Course: Agricultural Economics 45000 -- International Agricultural Trade
Fall, 2016

Instructor: Philip Abbott
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E-mail: abbottpc@purdue.edu
Office Hours: MWF 1:30-4:00pm

Secretary: Linda Klotz
Room 565, Krannert Building
Phone: 494-4301
E-mail: lrklotz@purdue.edu

Class Meeting: Krannert (KRAN) G16 MWF 10:30-11:20am

Course Context and Objectives:

There is increasing awareness of the importance of international markets to the performance of the U.S. agricultural sector, reflecting the interdependence of economies in both developed and developing nations. Those markets are changing in a number of dimensions, as well. Agricultural trade is increasingly in processed food and higher value products rather than bulk commodities. Industrialization of agriculture is affecting the specifications of products grown on the farm, and so the determinants of competitiveness of a country’s agriculture. Developing countries, and especially the newly industrializing countries of Asia, are emerging as the more important destinations for U.S. agricultural exports. Recent high agricultural commodity prices have brought a new perspective on international agricultural trade, reflecting potential shortages rather than surplus, and reemphasizing trade in grains and oilseeds. Surpluses and low prices may have returned, however.

Trade agreements such as GATT (now the World Trade Organization -- WTO) and NAFTA have in the past set rules for trade, and influenced US farm legislation debates. Environmental issues, food safety regulations, and labor practices are also impacting this new trading environment, and were among the concerns which have led to the failures of the Doha Round of WTO negotiations to meet key deadlines. The future of agricultural negotiations in the WTO, as well as on numerous bilateral trade agreements such as the U.S.-EU Transatlantic Trade and Investment Partnership (TTIP) or the Trans-Pacific Partnership (TPP), is quite uncertain. Events related to these negotiations may significantly impact the writing of any new farm legislation, as the latest bill emphasizing safety nets (crop insurance) is in conflict with our offers in WTO negotiations. As we will see in this course, domestic legislation is as important as trade policy in determining agricultural market and trade outcomes.

The objectives of this course are:

1) to expose students to the importance and nature of changing international agricultural markets,
2) to explore issues related to determination of agricultural trade patterns and so the fortunes of U.S. farmers in the future,
3) to understand the importance of both trade and domestic policies in determining market outcomes,
4) to demonstrate the usefulness of economic analysis as a tool for understanding these issues.

Toward these goals, this course will present trade theory and its application to real world problems in agricultural trade.

This course is designed as an elective to serve the needs of students in both the School of Agriculture and in other parts of the University. It meets the international understanding and social science elective requirements of the School of Agriculture core curriculum. Pre-requisites include Microeconomics
Readings:


Any format (print, electronic, library) is acceptable, based on your preferences – the goal is that you read the text material.

The textbook will be supplemented by numerous additional readings from books, journals and the press. As many readings as possible will be available in pdf format via the class website. Only ** (starred) readings are “required”. Other supplementary readings are for those who want to go further into a topic. Topics to be addressed in class and assigned readings will follow the Course Outline, available with links to readings, lecture notes, homework assignments and supporting spreadsheets on the class website.

Class Website:
The course website home page is accessed by logging onto Blackboard Learn at:

[https://mycourses.purdue.edu/](https://mycourses.purdue.edu/)

A link to AGEC 45000 should appear on your “My Blackboard” if you are registered for this course. Class lecture notes (Power point presentations) will be posted on Blackboard, as well as other resources, including homework assignments, answer keys, old examinations and internet links that are useful to your work in this course. For security and privacy reasons, access to your grades will require that you use Blackboard.

Examinations and Grading:
Grades for this course will be determined from performance on:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Midterm examination</td>
<td>25%</td>
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<tr>
<td>Final examination</td>
<td>30%</td>
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<tr>
<td>Homework assignments</td>
<td>40%</td>
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<tr>
<td>Class participation</td>
<td>5%</td>
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The midterm examination will be given on Wednesday, **October 5, 2016** at the regularly scheduled class time. Exams from past years are available on the class website to indicate what to expect on both the midterm and final examinations. Exams will be difficult in order to explore what you have learned, but grades will be curved based on overall class performance and instructor expectations.

The final examination will be scheduled during the **week of December 11-17, 2016**. It will be 2 hours in duration and will cover material from the entire course -- it is a comprehensive examination.

