, and research reports, the students become acquainted with the many components of policy formulation. With such preparation, the class would be able to participate in the simulation procedure described in this section.

Students are given information on policy formation simulation and how it operates. When students understand the concept of simulation, they are assigned roles as senators or aides on the Agriculture and Forestry Committee of the United States Senate. Each participant represents a certain state and is asked to become familiar with the state he represents, for instance its major crops and its constituents. The main goal of each participant is to exploit the situation to his advantage. He, therefore, must be willing to follow the rules of the simulation game and must be able to make intelligent decisions, contribute to discussion, and offer alternative solutions.

The instructor selects topics which he feels would be appropriate to incorporate in the simulation procedure. All students may be given reading assignments, or some students may be given special assignments and asked to report back to the class. In the latter case, these students take on the role of field experts and come before the committee with facts and knowledge about a certain issue. The student who is assigned this role usually must use extensive library materials to gather information. Guest speakers can also be introduced as field experts coming before the committee to give information on key issues.

Committee members must then use information gathered through individual readings and these special reports to make decisions on the issues under consideration. Contrasting viewpoints are often presented before the committee, and it is the committee's responsibility to reconcile these viewpoints and to develop a consensus statement on the issue. Group discussion often helps the class to make its decision. Such discussion often shows how much the students have grasped of economic principles. The format of the discussion is flexible but should actively involve as many students as

possible. The discussions point up particular points of difficulty that the instructor may wish to address or have the class do further research on.

There are two types of simulation games that we have used as an integral part of simulation. The policy formation game indicates the problem-solving process by which agricultural policies are created. The second game is the policy simulator which measures the economic impact of program alternatives. These two games are described in detail in the following sections.

Policy Formation Game

The class, acting as the Agriculture Committee of the Senate, would put together a general farm bill generally acceptable to a majority of the senators. Students could consider any combination of farm commodities in developing the farm bill. The objective of this exercise was to include commodities from enough regions to get adequate regional support for the general farm legislation, but without including so many commodities as to lose urban support.

This simulation game was based on an analysis of senate votes on 1975 farm legislation designed to increase target prices and support prices for several farm commodities. Discriminant analysis was used to analyze votes on a particular commodity (tobacco), and then the procedure was extended to link the votes on various commodities together. This procedure is described in the following paragraphs.

The discriminant analysis procedure classified senators as probably belonging to one of three groups: opposed a particular piece of farm legislation, supported it, or did not vote. Social, political, and economic variables which were hypothesized to affect voting behavior were

used to delineate the groups. These factors included state income derived from farming, the state's farm income derived from the particular commodity under consideration, and the rural-urban status of the state. In addition, the senator's party was also considered.

The formulation used in explaining votes on one commodity (tobacco) was generalized to other commodities. We assumed that the functions estimated for votes on a particular commodity could be applied to legislation that would increase support prices or target prices for other commodities by using the percentage of farm income derived from the particular commodity under consideration. The next step involved linking senate votes for specific commodities together to form a general farm bill concerning several commodities.

We assumed that if a senator voted for legislation to increase support prices for any commodity, he would support the total farm bill. Other senators would be categorized as opposed to the farm bill or did not vote, depending upon their stands on legislation for individual commodities. If these senators were classified in the "did not vote" group for a majority of the components of the proposed legislation, it was assumed they would not vote on the farm bill. If they were classified as being opposed to a majority of the legislative components, it was assumed that they would be opposed to the farm bill.

Added realism in the simulation game was achieved by allowing for different levels of target prices and support prices for each commodity. We assumed that as long as the farm programs were modest in scope, i.e. having low government costs and little impact on food prices, legislators would be more attentive to agricultural interests. However, as government costs and food prices increased, more opposition to the farm bill would develop.

This opposition would first come from the most urban states, but as government costs and food prices increased, then more states would oppose the farm bill. Opposition to rising food prices or rising government costs was included in the simulation game.

