

# Gains from Trade: Student Perceptions of an International Agricultural Trade Course

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## Abstract

The purpose of this study is to explore student conceptualization of agricultural trade after experiencing an international agricultural trade class. We employ a mixed methods framework that includes a student focus group in tandem with a supplemental course survey to understand student perceptions of agricultural trade and the methods employed to teach course content. Findings suggest that students understand the gains and losses associated with trade as well as the net positive social benefits resulting from freer trade. Furthermore, students find that their agricultural business degrees are strengthened by having experienced an international agricultural trade course as part of their undergraduate curriculum.

## Introduction

International Agricultural Trade is often offered as an elective course for agricultural business and agricultural economics undergraduate degree programs. While an agricultural trade course is typically not a requirement for degree completion, students and employers have noted the importance of the knowledge gained by students who complete coursework that covers macroeconomic theory and agricultural policy and improves students' abilities to apply problem-solving skills in real world applications, which are objectives of the international trade course (Frasier et al., 2012). Furthermore, the education literature supports the need for a variety of teaching methods to be employed in undergraduate courses (Bormann, 2012; Countryman, 2017; Vitale et al., 2010.) Accordingly, this research explores an agricultural trade course and its importance as part of a degree program in agricultural business and/or agricultural economics and explores the need for a variety of teaching methods to teach the course content. Additionally, the class was taught during the 2016 United States (U.S.) Presidential campaign and election; a time when international trade was a central point of the platforms of candidates from both key U.S. political parties. International

trade was cast in a negative light and was described, in general, as detrimental to the U.S. economy by both key Presidential candidates, despite the consensus among economists that freer trade is good, overall, for the U.S. economy (Countryman, 2016). This afforded the unique opportunity for students to learn and apply knowledge regarding international trade during a time when trade was a consistent topic in the popular press.

International Agricultural Trade is an upper-division elective course for the agricultural business management program in an agricultural economics department at a Land-Grant University. Upon successful completion of the course, students understand how the global agricultural trade system functions, how to formulate and explain the implications of major theories of international trade, to analyze shocks to the global economy, and determine the benefits and costs of trade policies as lay practitioners. The instructor's goal is for students to integrate their course experience into a general analytical capability of linking the tools of economics and empirical analysis to real world issues related to agricultural trade. The entire course is designed to accomplish this goal. The course covers agricultural trade patterns and institutions, trade theory with applications to agriculture, and current issues in agricultural trade. International trade was a timely, controversial topic in 2016 mainstream media, with noteworthy discontent regarding U.S. international trade policy such as the North American Free Trade Agreement (NAFTA) leading to uncertainty regarding the potential for additional U.S. membership of preferential trade agreements such as the Trans-Pacific Partnership (TPP) and the Trans-Atlantic Trade and Investment Partnership (T-TIP). Student enrollment in an international agricultural trade course provided an interesting context to explore student perceptions and understanding of trade. Thus, the purpose of this course evaluation study is to explore student conceptualization of agricultural trade after experiencing an international agricultural trade class. This study was employed using

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a mixed-methods approach and was guided by the following research questions: how do students conceptualize agricultural trade after taking an international agricultural trade class, and did teaching methods effectively strengthen student learning experiences and augment comprehension of course material?

### **The International Agricultural Trade Course**

Agricultural trade patterns are influenced by three main factors: economic growth and macroeconomic performance, comparative advantage, as well as trade and domestic agricultural policies in various countries. Therefore, the course develops the relevant economic theories and empirical examples for these factors that determine, and impact, international agricultural trade. Upon the completion of this course, students should be able to successfully meet the following objectives:

1. Identify and discuss current agricultural trade patterns, issues and selected macroeconomic and institutional issues.
2. Formulate and explain the implications of major theories of international trade.
3. Quantitatively and qualitatively analyze the benefits, costs and politics of agricultural trade.
4. Integrate the experiences in this course into a general analytical capability by linking the tools of analysis, issues and empirical examples.

The course is comprised of a variety of teaching methods including lectures, readings, class discussions, in-class experiential learning activities and guest speakers. There is no required textbook for the course; however, three optional textbooks are highlighted for students who prefer a textbook to learn from. Since there is no required textbook for the class, the instructor provides a complete set of class notes comprising a variety of materials distributed throughout the semester. An online teaching platform, Canvas, is utilized to distribute course materials, and each class is recorded and made available for subsequent review by students online.