Homework and Attendance:
A variety of different homework assignments will be assigned on roughly a bi-weekly basis and will be coordinated with material covered in course lectures. Due dates will be announced as assignments are given and will be indicated on the course schedule. These assignments will include short papers, projections and policy impact calculations using simple economic frameworks. Emphasis is on both implementing analytical methods learned in class and writing to demonstrate an understanding of the implications of the results.

Late assignments will be accepted subject to a 10% per day penalty, unless prior arrangements have been made with the instructor. Make-up exams will be given only under exceptional circumstances, and require prior approval of the instructor. Unexcused missing assignments will receive a zero – which has a devastating effect.
on your overall grade.

**Class attendance** is expected and necessary for success in this course. Poor attendance will likely lead to lower grades. Given this year's class size, regularly taking attendance on a daily basis is not practical, however. There will be assigned seating and I will establish a seating chart to help in learning your names, and I will be paying attention to who regularly comes to class. A class participation grade will be based in part on the instructor's subjective evaluation of your contribution to class discussions. Students will start with an 85% participation grade. Very poor attendance and late assignments will lower that grade, while contributions in class will raise that grade.

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Students will be informed via the class website or through the instructor.

I will post course information on the class web page and will send emails to your @purdue.edu account. You are expected to read your @purdue.edu email on a frequent basis.

While students are encouraged to help each other understand course material, homework assignments and exams must be your own individual effort. Plagiarism, cheating on exams and other forms of **academic dishonesty** will not be tolerated. University regulations and policy on academic dishonesty, which will be followed in this course, may be found at:

https://www.purdue.edu/odos/academic-integrity/

**Course Schedule and Topics -- Outline:**

Topics to be covered, readings, lecture notes, homework assignments and supporting spreadsheets are indicated on, and may be linked from, the course outline which is found on the course website homepage on Blackboard Learn. https://mycourses.purdue.edu/
AGEC 45000 -- COURSE OUTLINE

Course: Agricultural Economics 45000 -- International Agricultural Trade
Course Outline for Fall, 2016
Instructor: Philip Abbott

<table>
<thead>
<tr>
<th>Class Schedule</th>
<th>Tentative</th>
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<tr>
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<td>8/22-24</td>
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<td>8/26-9/2</td>
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<td>Sept. 5 is</td>
<td>Labor day</td>
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<td>(no class)</td>
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Class Logistics and Policies

Why Study International Economics?

- Do borders matter?
- Agriculture and trade in the Great Recession
- Euro crisis: Greece, PIIGS and Brexit
- Currency wars, QE and agriculture

Reading:

**Trade Policy and U.S. Agriculture: An Overview**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
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<tbody>
<tr>
<td>9/7-9</td>
<td>• Trade matters to U.S. agriculture</td>
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<tr>
<td></td>
<td>1. Market history and current events</td>
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<td>3. High value (meat) and by-product trade</td>
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<tr>
<td>9/12</td>
<td>• Stylized facts about international agricultural markets</td>
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<td>1. Low Elasticities</td>
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<td>2. Dietary transition</td>
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<td>3. Engle’s Law</td>
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<td>4. Surpluses or Shortages and Malnutrition?</td>
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<td>5. Self-sufficiency</td>
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<td>6. Structural Transformation</td>
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<td>7. Cochrane’s Treadmill</td>
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<td>9/14-16</td>
<td>• WTO and Trade/Ag Policy</td>
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<td>1. History and context</td>
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<td>1. GATT</td>
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<td>2. URRA (Uruguay Round Agreement on Agriculture)</td>
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<td>3. Doha Development Agenda</td>
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<td>2. Current events – Is Doha dead?</td>
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<td>1. Bali and Nairobi</td>
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<td>3. Bilateral Agreements</td>
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<td>1. TPP and TTIP</td>
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<td>9/19</td>
<td>2. Fast track authority (TPA)</td>
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<td></td>
<td>• Domestic policy and trade policy</td>
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<td>1. Policy Biases</td>
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<td>2. Farm Legislation and trade</td>
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<tr>
<td></td>
<td>3. WTO and Domestic Ag Policy</td>
</tr>
</tbody>
</table>

**Readings:**

- **Trostle, Ronald,** “Global Agricultural Supply and Demand: Factors Contributing to the Recent


- **Stephen Castle and Mark Landler, “After 7 Years, Talks Collapse on World Trade,” New York Times, July 30, 2008.**


