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ABSTRACT

A description of a joint class simulation in trade policy undertaken by an international economics class and a political science class at Davidson College (Pennsylvania) is presented in three sections. Section I describes the structure of the simulation. Students were divided into groups of United States auto manufacturers, the United Auto Workers, foreign auto manufacturers, foreign governments, U.S. suppliers, U.S. car dealers, consumers, and politicians. The issue of whether American industries should receive more or less protection from foreign imports than currently exists was argued in front of a student International Trade Commission. Section II describes a survey conducted to measure the impact of the simulation exercise. A questionnaire that measured positions on free trade in principle and the applications of this idea to the auto industry was administered on the opening day of class and an additional three times over the course of the term. Class averages as well as a constructed "index of change" were tabulated. Initially, students ranked national security as the most valid reason for protection. Over the course of the term, students increasingly supported free trade. Survey findings are presented in a series of charts. Section III summarizes the educational value of such a simulation exercise in light of survey findings, and concludes with a note on the policy implications of this particular simulation. (LP)

"Protection for the U.S. Automobile Industry: A Joint Class Simulation in Trade Policy"

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A Joint Class Simulation in Trade Policy"

Abstract: This paper describes the design, format, and substance of a simulation on trade policy. Combining classes in international economics and political science for debates on the issue of protection for the U.S. automobile industry against imports allowed for a lively extension of the classroom and an important exercise in interdisciplinary approaches to problem solving. The simulation also afforded the opportunity to measure attitudinal changes on trade policy.

Protection for the U.S. Automobile Industry: A Joint Class Simulation in Trade Policy

Introduction

This paper describes a joint class simulation in trade policy undertaken at Davidson College in the fall of 1983. In order to illustrate the theoretical discussion of trade theory and policy with a "real world" example, and to encourage interdisciplinary approaches to problem solving, the international economics class combined with the seminar on international political economy for a debate on the issue of current protection against imports for the U.S. automobile industry.

Students from both classes were assigned to groups to argue the case before a "Student" International Trade Commission (SITC). The main advocates were the U.S. automobile manufacturers, the United Auto Workers, and affected foreign automobile manufacturers, primarily the Japanese. Interested parties included foreign governments, U.S. suppliers to the domestic automobile industry, U.S. dealerships for imported autos, consumers, and politicians. Available to the students were several Congressional studies on the issue as well as a number of the pre-hearing briefs prepared for the actual case before the International Trade Commission in late 1980. Each group was responsible for researching the current situation and then formally presenting and defending its case in open session before the SITC. After hearing all the evidence, the SITC rendered a decision.

The simulation also provided the opportunity to measure attitudinal change. A survey addressing the general issue of free trade, the specific issue of protection for the U.S. automobile industry, and related issues of justifications for trade barriers, was administered four times. The first time was at the outset of the course, the second and third times straddled

the simulation itself, and the last time was at the close of the term. Using identifying numbers, it was possible to follow each student throughout the four surveys and to record attitudinal changes. Class averages as well as a constructed "index of change" were tabulated. The results may shed some light on how attitudes on a particular issue change as additional information is received.

Part I of the paper describes the set-up and conduct of the simulation. The main arguments used by the students in the debates are also summarized. Part II presents the results of the surveys. Part III addresses the educational value of such an exercise, and concludes with a note on the policy implications of this particular simulation.

I

Set-up of the Simulation

The issue was whether the U.S. automobile industry should receive more or less protection from imports than it currently did. With the Japanese 'voluntary' export limitations about to expire and signs of recovery in Detroit, the issue, while seen as somewhat different from that in 1980, was still controversial.

Building upon a format described by Richard Lucier in "The International Trade Commission: A Simulation of the 1980 Motor Vehicle Case",[1] the two classes were divided into the ten small groups listed below.

(1) Primary Advocates	- U.S. Automobile Manufacturers	(5)
	United Auto Workers	(5)
	Foreign Automobile Manufacturers	(6)
(2) Interested Parties	- U.S. Dealerships of Imported Autos	(2)
	U.S. Automobile Industry Suppliers	(2)
	Consumers	(2)
	Foreign Governments - Japanese and European	(3)
	Politicians - Senators from Ohio, Kansas, and California	(3)

(3) SITC Commissioners (5)
SITC Legal Staff (2)

The number of students assigned to each group is enclosed in the parentheses.[2]

Each group was to organize itself and delegate tasks within the group according to student strengths and perceived comparative advantages. The group would then research the issue and formulate arguments supporting its position. Groups were free to interact. Information from the actual 1980 case before the International Trade Commission (ITC) was available.[3] It was stressed that the issue was the relevancy of protection for 1983 and beyond, so that the arguments needed to be updated.

The simulation itself took place in the fifth week of the term. Davidson College is on a system of 3 ten-week terms with 50 class meetings regularly scheduled each term. The student groups had roughly two weeks to prepare. By the time of the simulation, the international economics class had completed the trade theory part of the course and was well into the study of trade policy. The primary focus of the seminar, on the other hand, had been on specific applications of trade policy. The simulation took 5 hours, consisting of two night sessions of 2 hours each and one in-class meeting. The night sessions were in addition to the regularly scheduled class time, and so represented an extra load on the students.