The course content is covered by five key modules: Introduction to the World Food System and Agricultural Trade, International Macroeconomics, International Trade Theory, Market Distortions and Economics Shocks, and International Institutions and Multilateral Negotiations. The structure of the course included readings, guest presentations, discussion, experiential activities in-class, homework, and in-class quizzes to elicit deep understanding from students. The focus on international trade in the popular press during the fall of 2016 provided ample current articles describing real world examples to use as teaching tools for concepts covered in the course. The instructor gave quizzes on the reading material and discussed the topics as a group in class. The resulting implications of the topic, theory, or market intervention would be modeled, or explained, with the instructor representing the work on the board using a mix of PowerPoint presentations, handwritten

notes, and hand-drawn graphs, with students following along and asking clarification questions. Homework to reinforce the course material was provided throughout the semester. The format of homework assignments varied to include questions with answers ranging from fill in the blank, multiple choice, short answer, graph and chart creation, and essays. The instructor elaborated on topics through review of the homework and further discussion of the content.

Each reading, or activity, is tied specifically to an economic concept related to international trade taught in the course and related to real world problems. For example, in module 1, Introduction to the World Food System and Agricultural Trade, there is a thorough, current article that explains the various factors affecting agricultural commodity prices with a timeline of real world events that occurred over the recent timeframe of the price spikes analyzed. This article is an assigned out of class reading that the class subsequently discusses as a group, with the addition of an infographic that illustrates the complexities of supply chains in the global food system. This reinforces the concepts for how markets function in a global environment to impact prices paid for agricultural commodities domestically and around the world.

In module 2, International Macroeconomics, after reviewing key macroeconomic concepts that are prerequisite material, students are led through a multi-step exercise and discussion to reinforce the importance and use of macroeconomic indicators and the importance of trade in determining the financial health and stability of an economy. This is completed by first reviewing key macroeconomic concepts in class and introduction of new macroeconomic concepts related to trade, followed by an assigned reading by the Economist magazine that discusses the potential for Capital Freeze in a variety of emerging economies based on macroeconomic indicators. After reading the article, large group discussion focuses the class on key points of the article and then small groups investigate specific country cases to detail the financial and macroeconomic stability of specific countries assigned from the article. This is followed by individual homework where students are assigned one of several countries not included in the article to investigate the financial and macroeconomic stability of the specified country consistent with examples of the country cases provided in the reading. Upon completion, students understand key macroeconomic concepts more thoroughly, learn how to research the information and data needed to calculate the values for the various macroeconomic indicators, and communicate findings in detail. All in all, the in-class review of prerequisite concepts, real world reading, group work on country case studies, applied problem solving and research for individual homework, in tandem with in depth class discussions enable students to think like economists to evaluate the macroeconomic stability of a country, based on the macroeconomic concepts learned in the course.

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Another example related to course design elements helping students to think like economists is related to module 4, Market Distortions and Economic Shocks. One of several market distortions discussed and graphically illustrated in class with corresponding homework is an export tariff. Students learn what an export tariff is, the consequences of an export tariff using graphical presentation, as well as the welfare implications and price impacts of the policy. After learning the concept, students are assigned a reading that discusses the real-world use of export tariffs on agricultural commodities in Argentina. The class then discusses the costs and benefits associated with the policy, not just in an abstract, general manner, but with an applied example of when a country has implemented this particular market distortion in the recent past. Other similar current event readings are assigned to give real world examples of course concepts. The design of the course helps students to think like economists to understand, and explain, how international markets are integrated, why countries trade with each other based on comparative advantage, how markets respond to the various market distortions and economic shocks explored, and the importance of international institutions and multilateral negotiations in the functioning of the world food system and international agricultural trade.

The instructor used repetition to have students garner deep understanding of the content that is particularly challenging for students, on average, as indicated by student performance during four previous offerings of the course when the fourth module, Market Distortions and Economic Shocks, has been covered. This repetition was done to facilitate student understanding of different market interventions in the Partial Equilibrium Trade (PET) Model Framework. Key market interventions that were modeled and discussed during the course include tariffs, quotas, and tariff rate quotas (TRQs) implemented by both exporters and importers, as well as a variety of economic shocks that shift supply and/or demand in export and/or import markets. The instructor illustrated each market distortion and economic shocks by hand in a 3-panel diagram framework that describes the PET model and subsequent market responses to a distortion or economic shock. While these specific teaching methods related to repetition and deep learning were developed by an expert in the field, the impact the tools have on student learning have not been well researched. Furthermore, to the best of our knowledge, the literature lacks a comprehensive evaluation of an international trade course as presented here, and this research fills this void.