This formulation provided a systematic approach for predicting how senators would vote on similar farm bills that considered various combinations of commodities. Thus, the formulation was incorporated into a computer program to simulate senate votes on farm bills. In classroom simulation, students could consider any combination of commodities while developing a farm bill. As members of the simulated Agriculture Committee, they would be expected to propose alternative combinations of commodities that would gain wide political support. The committee's final bill would then be entered in the computer program to estimate how the actual United States Senate would vote on the measure. Results from the simulation program would indicate which senators would be opposed to the bill and which would support it. Such an analysis of senate votes would give the students more information on how to design commodity programs.

Policy Simulator

With the policy simulator game, students must use a problem-solving approach with the following steps: quantify policy goals, formulate theories concerning instruments and targets, and test hypotheses by drawing conclusions from empirical evidence. These steps let students make policy decisions on their own and evaluate the impact of these decisions through the aid of computers.

The particular simulation game that we have used deals with the peanut program. Peanuts are one of the few commodities that remain under

strict government control. Consequently, the Administration and many legislators are interested in modifying or eliminating the program.

This policy simulator is based on a market model of the peanut sector which can be used to explore the implications of changing this program (see Fleming and White). How alternative programs affect production, government and consumer costs, and net farm income is a major consideration. Use of the model was first demonstrated in class by analyzing the peanut sector for the period 1976-80 under the present price support program. Results show that if the present price support program is continued, government costs will increase substantially.

The simulated Agriculture Committee can then explore alternative programs for peanuts. Alternatives considered include marketing quotas, a two-price plan, and a free market policy. Students must consider the impact of these programs on government costs, consumer costs, peanut production, and net farm income.

This approach helps students become aware that policy makers must choose among alternatives. The best choice among these alternatives will depend on two things: how the economic system functions and society's preferences. Forcing students to make a choice from among the alternatives ensures that they understand the effect of the program and have weighed the relative importance of such factors as government costs and farm income.

EVALUATION

Simulation is an exciting technique to use. The teacher can incorporate debates, field trips, guest lecturers, individual reports, and small group discussions to help make simulation more effective and

enjoyable for student learning. It has unlimited use and variety, and provides a realistic picture of the way policies are developed, analyzed and initiated. Simulation can give students the opportunity to think, analyze and make decisions effectively.

Because students are actively involved in this learning process, they are highly interested and enthusiastic. This teaching method develops a student's decision-making abilities, because he is asked to give his views and feelings on different policy issues. The student must be able to analyze policy situations effectively in order to give an intelligent opinion.

A follow-up survey at the end of the course asked students to evaluate the procedure. Student comments highlighted several areas they thought were important. With simulation, students exercised their analyzing capacities to deal with real world problems and issues, which helped them be better informed in agricultural policy. Simulation provided insights into potential conflicts surrounding policy issues and the mechanisms whereby decisions could be reached. Most importantly, the procedure gave students a better understanding of the intricacies of policy formation.

Using simulation in the classroom required the teacher and student to collect detailed data, do systematic analysis, and organize important relationships. Students improved their understanding of agricultural policy issues and the process that resolves them. Students realized that the roles they played affected their perceptions and evaluations of the situation. Thus, they had a greater appreciation of the policy-making process.

Simulation does, however, have a few disadvantages. The students have a greater burden than with lectures, because they must prepare for the reports, debates and discussions. Also, much class time must be

devoted to this technique in order for the students to gain the greatest learning benefit. Evaluating student performance can be a problem. Although tests are used to measure student learning, it is hard to measure all the things that the students actually learn. The teacher can require that written reports be handed in to evaluate the student's work. Also, through observation, the teacher can subjectively evaluate student performance.

The effect of simulation on student learning is hard to quantify. Students who actively participate in the process obviously receive the greatest benefits. Weaker students may be less willing to get involved. With careful planning concerning student involvement, however, this problem can be reduced. Success in involving students also depends on the relevance of the material chosen for use in simulation. If students view the subject as relevant, they are willing to explore it.

CONCLUSIONS

Students must understand the nature of public decisions and how those decisions are made. They must also learn to analyze policy issues and make critical judgements concerning those issues. These educational objectives can best be achieved by actively involving students in the policy-making process. Simulation allows students to participate in this process by casting them in the role of policy makers. Furthermore, students reacted enthusiastically to simulation; they enjoyed the competition in the games and the variety of ways that the issues were introduced and discussed. This approach can effectively be used to supplement more traditional lecture techniques.

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