On the first night of the simulation (Monday, Oct. 3, 7-9 p.m.), each group from the primary advocates and interested parties presented its case in open session before the student ITC. To expedite the process, each group, at the time of the oral presentation, distributed to the class a written policy statement. The statement (1-2 typewritten pages) was to include:

i) a brief summary of the group's position on the issue
ii) key statistics (with proper citation) and major points to be made

iii) the group's recommended policy
iv) delegation of responsibility within the group

The SITC Legal Staff had been responsible for preparing for early distribution (the week prior to the opening of the simulation) a handout of 2-3 typewritten pages explaining the function of the International Trade Commission, how the review process works when a complaint is lodged, and pertinent legislation dealing with free trade and protectionism (e.g., the Trade Act of 1974). The SITC Legal Staff was also responsible for ensuring that the group presentations were confined to the times allotted. The intent was to have the students run the simulation themselves, with minimal interference from the instructors once the simulation was underway.[4]

On the second night of the simulation (Wednesday, Oct. 5, 7-9 p.m.), the primary advocates had the opportunity to address the arguments made on the opening night. Accompanying these presentations were 1 page handouts outlining the key points of the rebuttal and stating the final recommended policy action. This took approximately thirty minutes. Questions to any group from the SITC Commissioners followed. Then the session was open to questions from the floor. The SITC Legal Staff moderated the general question and answer period. The second night of the simulation closed with brief summary statements from each of the primary advocate groups.

On the third and final meeting (Friday, Oct. 7, 9-10 a.m.), the SITC Commissioners announced their findings. Their findings were summarized with a statement (2-3 typewritten pages) which was distributed to the class. Questions and general discussion followed the SITC presentation. This completed the joint class simulation exercise.[5]

Student Arguments

In general, the simulation went very well. The students were prepared and enthusiastic. They seemed both to learn from the exercise and have fun.

Their arguments ranged far, and as expected, went beyond the purely economic theory. A short summary of the arguments is given below.

The group representing the U.S. automobile manufacturers opened the debate by stressing the importance of the auto industry for national output, employment, tax revenues, defense, and for the generation of research and the development of new technologies. They contrasted the 'rational' energy policies of the Japanese with those followed by U.S. administrations. This was viewed as contributing to a natural Japanese advantage in the manufacturing of small cars. The U.S. automobile industry was portrayed as the victim of oil price hikes, recession, shifting consumer tastes between large and small cars, and the overvalued dollar. This group emphasized the major retooling efforts that had been undertaken, but were yet to be completed. Domestic content legislation was rejected. Instead the U.S. automobile manufacturers proposed a quota allowing the Japanese up to 17% of the U.S. market. Seventeen percent was seen to be more in line with the intent of the original agreement limiting Japanese automobile exports.

The United Auto Workers easily had the most emotional presentation. They began by invoking the then very fresh Korean Airlines tragedy. From that point, they went on the offensive. They attacked trade theory as based on assumptions that were invalid in practice, particularly the ease of internal factor mobility. Most of their fire, however, was directed at the Japanese. They accused the Japanese of predatory behavior in the U.S. market, while maintaining restrictive practices against U.S. products in the Japanese market. The undervalued yen and the large surplus in the balance of Japanese manufactured trade were cited. The Japanese were also criticized for not doing their fair share for global defense. That is, by allowing the U.S. to bear a major burden of Japanese defense needs, Japan

was free to concentrate her resources on industrial development. The United Auto Workers reminded the audience of the vital importance of the U.S. auto industry and hailed the long time superiority of the American work force. The UAW noted that auto workers had recently demonstrated a willingness to take pay cuts. Domestic content legislation, a practice said to be employed by many other nations, was recommended. In addition, the United Auto Workers supported a quota, to be phased out over a five year period.

The foreign automobile manufacturers, largely representing the interests of the Japanese, offered a specific counter-proposal. They suggested replacing the current export quota with a tariff, which was to be phased out over a specific time table. They stood ready to give up the 'revenue effect' which they were currently capturing under the export quota for the relative flexibility of a diminishing tariff. In an apparent conciliatory gesture, the foreign auto makers proposed that any tariff revenues collected be used to subsidize the retooling efforts of the American automobile industry. The mutually beneficial aspects of the tariff substitution proposal were emphasized. Competition would be enhanced, consumers would gain from greater choice, and the American industry would be assisted in the retooling effort. Furthermore, the Japanese were willing to cooperate in joint ventures. On the other hand, the Japanese auto makers felt that justification for continued protection under the quota was weak with the U.S. economic recovery underway. Moreover, the management of the U.S. auto industry should accept some of the blame for incorrectly reading market trends and for emphasizing short run profits over long term planning. In this light, the Japanese proposal was promoted as generous and productive.

The primary advocate groups were followed by those of the interested parties. Briefly, the U.S dealerships of imported autos recalled the 1980

case where the ITC found imports not to be a substantial cause of injury to the domestic automobile industry. The Japanese, nevertheless, agreed to limit exports to the U.S. market. The quotas should have given the U.S. manufacturers time to readjust. It was now up to American automobile manufacturers to become more efficient and cut labor costs. Furthermore, preserving manufacturing employment in the auto industry tended to be a bogus argument since it was apparent that many of the workers laid off by the auto makers were not going to be recalled under present retooling plans.

The domestic suppliers to the automobile industry focused on the national security importance of their industries. Domestic content legislation was advocated, in part as a way to encourage foreign investment in the automobile industry.