- **FAS, USDA, U.S. Agriculture Benefits from Trade Agreements, USDA, Washington, DC, April 2015.**


- **ICTSD/Bridges, US Presidential Debate on Trade Heats Up Ahead of Party Conventions, Bridges Weekly 20(24), June 2016.**


- **Zulauf, C., and D. Orden. “2014 Farm Bill and 2015 WTO Doha Round Negotiations.” farmdoc daily (5):147, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 13, 2015**

**Review:** Lecture 1a – Context, History and Current Events
Lecture 1b – Economics and stylized facts
Lecture 1c – Policy and the WTO

**Web Resources:**
- WTO [www.wto.org]
- ICTSD (Bridges on WTO) [http://www.ictsd.org/bridges-news/bridges/overview]
- FAS, USDA – Trade negotiations (TPA, TPP, TTIP) [http://www.fas.usda.gov/topics/trade-
HW2
Due 9/16

Assignments:
- Homework #2 – Cochrane’s treadmill in an open economy due 9/16
- HW16 2.xlsx – Answer key

Projections of Asian Food Demand

9/23
- Asia and Malthusian crises
  1. 1973-74 Food crisis (and Oil Crisis)
  2. 1995-97 2nd Food crisis and Asian Financial crisis
  3. Lester Brown’s Predictions
  4. China and India in the 2007-08 crisis
- Forecasting Methods

9/26
- Income Elasticities and the Demographic Transition

9/28
- Chinese and Indian Agricultural Trade Projections

9/30
- Feeding 9 billion people in 2050

Readings:

Review:
- Lecture 2a -- Asian demand
- Lecture 2b – Forecasting methods
- Lecture 2c -- Projections
- Lecture 2d – Feeding 9 billion

Web Resources:
- IFPRI – China and India http://www.ifpri.org/publication/dragon-and-elephant

Assignments:
- Homework #3 – Forecasting Methods due 9/28
- HW3 examples.xlsx
- HW3 answers.xlsx
<table>
<thead>
<tr>
<th>HW 3 Due 9/28</th>
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<tbody>
<tr>
<td>HW 4 Due 10/3</td>
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<tr>
<td>10/5 Mid Term Exam Review</td>
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<tr>
<td>Mid Term Examination – Wednesday, October 5 in class</td>
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<tr>
<td>Answer key</td>
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<tr>
<td>10/8-11 October Break</td>
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</tbody>
</table>

### Supply and Demand in an Open Economy

- Closed versus open economy equilibrium
- Supply -Utilization tables
- Large versus small countries
  - 2 panel and 3 panel diagrams
  - Market power in trade
- Asian demand and exports with high commodity prices
  - Chinese market power in trade
  - Biofuels demand and exports
  - Drought, RFS mandates and trade

**Readings:**

- **Pugel (TEXTBOOK), Chapter 2, pp. 15-32.**
- **Irwin, Scott and Darrell Good**, “Brazilian Ethanol Imports - Implications for U.S. Ethanol and Corn Demand” *Farmdoc*, University of Illinois, May 2, 2013. [http://farmdocdaily.illinois.edu/2013/05/brazilian-ethanol-implications.html](http://farmdocdaily.illinois.edu/2013/05/brazilian-ethanol-implications.html)

**Review:**
- Lecture 3a -- Open Economy
- Lecture 3b -- High Commodity prices
- Open.xls

**Web Resource:**

**Assignment:**
## Homework # 5 – Biofuels and corn trade - due 10/21
- China Two panel.xlsx
- Example of Answers to Homework 5
- Export Two panel.xlsx
- Answer to Homework 5
- Biofuels Two panel16.xlsx

### Comparative Advantage

<table>
<thead>
<tr>
<th>10/21-24</th>
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<tbody>
<tr>
<td>• Welfare in general equilibrium</td>
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<td>1. PPFs</td>
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<td>2. Indifference maps</td>
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<td>3. Trade line – open versus closed economies</td>
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<tr>
<td>1. Trade Balance and Income = Expenditure</td>
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<td>2. Gains from trade in general equilibrium</td>
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<tr>
<td>• Why trade? What? and with Whom?</td>
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<tr>
<td>1. Absolute Advantage</td>
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<td>2. Riccardian Comparative Advantage</td>
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<td>3. Heckscher-Ohlin and factor endowments</td>
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</tbody>
</table>

