

International Agricultural Trade, Market, and Policy

Manoj Sharma

Course Information

Course Number: Credits: 3

Instructor: Manoj Sharma

Email: manoj55@ksu.edu

Office Hours: Open Door Policy

Office Room: TBD

1. Catalog Description

This course introduces students to core concepts and theories of international trade and shows how they are applied to analyze trade policies in both developing and developed countries, with a particular focus on agricultural and food markets. We cover neoclassical arguments about comparative advantage, gains from trade, factor intensities, and income distribution, as well as newer approaches such as the gravity model of trade. The course examines major trade policy instruments—tariffs, tariff-rate quotas, export restrictions, subsidies, and non-tariff measures (including sanitary and phytosanitary standards)—and analyzes their effects on trade flows and welfare. Institutional arrangements governing world trade, especially the World Trade Organization (WTO) and Regional Trade Agreements (RTAs), are discussed in depth. Contemporary issues such as deforestation regulations, climate-related trade measures, food security, and the rise of South–South trade are explored. Concepts apply to trade in general but are systematically illustrated with examples and data from international agricultural trade.

2. Course Learning Objectives

By the end of the course, students should be able to understand:

1. **Gains from Trade and Distribution:** Explain the economic gains from trade and the sources of comparative advantage, and discuss the distributional effects of trade across factors, sectors, and regions.
2. **Protection vs Free Trade:** Understand and critically assess the main arguments in the protection versus free-trade debate, with particular attention to agriculture and food markets.
3. **Trade Policy Instruments:** Identify and describe the major trade policy instruments used by exporting and importing countries—tariffs, tariff-rate quotas, export measures, subsidies, and non-tariff measures (including SPS and TBT measures)—and explain how they influence trade patterns and welfare.
4. **Gravity Model and Empirical Analysis:** Understand the basic structure and intuition of the gravity model of trade and interpret empirical evidence on how economic size, distance, and policy variables (such as RTAs and tariffs) affect agricultural trade flows.
5. **Global Trade Institutions:** Explain the principles and operation of the World Trade Organization (including the Agreement on Agriculture and the dispute settlement mechanism) and Regional Trade

Agreements, and analyze their effects on world trade and on policy space in developing and developed countries.

6. **Exchange Rates and Macroeconomic Linkages:** Describe how foreign exchange markets function and analyze the effects of currency fluctuations and commodity price movements on international agricultural trade.
7. **Contemporary Trade and Environment Issues:** Analyze contemporary trade issues at the intersection of agriculture, environment, and climate policy—such as deforestation regulations, carbon border adjustments, export bans, and food security concerns.
8. **Data, Reports, and Policy Analysis:** Retrieve and organize international trade data from electronic databases, and use these data to write a structured report on a country's trade structure and trade policies, with an emphasis on agricultural products.

3. Course Learning Outcomes

Upon successful completion of the course, students will develop the following knowledge, skills, and competencies:

Knowledge

- Demonstrate a solid understanding of core international trade theories (Ricardian, Heckscher–Ohlin, new trade and firm-based models) and their application to agricultural and food markets.
- Demonstrate familiarity with basic analytical methods used in international trade analysis, including partial-equilibrium tools (surplus analysis) and the gravity model of trade.
- Demonstrate knowledge of institutional frameworks governing trade (WTO, Agreement on Agriculture, RTAs) and of key contemporary issues such as deforestation regulations, climate-related measures, export restrictions, and food security.

Skills

- **Analytical and Problem-Solving Skills:** Identify, formulate, and analyze trade-related problems, apply appropriate theoretical and graphical tools, and interpret empirical evidence (including simple gravity-style relationships between trade, economic size, distance, and policy variables).
- **Data and Empirical Skills:** Retrieve, organize, and summarize relevant trade and policy data from international databases, and use them to describe and interpret a country's agricultural trade patterns.
- **Communication Skills:** Communicate economic reasoning and trade policy analysis clearly and coherently, both orally and in writing, including the preparation of a structured country trade report.
- **Teamwork and Critical Thinking:** Work effectively in teams (where applicable), critically assess news, policy proposals, and research findings in international trade, and relate them to the analytical frameworks developed in the course.
- **Contemporary Awareness:** Demonstrate awareness of current debates and emerging issues in international agricultural trade, including environmental and climate-related policies, and articulate their potential implications for producers, consumers, and policymakers.

4. Course Learning Strategies

The course will be based on classroom lectures. Lecture slides are provided to students in the beginning of the course so they can prepare ahead of time for a particular lecture. Occasionally external speakers will be invited to provide the local context to what they are learning in the lecture. Students are encouraged to engage in discussion by bringing press/news stories related to trade issues to the class and assess them using

the analytical tools learned in the lecture. Writing trade reports in the international trade discipline is very important and students will need to be trained to do so as they are required to submit a paper on a local trade issue. Various reading assignments will be required to familiarize students with WTO related issues.