The consumers hailed the advantages of freer trade: competition, innovation, efficiency in resource allocation and consumer choice. The inertia of protection was seen as a major reason for not continuing the quota. Moreover, with the quota, the domestic auto industry was all too ready to raise prices and the foreign producers would naturally send in the more expensive, 'loaded with options' models. Not only was choice unnecessarily limited, but the higher prices were forcing many potential consumers to withdraw from the market entirely. Foreign retaliation and the tendency to lose a more productive export job for every import job 'saved' were additional reasons cited for moving towards freer trade. The consumer group acknowledged the need to retrain those workers permanently released from the domestic automobile industry as a cost of freer trade.

Foreign governments were next. The representatives from Japan offered to extend the voluntary export limitation for one final year under the condition that no further barriers to Japanese auto exports would be erected. They strongly opposed the domestic content legislation as an

extremely costly and inefficient way of protecting jobs. A key distinction was made. Japanese automobiles were successfully serving an expressed demand in the American market. In contrast, many U.S. exports to Japan were not successful because they failed to meet Japanese preferences. The representative of the European governments noted the joint ventures and foreign investments already made by the West German and French auto makers. While European brands were not seen as threatening the U.S. market, the European governments supported free trade on principle.

Finally, the politicians' turn came. The Senator from Ohio, bemoaning the loss of jobs during the recent recession, emphasized the importance of the automobile industry to his state. The Kansas Senator declared that, with the evolution of the 'world car', the U.S. automobile industry was a 'sunset industry'. In the future, the U.S. should look to her comparative advantage industries: agriculture, communications, and services. The Senator from California, taking stock of his diverse constituencies, allowed that the problem was indeed a serious one.

On the third joint class meeting, the Student International Trade Commission accounced its decision. While determining that imports were not a substantial cause of injury to the domestic automobile industry, and criticizing the domestic auto manufacturers, given the rising global costs of energy, for not anticipating sufficiently the growing demand for small cars; the commissioners, nevertheless, recommended that the U.S. urge the Japanese to extend the export limitation for one more year. They justified the decision by noting that Detroit's retooling efforts had been set back by the recession. According to the student commissioners, retooling for small car production, which should have commenced by 1978, would normally take four years. With the severe recession, a more appropriate time frame for retooling might be six years. Therefore, the SITC recommended that the

Japanese voluntary export limitation of 1.68 million units be extended through 1984.[6]

II

The Surveys

In an attempt to measure the impact of knowledge on attitudes, and in particular, to assess the effect of the simulation exercise, a survey was given several times during the term. The survey on trade policy (see Figure 1) was initially administered on the opening day of classes in the fall term. It was given to the two classes that were to participate in the simulation (International Economics - ECO 134 and the Seminar on International Political Economy - CEN 215) and to two 'control' classes (a first course in economics, Principles of Economics - ECO 101 and an introductory course in political science, International Politics - POL 165). The two control classes were used to represent relatively informed public opinion. The questionnaire was designed to measure positions on free trade in principle (Issue I) and then the application of this idea to a specific industry, the U.S. automobile industry (Issue III). In addition, to make the principle of free trade more tangible, arguments frequently used to justify protection were also present (Part II). The results of the initial surveys to the four classes are shown in Table 1.

A working hypothesis was that individuals supporting the principle of free trade (a low response of 1 or 2 on Issue I) would not favor protection for the automobile industry (a high response of 4 or 5 on Issue III). In other words, individual responses to these two issues should show a negative correlation. This tendency was generally found, although the Pearson correlation coefficients were not high (see Table 2-A).

With respect to the class means on the initial surveys, the international economics class (ECO 134) showed the most consistency. That is, this class

favored free trade (a class average on I of 2.04) while opposing protection for the automobile industry (a class average on III of 3.52). The initial surveys show fairly strong agreement between the classes on the justifications for protection. The Pearson correlations for class responses to Part II of the survey are given in Table 2-B. National security always plays well as a reason for trade barriers. Retooling, an extension of the dynamic infant industry argument, receives strong support, too. This may be since it appeals to the sense of fair play. Preserving employment achieves a consensus. Unemployment in particular industries is the most visible adverse consequence of international competition. The other major similarity across the four classes was the rejection of national heritage. Perhaps in the age of high competition, romanticism is perceived to be too costly. The area of least agreement was market share. This argument for protection was discounted considerably by the international economics class, but found to be more appealing to the other classes.

For the two classes in the simulation, the survey was given four times in all. The second instance was several days before the simulation exercise took place. As noted earlier, the students were some three weeks into the term. In the case of the international economics class, the students had studied the theories of international trade, from the Classical through the factor endowments and product cycle models, and were into the study of commercial policy, where questions of income distribution and the 'winners' and 'losers' from freer trade are addressed. A working hypothesis was that the student would be most 'free trade' at this point in the term, since the theoretical case for free trade is strong. Among other things, the simulation was intended to illustrate the difficulties in applying the principle to practice. When it is clear as to who the 'injured parties' from international competition are, free trade stances might be modified. The expectation

was that students, in general, would be more willing to allow protection after considering a real case, here, the U.S. automobile industry. The seminar in international political economy approached the simulation in the midst of studies on particularly salient trade issues (e.g., steel, textiles, agriculture, and electronics). The class, therefore, may have been more immediately cognizant of the complexity of the current trade situation and to alternative postures to theoretically free trading regimes. The third survey took place soon after the simulation exercise concluded. The fourth survey was given at the end of the term. Putting some distance from the simulation experience, this last survey was intended to measure more permanent attitudes on trade policy. In the international economics course, the class had since turned to the study of international finance. The seminar had moved on to analysis of the prospects for a New International Economic Order (NIEO), and the students had spent considerable time examining the obstacles, particularly trade barriers, to such an international structure.