## Materials and Methods

This course evaluation study focused on a single international trade course from fall, 2016. The course consisted of 22 junior and senior agricultural business majors. The study was initiated by the lead instructor who wanted to investigate the students' learning

experience and the effectiveness of particular teaching methods. The initial point of data collection was a focus group at the end of November. Six student volunteers, including three males and three females, participated in the 45-minute focus group. The semi-structured focus group (Krueger, 1994), conducted by an expert in education and experienced with qualitative methods, elicited students' conceptualization of international agricultural trade as well as perceptions regarding teaching methods employed in the course. Importantly, the focus group facilitator had a basic understanding of international trade and did not utilize economics jargon in the questioning and probing. The moderator was more interested in letting the students provide their own conceptualization of what was happening, and being learned, in the course. The research team analyzed the transcripts of the focus group for basic themes on student perceptions of the course and international agricultural trade.

The data from the focus group led the research team to develop a supplemental course survey to be given to the whole class. The lead instructor wanted to know if the perspectives revealed during the focus group were also shared by the whole class. Furthermore, the lead instructor wanted to gather in-depth data from the students that the standard end of the year course evaluation (mandated by the university) did not provide to improve course content and teaching techniques. The supplemental course survey comprised of 11 questions was completed by 21 students enrolled in the course including 12 males, 8 females, and one student who did not disclose gender. The survey was comprised of 8 "yes/no" questions, one multiple choice question, and two open-ended questions. The research team analyzed the survey responses using basic descriptive analysis. The data analysis process for the focus group involved a team approach where the researchers developed themes. The coding process focused on students' perceptions of the methods utilized in the course and how much they thought they learned in the course. These codes aligned with the research questions of the study. However, a third theme emerged from the focus group based on the 2016 Presidential campaigns centering on free trade agreements. The research team overlaid the economic concepts and teaching methods during the theming process to provide context to students' discussions.

## Results and Discussion

Results from the open-ended supplemental survey indicate that strengths of the instructor include enthusiasm, knowledge of international trade, approachability, and organization throughout the course. Furthermore, students highlighted their appreciation of real-world examples, and emphasize that the instructor's employment of different teaching methods was effective and contributed to making classes interesting and engaging. The supplemental survey responses indicate that the instructor explained concepts thoroughly, answered questions with examples, and that



**Table 1. Student Responses to Supplemental Survey Questions 1-9**

Survey Questions	Response Rate			
	Yes	No		
1. There are 3 optional textbooks on the syllabus. Did you buy or borrow any of them during the semester?	0%	100%		
2. In AREC 415 we invested significant time understanding each of the market interventions in the partial equilibrium trade model. Would you have preferred a deep dive in thoroughly understanding one example, and then having you all (students) learn the details of the remaining market interventions on your own time using the step by step instructions that were provided?	19%	81%		
3. The readings are all designed/selected to reinforce concepts learned in class or to provide necessary background information. Did the reading enhance your understanding of the concepts?	90%	10%		
5. Did the exchange rate activity facilitate your learning?	65%	35%		
6. Do you think free trade is a good thing?	100%	0%		
7. Trade was a hot topic in the news this semester. Did you have conversations with family or friends about trade?	48%	52%		
8. Did taking AREC 415 International Agricultural Trade strengthen your undergraduate degree in Agribusiness?	95%	5%		
9. Do you think you will have greater career opportunities by having taken AREC 415 International Agricultural Trade?	62%	38%		
	Response Rate for Answer Options			
	0-25%	25-50%	50-75%	75-100%
4. What percentage of the readings did you thoroughly complete outside of class?	5%	14%	19%	62%

homework assignments facilitated student learning and helped prepare for exams. Written comments also highlighted that the instructor created a good environment for learning. Responses to the 8 “yes/no” and one multiple choice questions are included in Table 1. Assessment of results from the supplemental course survey and focus group, beyond specific comments regarding instructor strengths, is divided into three themed sections: students’ reflections on the methods of the course, students’ growth in knowledge during the course, and students’ reflections on the topic during the 2016 United States Presidential campaign.

### Students Reflect on the Methods of the Course

The students of the survey and focus group were very favorable of the use of repetition for deep learning method of instruction in this upper division class in the agricultural business undergraduate program. The process for instruction followed the subsequent steps: readings, quiz over readings, lecture and active note-taking, discussion, homework, discussion. The instructor interjected a few guest lectures, short videos, infographics, and experiential learning activities to emphasize content, including country-specific case studies and an in-class experiment, to fully illustrate course concepts in an engaging and interactive manner. Experiments and active learning experiences are recognized as effective teaching tools and are becoming more common in agricultural business courses (Barnett and Kriesel, 2003; Coffey and Britton, 2017; Koontz et al., 1995).