### Challenges to Comparative Advantage

<table>
<thead>
<tr>
<th>10/26-28</th>
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<tbody>
<tr>
<td>• Leontief paradox and empirical tests</td>
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<tr>
<td>• Ricardo-Viner – Many goods, many factors</td>
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<tr>
<td>1. Rescuing Heckscher-Ohlin? Technology differences</td>
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<tr>
<td>• New Trade Theory</td>
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<tr>
<td>1. Product differentiation, scale economies, imperfect competition</td>
<td></td>
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<tr>
<td>• Competitiveness and Globalization</td>
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<tr>
<td>1. Business strategy and location</td>
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### Readings:
- **Pugel (TEXTBOOK), Chapters 3, 4, 5 and 6, pp. 33-119.

### Review:
- Lecture 4a -- Comparative Advantage: Tools and Riccardo
- Lecture 4b -- Heckscher Ohlin, New Theory and Globalization
- Lecture 4c -- Technical Appendix

### Web Resource:

### Assignment:
- Homework # 6 Comparative Advantage – due 10/31
  - Answers to HW # 6

### Exchange Rates

<table>
<thead>
<tr>
<th>10/31-11/2</th>
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<tbody>
<tr>
<td>• Exchange rates</td>
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<tr>
<td>o Nominal and real exchange rates</td>
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<td>o Exchange rates and price linkages</td>
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<tr>
<td>o Purchasing Power Parity</td>
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<td>o Exchange rate determination – Overshooting</td>
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<tr>
<td>o Exchange rates and agriculture</td>
<td></td>
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</tbody>
</table>
Readings:

- Pugel (TEXTBOOK), Chapters 17 and 19, pp. 399-414, 443-473.
- **John B. Taylor**, “China’s Exchange Rate Regime and its Effects on the U.S. Economy,” Under Secretary of Treasury for International Affairs Testimony before the Subcommittee on Domestic and International Monetary Policy, Trade, and Technology House Committee on Financial Services October 1, 2003

Review: Lecture 5a – Exchange rates and policy
Lecture 5b – Exchange rates and Ag

Web resources:
- International Monetary Fund [www.imf.org](http://www.imf.org)
- Penn World Table (PPP) [http://pwt.econ.upenn.edu/php_site/pwt_index.php](http://pwt.econ.upenn.edu/php_site/pwt_index.php)

### Welfare in Partial Equilibrium

**11/4-7**
- Welfare in partial equilibrium
  - Producer surplus
  - Consumer surplus
  - Government revenue
  - Net welfare and Gains from trade
  - Welfare in 2 and 3 panel diagrams

**11/9**
- World Bank Projections of Gains from Doha

Reading:
- Pugel (TEXTBOOK), Chapter 2, pp. 15-32.

Review: Lecture 6a – Welfare
Lecture 6b – World Bank and Doha
[Open.xls](http://www.wto.org/english/res_e/publications_e/disc_paper10_e.htm)

Web Resource:
- World Bank, “WTOs Doha Development Agenda” [http://go.worldbank.org/V41UF09PW0](http://go.worldbank.org/V41UF09PW0)

Assignment:
- Homework # 7 – Gains from Trade – due 11/11
- Answers to Homework 7
Open beef16.xls

<table>
<thead>
<tr>
<th>HW 7 Due</th>
<th>11/11</th>
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<tbody>
<tr>
<td>Basics of Trade Policy – Tariffs and Quotas</td>
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<tr>
<td>11/11</td>
<td>• Ad valorem and specific tariffs – Price effects</td>
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<td></td>
<td>o Market effects of tariffs</td>
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<td>o Welfare effects of tariffs</td>
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<tr>
<td>11/14-16</td>
<td>• Quotas</td>
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<td>o Market Effects – tariff equivalents</td>
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<td>o Welfare effects – and quota rents</td>
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<tr>
<td>11/18</td>
<td>• Why trade barriers exist</td>
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<td>• Optimal tariffs</td>
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<td>• Tariff Rate Quotas (TRQs)</td>
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Readings:
• **Pugel (TEXTBOOK), Chapter 8, 9, 10 pp. 143-228.