The Index of Change

In all four applications of the survey, each student had an identifying number. In this way it was possible to record anonymously each student's responses on the questionnaires. An index of change was devised to measure the degree of softness in opinion. This index, IC, was defined to be

$$IC_k = \sum_{s=1}^{n} \left| r_{s,t+1} - r_{s,t} \right| \Big/ \sum_{s=1}^{n} \left[\left| r_{s,t} - 3 \right| + 2 \right]$$

where k refers to the particular question k = I, IIa - IIi, III

n is the number of students in the class responding to the question

s is the individual student s = 1 to n

t is the number of the survey $t = 1,2,3,$ or 4

r is the actual student response to the question k $r = 1,2,3,4,$ or 5

thus, $r_{s,t}$ would be the s student's response to question k on the t^{th} survey.

The index measured the ratio of the sum of the actual changes in student positions on a given issue to the sum of the maximum possible changes in student positions. For example, if on question I on the first survey, student s had responded with a 4, then the maximum possible change on the question for this student on the second survey would be 3, ($|4 - 3| + 2$), i.e., the student at most could have changed his response to a 1 (from disagree somewhat (4) to agree strongly (1)). If the student had actually responded with a 3 (or a 5) on the second survey, then the change recorded in the numerator would be 1. Summed over all students for any given question between any two applications of the survey gives the index of change.

It might be expected that those issues where a strong opinion was registered would be less likely to exhibit a high index of change. Issues where strong positions were not evident, either due to indifference or lack of information, might be subject to more variability in opinion, i.e., a higher index of change. This, however, might reflect, as much as anything, a certain randomness of response, which would tend to increase with the interval between surveys.

The results from the four surveys for the two classes are given in Tables 3 and 4. Tables 5-A and 5-B present the class rankings and the correlations between the class responses to the trade barrier justifications of Part II of the surveys.

Although in each case the sample sizes are small, twenty-three students in international economics and ten in the seminar on international political economy, several trends are evident and merit comment. Both classes

consistently ranked national security as the most valid reason for protection. The strong sentiment reflected, with below average indices of change, is well recognized by the diverse industries who lobby for protection. From clothespins to nuts and bolts, numerous items have been promoted as necessary for national defense. Retooling was a distant second in both classes. Employment fell as an accepted argument for protection. 'Saving' import sensitive jobs was seen as losing more productive export-related jobs. This was due not only to the foreign income losses but to the real possibility of foreign retaliation. In addition, in many cases, protected domestic industries use the respite from international competition to undertake labor saving investments. It was pointed out during the simulation that many of the laid-off auto workers would never regain their jobs on the assembly line under present retooling strategies. Finally, the very high wages in the automobile industry do little to evoke sympathy for the auto workers and their union.

Other than national security and retooling, the only argument for erecting trade barriers to receive much support was that to insure against predatory behavior. During the simulation, the Japanese were portrayed as aggressively seeking to dominate the U.S. market. The arguments appear to have been persuasive. Moving from the second to the third surveys, only one reason for protection gained credibility for the ECO 134 class: predatory behavior. In the CEN 215 class, the greatest gain was shown by this argument, from a class average of 3.0 to 2.2, and from sixth place to second in the rankings. In the seminar, gains for protection were also shown for preserving market share, national defense, tradition, and retaliation against subsidized exports. In each case, however, in the longer run, i.e., on the fourth survey, these advances in protectionist sentiment were reversed, usually decidedly so. By the final survey, members of the

seminar had been assigned four detailed analyses in trade policy, and thus were likely to be rather skeptical of the proffered claims of the benefits of protection. The simulation seemed to complement and reinforce the other assignments in this regard.

The simulation appeared to have the greatest impact on the justifications for protection, i.e., the responses in Part II. Between the second and third surveys the CEN 215 class became somewhat more willing to condone protection, particularly to counter perceived aggressiveness in foreign producer behavior. The ECO 134 class became more willing to impede trade only in the case of predatory behavior, and even then, only slightly. In general there was much less change in the rankings for the items in Part II for the economics class than for the political science seminar.

Moving from the third to the fourth survey, both classes became more for free trade and less willing to offer protection to the U.S. automobile industry. With respect to the justifications for protection, there was a noticeable difference between the two classes. There was an across the board swing back to a more free trade stance for the seminar. For the international economics, in general, only small changes were recorded. This class, however, was less willing to use high import barriers of foreign nations as an excuse for protection, but more willing to retaliate against those nations' subsidizing exports.

Over the course of the term, the positions of the two classes seemed to converge. The Pearson correlations for the classes on the nine justifications for protection increased as the surveys progressed (see Table 5-B). Taking the two classes together, the correlation coefficient increased from .768 on the first survey to .957 on the fourth. In addition, for each class individually, responses to the items in Part II between successive surveys became more correlated over time.