Questions 1-9 of the supplemental survey address various aspects of student perceptions of teaching methods and compliance with required out of class activities (Table 1). When assessing student perceptions of one specific experiential learning activity to facilitate understanding of how exchange rates are determined, 65% of students indicated that the activity was beneficial for their comprehension of the concept. The survey revealed that 90% of students found that assigned readings enhanced their understanding of course concepts, with 62% of students having read 75-100% of the assigned materials and 81% of students completing at least 50% of assigned readings selected by the instructor. There is not a required textbook for the course. Optional textbooks are suggested; however, survey responses indicate that no students secured any of the optional textbooks to facilitate learning throughout the semester. When asked about whether or not students engaged in conversations about international trade with friends or family, 47% indicated doing so. Overall, 95% of student respondents believe that their agribusiness degree is strengthened and 62% of students feel that they will have greater career opportunities after having completed the international agricultural trade course.

One student said about the content, “*very well organized. I always looked forward to going to class and it was always very beneficial. The readings and homework for the class always helped me to understand the material better and prepare for the exams.*” The lectures were also recorded and posted which provided access for online students to the same content, but also allowed for students in the face to face section to review the lectures for clarification. Many students commented that this was useful in reinforcing complex objectives. “[*The instructor*] made sure we understand the material. With in-class practice as well as the related homework.” Another student related that the instructor of the course was also able to provide relevant background information by, “*relating class discussions to real world examples. Got the class involved in discussions by having us read articles. Created a good environment for learning.*”

The instructor used repetition to facilitate deep learning of challenging content, specifically during module four of course content. This repetition was employed to teach different market distortions and economic shocks in the PET model framework. This repetition was favorable from the students’ perspectives: “*I think it was easier that we earned each of the models in class. I think the repetition itself helped everyone to better understand the model.*” Another student commented: “*In order for me to learn, I needed to be walked through and shown what to do and how to do it by a teacher showing me and explaining to me. The teacher must have the depth of knowledge to explain*

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*this subject due to the complexity... The way it was taught was great and effective.*" Finally, another student commented specifically on the modeling of market interventions in class by stating that certain market interventions are more difficult to learn than others, and specifically that learning the effects of tariff rate quotas was particularly challenging and required in depth class coverage relative to the other trade distortions covered in class. Students additionally commented on needing to see the modeling outside of class and took advantage of the lectures which were video captured and posted online. While some students wanted this to be interfaced easier (broken into smaller segments), many indicated that having the ability to review the concepts covered in class was beneficial.

## Students' Growth in Knowledge during the Course

Students understood the importance, and global implications, of trade. Furthermore, students had a conceptual and conversational understanding of trade, overall. Students understood the importance of trade – evidenced by the following comments from the supplemental survey: *"free trade allows for the most benefits overall. Free trade allows for comparative advantage, which allows for more overall production and consumption. Any trade boundaries always come at the cost of someone. Whether it is consumers or producers."* This illustrates the students' ability to recognize and articulate key economic concepts related to international trade including how markets interact to provide overall gains with free trade, that gains from trade arise from increased global production and consumption resulting from specialization driven by comparative advantage, and that market interventions (i.e. trade policies) are costly, with costs being distributed differently for producers and consumers in each country in the market. Confirmatory statements were provided by other students as well: *"Lower prices are better for the consumer, and when producers are subjected to competition, we get better products"; "As a whole for everyone, free trade is better but some individuals will always be hurt, you cannot have a market where everyone is happy, there are winners and losers in every situation"; and, "It is very clear that free trade benefits the whole world, overall. Not everyone reaps the benefits, but more people do than if free trade did not exist."* During the focus group, students were able to articulate not only the importance, but the complexities involved in international trade, as evidenced by the following student comment, *"I think it's a very complicated issue, but I think it is good on the whole. But I understand why it's really political and why we need the World Trade Organization to try to bring all the ideas and try to find that best possible situation."* Following the class, students were able to appreciate the importance of trade and impact on the overall economy. Overall, discussion during the focus group and supplemental survey responses indicate that students, in general, were able to discuss course content

and apply problem-solving skills to real world applications, as described in the course objectives.

Students valued their experience in this class and were able to connect the importance of this course to commodity prices for agricultural products and to working in international companies. One student noted that, *"It's always good to have some knowledge about how International trade works. Like for example, I live and work on a farm so understanding how International trade works will strengthen my understanding of what effects could happen if certain deals get put in place and what effect that would have on commodity and food prices."* However, some students were not able to relate the course content to the every-day happenings in their lives; rather this was content that was at a "country" or "international business" level, rather than at a personal influence level for some students. When asked if they would use this course content in the future, students expressed their feelings in the following manner: *"In some ways I believe it'll help me but I don't have a desire to do international business"; "it'll be beneficial in understanding supply and demand trends especially between major exporters and importers"; and finally, "This is the kind of work I would like to pursue. I love to travel and I studied abroad so this course made me want to seek work even more in this type of career."* While some students were able to express the importance of global agriculture, other students expressed a disconnection on the topic for their future.