Review:
• Lecture 7a -- Tariffs
• Lecture 7b – Quotas
• Lecture 7c - Protection
• Lecture 7d – Import models
  • Tariff.xls
  • Quota.xls

Web Resource:
• WTO Tariff data [http://www.wto.org/english/tratop_e/tariffs_e/tariff_data_e.htm](http://www.wto.org/english/tratop_e/tariffs_e/tariff_data_e.htm)

Assignment:
• Homework #8  Tariffs and Quotas – due 11/21
  • Maroc 16.xls
  • Maroc16 ANS.xls
  • Question 2

HW8 Due 11/21

<table>
<thead>
<tr>
<th>11/23-27</th>
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<tr>
<td>Thanksgiving Vacation</td>
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<th>11/28-30</th>
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<tr>
<td>Export policy</td>
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<td>• Export taxes</td>
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<tr>
<td>o Market and welfare impacts</td>
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<tr>
<td>o Optimal export taxes</td>
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<tr>
<td>o Commodity exporters – Cote d’Ivoire and cocoa</td>
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<tr>
<td>• Export subsidies</td>
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<tr>
<td>o Market and welfare impacts</td>
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</tbody>
</table>
12/2

- Optimal subsidies
- Targeting subsidies
- Export restrictions
  - Why export bans and taxes?
  - Argentina and Rice in 2008
- Implicit subsidies
  - WTO Subsidies Code and the Peace Clause
  - Brazil-U.S. Cotton Dispute

Readings:

- **Pugel (TEXTBOOK), Chapter 11, pp. 229-258.

Review: Lecture 8a – Exports
  - Lecture 8b – Export policy in practice
    - Extax.xlsx
    - Exsub.xls
    - ExsubLc.xls

Assignment:
- Homework # 9  Export subsidies – due 12/5
  - USexsub16.xls
  - USexsub16Ans.xls

HW9
Due 12/5

Domestic Policy and Trade

12/5-7

- Trade impacts of domestic policy
  1. Producer and consumer subsidies
  2. Complementing domestic policies
- Externalities
  1. Trade and the Environment
  2. Climate change and tariffs
- Theory of 2nd best
- Agricultural policy and trade

Readings:

- **Pugel (TEXTBOOK), Chapter 13, pp. 283-316
**Review:** Lecture 9 -- Domestic Policy

**Web Resource:**
- ICTSD (Bridges)  [http://www.ictsd.org/themes/climate-and-energy/overview](http://www.ictsd.org/themes/climate-and-energy/overview)

**Assignment:**
Homework # 10 Domestic policy **not assigned**

**12/9**

**Final Exam review session**

**Final Exam** week December 12-17, 2015
Final Exam is ??

**Trade Agreements, Trade Disputes – Applying economic principles**

- WTO revisited
- Free Trade and 2\textsuperscript{nd} best
- Decoupling and domestic policies
- Infant industries and special and differential treatment
- Food aid as an export subsidy
- Trade creation and trade diversion
  - Regional and Bilateral trade agreements
- Stumbling blocs or building blocs – Bilateral versus multilateral negotiations
- Preferential trade arrangements – Capacity constraints or rules of origin?
- Tariff Rate Quotas
- Dispute Settlement –
  - US Cotton and EU Sugar
  - Canada and Brazil on US agricultural policy
- Anti-dumping - Vietnamese shrimp and catfish
- Trade and Development -- WTO Impacts
  - CGE model predictions
  - Trade and growth regressions
  - FDI and Multinationals
  - Services trade, Legal reform and NTBs

**Readings:**
- Pugel (TEXTBOOK), Chapter 12, pp. 259-281
- Additional References in notes (Lecture 10) on specific issues

**Review:** Lecture 10 -- Applying principles
Web Resources:
- WTO – Doha http://www.wto.org/english/tratop_e/dda_e/dda_e.htm
- URAA http://www.wto.org/english/tratop_e/whatis_e/tif_e/agrm3_e.htm

Regulation and NTBs (Non-tariff trade barriers)
- Food safety
  - Disguised protection?
  - EU Beef Hormone Dispute
  - Trading GMOs
- Environmental policy
- Labor
- WTO SPS and TBT Agreements

Readings:
- Pugel (TEXTBOOK), Chapter 9, pp. 165-197.

Review: Lecture 11 – Regulation

Web Resource:

Macroeconomic linkages to agriculture
- Business cycles and stabilization policy
  - Money neutrality and agricultural prices
- Exchange rates and macroeconomics

Readings:

Review: Lecture 12 -- Ag and Macro