Finally, concerning the indices of change for the trade barrier justifications, more change occurred between the first and second surveys than between the second and third surveys (see Tables 3 and 4). With respect to the total change, the index of change was greatest comparing the first and fourth surveys. The justifications for protection with the most change overall for CEN 215 were: predatory behavior, market share, employment, and retaliation against subsidized exports. The comparison of class averages for these items, however, show little overall change (taking the first and last surveys) for the predatory behavior and subsidized export positions. For the ECO 134 class, the items with the highest tendency for variability in opinion are: predatory behavior, balance of payments, retooling and retaliation against foreign import barriers. Comparing the class responses for these items on the first and fourth surveys shows there is little change in the class averages for predatory behavior and retooling. In other words, there is not always a strong correspondence between the average class response and the index of change, particularly over the longer run. Group opinions, especially when presented as a summary measure like an average, may mask considerable softness in opinion, as captured by a high index of change. The best example from above is predatory behavior. For both classes, the index of change calculated from the first and fourth surveys was over 40%. The average response over the same two surveys changed very little, from 2.96 to 2.95 in ECO 134, and from 3.00 to 3.10 in CEN 215. In general there was more change for the smaller class, especially for the issue debated in the simulation: Item III - Protection for the U.S. Automobile Industry. Nevertheless, by the time of the fourth survey, both classes were very similar in their attitudes on trade policy.

III

The Purposes of Simulation in Teaching

Three basic assumptions provide a rationale for the relationship of simulation exercises to the enhancement of the teaching function in undergraduate education.[7] The assumptions range from the intrinsic importance of the exercise itself, to the experimental nature of simulated activity, to a claim that simulation demands a different, and possibly unique, type of intellectual construct and synthetic presentation.

First, simulation is useful as an exercise in itself, in the sense of being a task or sanction. Like the more familiar uses of the writing of an essay or the taking of an examination, the sanction involved in simulation and the focus it provides for students may be useful in stimulating both effort and interest. Simulation is also more than merely a novel form of sanction in which everyone benefits from a change. The fact that it is a different form of educational sanction almost guarantees that the total pattern of student response will differ as compared to other learning situations. Thus, many students who are not prominent in normal coursework show up well in simulations (and vice-versa). The use of differing patterns of educational demands to produce varying, though probably overlapping, patterns of student achievement thereby provides some justification of the use of simulations in the teaching enterprise.

The use of simulations as an exercise further encourages the instructor to reflect on certain criteria of relevance and makes demands of clarity and rigor. Teaching simulated activities offers a sort of incentive and stimulus to constructive thinking, just as the preparation of an exam forces an instructor to produce questions that are relevant, clear and a balanced reflection of the course subject matter. The fact that a simulation demands a different presentation and appreciation of concepts and

material than a piece of prose, and that it encourages brevity and explication, may make it a useful learning device whatever the results. Certainly there is the claim that there is a great heuristic value in such exercises.

A simulation, moreover, goes beyond the role of sanction in the design of a teacher's plan and obligation. The assumption of simulation as an experiment, as a unique form of communication and presentation, meets the criterion of the value of a given exercise or sanction. Students can be emboldened toward viewing simulated activities as an experiment in order to explore certain courses of action, and tne logic of certain concepts, for themselves. The outcome is not intended to be empirical evidence of testable hypotheses for the discipline, but to communicate to the student in different and perhaps more effective ways. The process can encourage students to communicate for themselves toward the end of internalizing understanding about certain problems and possibilities that may already be well understood by others. Simulation, then, provides the participants an experimental means of putting abstract concepts and theory into practical formation and a personalized realization.

Thirdly, proponents argue that simulations demand a different type of intellectual construct and presentation which serves to broaden the student's academic experience. Simulation offers the participant a synthesis. Simulations can claim to produce a complete picture not only about the presentation of subject matter, but also about its nature. That is, simulations claim to produce something that cannot be produced in more traditional ways. Simulations offer both a potentially more engaging series of components and a synthesis which demands that the participants hold together the various units of the exercise (theory, concepts, contrasting arguments and data) with respect to the overall framework of the issues at hand.

Thus, while there may be many extra-curricular motives for designing and running simulations, it is hoped that intellectual assumptions and rationale provide a stronger basis for their use as an instructional medium. The subject area of international economics and relations is rich in offering a variety of ways in which any given simulation might be regarded as suitably analogous or related to particular issues, and suitably designed to permit participants to operationalize heretofore abstract notions and theory into practical experience. The theory of free trade and more specifically, the applied case of automobile import protection, provides precisely such a context.

Assessment of the Simulation Exercise

This simulation experience at Davidson College was widely viewed as successful. In their comments, students indicated they had both learned from the exercise and enjoyed themselves. The simulation was felt to be a realistic application of theory and a valuable extension of the classroom. Perhaps the best way to convey student sentiment is by quoting from some of the anonymously written student evaluations of the simulation.

With respect to the educational value, students indicated

> "The simulation was a good exercise in an 'on hands' experience toward the problems and prospects of free trade....It took a lot of time, but it was worth it."

> "The trade simulation exercise was useful in that it let us see what groups were affected by trade policy and how they were affected. It also demonstrated that those groups with an interest in trade policy can use 'economics' that is quite outdated or characterized by faulty assumptions, reasoning etc. in lobbying for their interests."

In a number of cases, interest in the subject, protection in general, and the plight of the U.S. auto industry in particular, was sufficiently sparked that students continued to follow the issue. Again, from student comments

"Since the simulation, most people have kept up with the auto trade situation."

"The simulation was very useful. It prompted interest outside of class time. I picked up the Wall Street Journal to read every day about Japan, even after the simulation was over. It gave me a serious issue in international economics to follow."

It is likely that, more than any other aspect of the course in international economics, the simulation will be remembered. Students were sometimes forced to assume roles and to argue positions which normally they would not have taken. From the students

"Very good exercise, makes you really think to argue for one side or the other, whether you are in agreement with that position before you start."

"It was gratifying to see quite a few people who had really never considered the labor point of view at least acknowledging that workers have a legitimate point of view, and their needs must be taken into account."