Students revealed that the course contributed positively towards their undergraduate experience and provided value for their agricultural business degree. However, some students did not indicate significant connections to the importance of the course for their future careers beyond the value of the degree. A student reported, *"I plan on returning home and working for the family farm after school. However, if for some reason that doesn't work out I could possibly pursue a job dealing with ag[ricultural] trade which now I have more knowledge about."* Other students also indicated that the course content may impact the family farm; while others described that trade may only personally impact them if they work for an agricultural trade company or organization. Two students related: *"I can use my knowledge to help me with internationally run businesses"; and similarly, "What I want to do in life is very specific and international agriculture trade does not apply, but it is useful knowledge to have."* While the course content seemed to have mixed self-identified personal importance for students, the context of the Presidential campaign occurring during the course provided another way to connect the importance of trade for some students.

## Students' Reflections on the Course Topics during the 2016 Presidential Campaign

Students felt more confident to converse on the subject of trade, especially during a challenging political environment. First, some students talked about how

their new knowledge of international agricultural trade helped them make sense of news reports. *"I now can understand what is actually going on with trade and make my own inferences about trade and policies instead of hearing what the media has to say about it."* Similarly, another student felt like their understanding of media stories was enhanced by the content of the class and noted hearing a story on National Public Radio (NPR) about child labor in Bangladesh and outsourcing, and articulated a subsequent conversation that occurred between the student and a friend regarding the complexities associated with international trade. While not every student presented such detailed examples of discussions related to international trade, the design of this course allowed some students to develop complex arguments around the issues.

Finally, the topic of international trade was a key position in the 2016 Presidential campaign. Some students brought questions forward about the stances on international trade of particular candidates during class discussion and were encouraged to discuss the complexities regarding the benefits and costs associated with international trade, respectfully, both in and out of class. These conversations were not lost on the focus group participants as one student said, *"I had many conversations about the TPP and Donald Trump. [...] This course has helped me to understand much better and deeper what is going on and what rule creates what reactions. This allows me to be a contributor to the conversation in an educated manner, not to say that I am an expert, but at least I can catch the main ideas and share a bit too."* The issues from the 2016 political campaign surrounding international trade created a unique context for teaching the course during the Presidential election. The class provided an important platform to discuss a controversial topic in a non-threatening, bipartisan environment.

### Discussion

The instructor should continue to teach this international trade course in the same manner presented. Readings, lecture, modeling, homework, and discussion were offered as the primary instructional methods in this class. Many of the students reported that the depth of the content was appropriate, explained well, easy to understand and was appreciated by students. The consistency of how the course was run was also appreciated. This course and the content delivery method can serve as a model for all upper division courses in this undergraduate agricultural business program. However, it is noted that findings are specific to this particular course offering that included a relatively small class size, and subsequently, a small sample of students, which warrants caution when forming broader conclusions (Wentworth and Lewis, 1973; Nelson and Wilson, 2008).

While students articulated positive feelings and perceptions of their learning experiences in the course, they provided noteworthy recommendations. The focus group revealed that students desired a more "hands-on"

approach to the homework and not repetition of the class information on out of class assignments. While repetition has proved to facilitate deep learning, students should be challenged more to connect the course content to the "real world" happenings in their homework rather than primarily gleaning information from the readings. For example, students noted appreciation for the guest speakers who were brought into class to discuss current events in the agricultural industry as they related to course concepts. Homework could be modified to include more problem-solving exercises to tie concepts to current events that were discussed in class. The data also highlighted that not all students were always able to make the connection between the course content their everyday experiences. To strengthen students' understanding of how trade is important, it would be helpful to include additional in-class discussions, activities and homework assignments that allow students to reflect on how trade impacts their daily lives.

The instructor should seek additional ways to further connect the course content to other agricultural business courses for more students to feel as though this course was more germane to their overall degree plan and career objectives. Students should also be able to articulate the content related to all situations that the students may encounter in the future, not just in a politicized presidential election or in focused conversations with others. This can be done through reinforcement of pre-requisite concepts, or having students connect personal experiences to the principles of international trade during class discussion and throughout homework assignments to further solidify knowledge and understanding of course concepts.

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