"It's interesting to see how absorbed you become in your role. At first, you know your arguments are padded and one sided, but after a while, you start believing what you are saying. Now I can understand why people are at such opposite poles sometimes in the real world."

The simulation spilled over from the classroom. A number of students noted the out of class discussions that were generated. Even students not in the class took part, sometimes unwillingly. For example,

"Outside of class this simulation was a topic of discussion (with some food throwing) for my fraternity and hallmates."

"The most annoying part of the simulation (was) the argument till 2 o'clock in the morning with my communist, pinko UAW roommate."

"We talked about the simulation for a week at E's dinner table. S (not a member of the class) asked about the time of the 4th night, 'When this damn thing was going to be over?!'"

"G House is now a group of 14 consumer advocates after hearing C's progress reports for the nth time."

In sum, the simulation represented a rather pleasant and productive method for learning. It complemented well the traditional classroom approach. Perhaps simulations of the type described in this paper would prove useful for other institutions.

Policy Implications

In terms of policy implications, caution is certainly in order. The small size of each of the surveys precludes anything but tentative conclusions. Nevertheless, there are data--cross-sectional (the initial surveys across four different classes) and longitudinal (following the two classes in the simulation over the course of the term), and the results from the trade policy surveys do suggest several considerations for policy makers.

First, national security appears to be an especially well accepted argument for protection. This held for the initial surveys over a cross-section of students and for the two classes in the simulation, which became fairly well informed on the issues. To a lesser degree, this is also true for the retooling argument. Preserving employment loses much of its attractiveness when the consequences are adequately explained, i.e., the tendency to lose jobs in the export industries.

Second, as the index of change and the number of student changes show, there is considerable shifting of attitudes, indicating a readiness to alter position or a softness of opinion. It is difficult to determine how much of this is random. The results suggest a reduced tendency to change as the surveys progressed in the international economics class, but not so for the seminar on international political economy. It is easy to see why protectionist legislation is enacted. The majority of individuals (consumers) will be affected only marginally by any particular barrier to trade. Those with incomes directly affected by import competition tend

to exert undue influence on the policy makers, since their fewness in numbers is offset by their strongly held opinions and concentrated lobbying.

Finally, with respect to the impact of the simulation on attitudes, it was expected that the simulation might modify free trade stances. This inclination was found for the seminar, but not for the international economics class. Even so, by the time of the fourth survey, the seminar had sharply reversed its position on the third survey, i.e., a greater readiness to allow protection, and had moved closer to the attitudes of the international economics class. In general then, over the course of the term, students appeared to become more 'free trade'. Consideration of a particular case, the U.S. automobile industry, did not seem to weaken the theoretical arguments for free trade. Perhaps this reflects the relatively weak case for protection presented by the U.S. automobile industry.

One thing is clear. More research on how individuals react to information, on how firmly attitudes are held, and on how attitudes change over time is needed, because in many cases, perception is stronger than fact.

Endnotes

[1] "The International Trade Commission: A Simulation of the 1980 Motor Vehicle Case" by Richard L. Lucier, Associate Professor of Economics, Denison University, presented at International Studies Association 22nd Annual Convention, Cincinnati, Ohio, March 1982.

[2] International Economics is a regular course offering of the Davidson College Economics Department taught by Professor Hess and covers the traditional subject matter of international trade and finance in a ten week term.

The Seminar on International Political Economy is taught by Professor Ortmayer of the Political Science Department and is offered through the Davidson College Center for Special Studies of which Professor Ortmayer is the Director. The seminar focuses on policy issues in international trade and monetary relations and the study of comparative foreign economic policy making.

[3] The ITC Pre-Hearing Briefs available were those by:

Ford Motor Company
United Auto Workers
Coalition of Automotive Component and Supply Workers
Robert Mallon and Domestic Auto Dealers
Automobile Materials Industry Council
Japan Automobile Manufacturers Association
Toyota Motor Sales, USA, Inc.
Nissan
Subaru, Honda
Peugeot Motors, Renault
Volkswagen, BMW
Volvo, Saab-scania, Fiat
Auto Importers of America, Inc.

Congressional Studies available were:

Imported Automobiles In The United States: Their Rising Market Share And The Macroeconomic Impact Of A Proposed Import Restriction by Dick K. Nanto and Craig Elwell
Report No. 80-157 E of Congressional Research Service, Library of Congress, September 15, 1980.

Automobiles Imported from Japan by Dick K. Nanto
Issue Brief Number IB80030 of Congressional Research Service, Library of Congress, Date Updated 06/02/82.

The U.S. Auto Industry: The Situation In The Eighties
by Gwenell Bass
Issue Brief Number IB81054 of Congressional Research Service, Library of Congress, Date Updated 05/04/82.

Automobile Domestic Content Requirements by Dick K. Nanto Issue Brief Number IB82056 of Congressional Research Service, Library of Congress, Date Updated 06/11/82

4 The SITC Legal Staff decided to make two large placards, denoting 1 minute and no time remaining, which were quietly but effectively raised at the appropriate moments in the presentations. In both night sessions, the scheduled events finished on time.

5 In addition, for the international economics class, each student, after reviewing the evidence and receiving the SITC decision, then wrote a short policy paper, advising the President of the United States of the appropriate stance on the issue of protection for the U.S. automobile industry. One student was a member of both classes. In the seminar, his paper was used to promote discussion on the political implications of the issue.

6 As it turned out, the export limitation was extended for 1 year. The limit, however, was increased to 1.85 million units.

7 For a sample of relevant literature, see for example: Harold Guetzkow et al, editors, Simulation in International Relations: Developments for Research and Teaching, Englewood Cliffs, N.J. Prentice-Hall 1963; Dina A. Zinnes, Contemporary Research in International Relations: A Perspective and a Critical Appraisal, New York, The Free Press, 1976; Charles Walcott, editor, Simple Simulations 2, Washington: The American Political Science Association, 1980

Figure 1

SURVEY ON TRADE POLICY

Class:_____

Date :_____

Number:_____

Instructions: Place a number, indicating your opinion with respect to the following issues, in the appropriate blank.

1 Agree Strongly
2 Agree Somewhat
3 Neutral or No Opinion
4 Disagree Somewhat
5 Disagree Strongly

I

_____ Free trade, by enhancing international specialization and allowing greater global production, should be promoted whenever possible.

II

Restrictions on trade are permissable for the following reasons:

_____ a) preserve employment in domestic industries

_____ b) national security

_____ c) preserve market share for domestic industries

_____ d) retaliate against foreign producers subsidized by their govt.

_____ e) preserve national heritage and tradition

_____ f) offset unfavorable balance of payments

_____ g) insure against predatory behavior of foreign producers

_____ h) provide breathing space for retooling of domestic industry, i.e., time to become internationally competitive

_____ i) retaliate against those nations with high import barriers

III

The United States automobile industry, the largest single industry in the nation, has recently fallen on hard times.

_____ This American industry deserves protection.

Table 1. Initial Trade Policy Surveys

	Eco 134 (n = 23)	Cen 215 (n = 10)	Eco 101 (n = 26)	Pol. 165 (n = 21)
I Free Trade	2.04 (1.15)	1.70 (.48)	2.31 (1.01)	2.48 (1.17)
II Restrictions				
National Security	1.96 (1.07) #1	1.50 (.71) #1	1.58 (.76) #1	1.91 (.89) #1
Retooling	2.61 (1.16) #2	2.30 (1.06) #2	2.31 (.93) #3	1.95 (.92) #2
Employment	2.96 (1.22) #3	2.40 (.70) #3	2.00 (.89) #2	2.05 (1.07) #3
Predatory Behavior	2.96 (1.15) #3	3.00 (.82) #6	2.73 (.96) #5	2.29 (.90) #4
Balance of Payments	3.09 (1.28) #5	3.00 (.82) #6	2.85 (.97) #6	2.62 (.81) #6
Retaliate - Subsidized Exports	3.17 (1.19) #6	3.20 (1.03) #8	3.35 (.94) #8	3.24 (1.00) #8
Retaliate - High Import Barriers	3.26 (1.14) #7	2.80 (.92) #5	2.92 (1.13) #7	2.33 (.91) #5
Tradition	3.91 (.90) #8	3.40 (1.43) #9	3.62 (1.02) #9	3.43 (1.12) #9
Market Share	4.00 (.95) #9	2.70 (.82) #4	2.42 (.95) #4	2.62 (1.07) #6
III Protect U.S. Auto Industry	3.52 (1.24)	2.60 (1.00)	2.77 (1.11)	2.43 (1.12)
Average for Restrictions (II)	3.10	2.70	2.64	2.49

Notes: Average response of each class with standard deviation in parentheses.
Surveys taken on first day of class.
n = number of students taking part in the survey

Table 2: Pearson Product Moment Correlations: Student Responses to the Initial Surveys on Trade Policy

2A Correlations for Individual Student Responses on Issues I and III

Class		Pearson Correlations
International Economics	ECO 134	- .59
Seminar on International Political Economy	CEN 215	- .05
Principles of Economics	ECO 101	- .15
International Politics	POL 165	- .32

Issue I: Free trade, by enhancing international specialization and allowing greater global production, should be promoted whenever possible.

Issue III: The United States automobile industry, the largest single industry in the nation, has recently fallen on hard times. This American industry deserves protection.

2B Correlations for Class Averages on the 9 Justifications for Trade Restrictions

	ECO 134	CEN 215	ECO 101	POL 165
ECO 134	1.000	.768	.672	.711
CEN 215		1.000	.939	.819
ECO 101			1.000	.884
POL 165				1.000

Table 3: International Economics (Eco 134) - 4 Surveys on Trade Policy

	Surveys 1	2	3	4	Index of Change 1-2	2-3	3-4	1-4
I Free Trade	2.04 (1.15)	1.78 (.85)	1.83 (1.23)	1.62 (.92)	.128 (7)	.167 (9)	.133 (6)	.139 (7)
III Protection for Auto Ind.	3.52 (1.24)	3.30 (1.11)	3.35 (1.37)	3.57 (1.25)	.236 (10)	.188 (9)	.203 (9)	.281 (11)
II Trade Barriers								
National Security	1.96 (1.07) #1	1.65 (.65) #1	2.22 (1.00) #1	2.19 (.98) #1	.250 (15)	.169 (8)	.136 (6)	.221 (12)
Retooling	2.61 (1.16) #2	2.61 (1.08) #2	2.87 (1.22) #3	2.81 (1.25) #2	.254 (16)	.275 (11)	.246 (7)	.303 (14)
Employment	2.96 (1.22) #3	3.44 (1.34) #6	3.44 (1.34) #5	3.57 (1.12) #5	.324 (15)	.132 (6)	.130 (6)	.281 (10)
Predatory Behavior	2.96 (1.15) #3	2.91 (1.24) #3	2.78 (1.41) #2	2.95 (1.32) #3	.275 (12)	.243 (11)	.191 (8)	.403 (15)
Bal. of Payments	3.09 (1.28) #5	3.57 (1.04) #7	3.70 (1.11) #6	3.76 (1.09) #7	.329 (14)	.254 (11)	.262 (13)	.302 (13)
Retaliate - Subsidized Exports	3.17 (1.19) #6	3.17 (1.30) #5	3.70 (1.33) #6	3.29 (1.31) #4	.235 (12)	.200 (8)	.182 (9)	.219 (12)
Retaliate - High Import Barriers	3.26 (1.14) #7	2.91 (1.28) #3	3.39 (1.41) #4	3.67 (1.24) #6	.250 (16)	.275 (11)	.232 (7)	.313 (14)
Tradition	3.91 (.90) #8	3.83 (.98) #8	4.17 (.98) #9	4.10 (1.18) #9	.203 (11)	.232 (13)	.129 (8)	.242 (11)
Market Share	4.00 (.95) #9	4.00 (1.09) #9	4.09 (1.04) #8	3.90 (1.14) #8	.274 (13)	.104 (6)	.085 (6)	.206 (9)
Average for Trade Barriers	3.10	3.12	3.37	3.36	.266 (13.8)	.209 (9.4)	.177 (7.8)	.277 (12.2)

Note Average class response with standard deviation in parentheses.
Index of Change with number of changes in parentheses.
For fourth survey, only 21 student responses were recorded. For the first three surveys, the number of student responses was 23.

Table 4: Seminar in International Political Economy - 4 Surveys on Trade Policy

		Surveys				Index of Change			
		1	2	3	4	1-2	2-3	3-4	1-4
I	Free Trade	1.70 (.48)	1.70 (.95)	1.70 (.95)	1.60 (.97)	.182 (5)	.229 (6)	.200 (5)	.152 (4)
III	Protection for Auto Ind.	2.60 (1.00)	3.20 (1.14)	3.10 (.99)	3.70 (.95)	.333 (6)	.500 (9)	.207 (4)	.500 (7)
II	Trade Barriers								
	National Security	1.50 (.71) #1	2.10 (1.10) #2	1.70 (.48) #1	1.80 (.92) #1	.171 (4)	.182 (4)	.152 (4)	.143 (5)
	Retooling	2.30 (1.06) #2	1.90 (.32) #1	2.20 (.63) #2	2.30 (.67) #2	.194 (4)	.097 (2)	.167 (3)	.258 (5)
	Employment	2.40 (.70) #3	3.20 (1.14) #7	3.30 (.95) #8	3.40 (.97) #4	.357 (6)	.233 (5)	.172 (3)	.429 (7)
	Market Share	2.70 (.82) #4	3.70 (.82) #8	3.20 (.92) #7	3.90 (.74) #8	.444 (8)	.241 (5)	.250 (5)	.444 (8)
	Retaliate - High Import Barriers	2.80 (.92) #5	2.70 (.82) #3	2.70 (1.16) #5	3.40 (1.08) #4	.233 (5)	.133 (4)	.310 (4)	.267 (5)
	Bal. of Payments	3.00 (.82) #6	2.90 (.99) #5	3.00 (1.16) #6	3.50 (.97) #7	.250 (5)	.111 (3)	.167 (2)	.321 (7)
	Predatory Behavior	3.00 (.82) #6	3.00 (1.16) #6	2.20 (.63) #2	3.10 (.99) #3	.385 (7)	.333 (6)	.393 (7)	.423 (8)
	Retaliate - Subsidized Exports	3.20 (1.03) #8	2.70 (.82) #3	2.40 (.84) #4	3.40 (.97) #4	.321 (7)	.111 (3)	.400 (7)	.285 (8)
	Tradition	3.40 (1.43) #9	4.10 (.99) #9	3.90 (1.10) #9	4.30 (.95) #9	.281 (8)	.182 (4)	.122 (3)	.281 (6)
	Average for Trade Barriers	2.70	2.92	2.73	3.23	.293 (6.0)	.180 (4.0)	.237 (4.2)	.317 (6.6)

Notes: Average class response with standard deviation in parentheses.
Index of Change with number of changes in parentheses.

Table 5 A: Class Rankings for Trade Barrier Justifications

Justification	Ranking							
	ECO 134 --				CEN 215			
Survey	1	2	3	4	1	2	3	4
National Security	1	1	1	1	1	2	1	1
Retooling	2	2	3	2	2	1	2	2
Employment	3	6	5	5	3	7	8	4
Predatory Behavior	3	3	2	3	6	6	2	3
Balance of Payments	5	7	6	7	6	5	6	7
Retaliate - Sub. Exports	6	5	6	4	8	3	4	4
Retaliate -Import Barr.	7	3	4	6	5	3	5	4
Tradition	8	8	9	9	9	9	9	9
Market Share	9	9	8	8	4	8	7	8

Table 5 B: Pearson Correlations for Responses of the Two Classes to Trade Barrier Justifications

	CEN 215-1	CEN 215-2	CEN 215-3	CEN 215-4
ECO 134-1	.768			
ECO 134-2		.838		
ECO 134-3			.872	
ECO 134-4				.957

Notes: The number following the dash corresponds to the number of the survey, i.e., the 1st, 2nd, 3rd or 4th.

The correlations are for Part II of the surveys in the two classes and are based on the average class responses to the items as listed in Table 5 A.