5. Course Assessment

- **Homework (4):** Will be given to students so they can apply the concepts learned in class and appreciate the relevance of these concepts to real-life issues.
- **Quizzes:** A series of non-announced quizzes will be given, covering materials of the last lecture and concepts worked out in the last homework.
- **Project:** Each student (or group) will prepare a country trade report focusing on agricultural and food products. The report will (i) describe the country's main agricultural exports and imports, (ii) identify key trade partners and relevant RTAs/WTO commitments, (iii) document major trade policy instruments affecting these flows (tariffs, NTMs, subsidies, export measures), and (iv) relate observed trade patterns to basic gravity-style determinants (economic size, distance, and membership in agreements) using simple descriptive statistics and charts. The report must be based on data retrieved from recognized international databases (e.g., UN Comtrade, FAOSTAT, WTO, World Bank).
- **Exams:** Two examinations, one midterm and one comprehensive final will be administered.

6. Marking Scheme

For this course the marking scheme is based on a series of short quizzes, homework, project, midterm and two examinations.

Component	Weight
Quizzes	15%
Homework	10%
Project/Presentations	25%
Midterm Exam	25%
Final Exam	25%
Total	100%

7. Required Course Material

- **E-book:** [Policy and Theory of Trade](#)
- **Lecture notes:** PowerPoint presentations.
- **Supplementary material:** Mostly from general websites such as FAO, World Bank, and other international organizations.

8. Weekly Schedule

Combining traditional trade theory with contemporary topics relevant to modern agricultural markets.

Part I: Foundations of Trade Theory and Evidence

Week 1: Global Agricultural Markets & the Gravity Intuition

- Long-run patterns in global agricultural trade (who exports what to whom?).

- What makes agriculture different? (Perishability, land/water constraints, risk, standards).
- The gravity model of trade (intuitive version):
 - Trade $\propto$ size (GDP, production) and $1/\text{distance}$.
 - Why distance, borders, and “home bias” matter especially for food and agriculture.

Suggested readings (short, conceptual):

- Martin (2018), A Research Agenda for International Agricultural Trade ([Martin 2018](#)) – big picture and why gravity matters.
- Beghin & Schweizer (2020), Agricultural Trade Costs (sections on distance, transport, tariffs) ([Beghin and Schweizer 2020](#)).

Week 2: Ricardian Trade and Comparative Advantage in Agriculture

- Ricardian model: opportunity cost, comparative advantage, gains from trade.
- Sources of comparative advantage in agriculture: climate, land quality, technology, know-how.
- How productivity differences in crops (e.g. coffee vs wheat, rice vs soybeans) shape trade patterns.
- Relation to observed patterns in global crop trade (major exporters/importers).

Suggested readings:

- Karp & Perloff (2002), A Synthesis of Agricultural Trade Economics (sections on comparative advantage and agriculture) ([Karp and Perloff 2002](#)).
- Reimer & Li (2010), Trade Costs and the Gains from Trade in Crop Agriculture (intro + conceptual sections) ([Reimer and Li 2010](#)).

Week 3: Heckscher–Ohlin, Factor Endowments, and Distribution

- Heckscher–Ohlin model: trade driven by relative endowments of land, labour, capital.
- Land-abundant vs land-scarce countries in agricultural trade.
- Stolper–Samuelson and specific-factors intuition for agriculture:
 - Who gains/loses when a country opens to agricultural trade?
- Empirical patterns: high-income, land-scarce food importers vs land-abundant exporters.

Suggested readings:

- Karp & Perloff (2002) ([Karp and Perloff 2002](#)) – sections on factor endowments and income distribution in agricultural trade.

Week 4: New Trade Theory, Firms, and the Structural Gravity Model

- Increasing returns and imperfect competition in agri-food (brands, quality, variety).
- Heterogeneous-firm trade (Melitz intuition) and global value chains in food.
- **From theory to empirics: structural gravity as the modern workhorse:**
 - Core gravity equation and idea of multilateral resistance.
 - Policy variables (tariffs, RTAs) as trade-cost shifters.
 - Simple interpretation exercise with an agricultural gravity table/figure (e.g. trade vs distance, RTA dummy).

Suggested readings:

- Yotov et al. (2016), Advanced Guide to Trade Policy Analysis: The Structural Gravity Model – non-technical intro sections ([Yotov et al. 2016](#)).

- Balogh & Borges Aguiar (2022), Determinants of Latin American and Caribbean Agricultural Trade: A Gravity Approach (focus on results and interpretation) ([Balogh and Aguiar 2022](#)).

Part II: Trade Policy Instruments

Week 5: Tariffs, Tariff-Rate Quotas (TRQs), and Partial Equilibrium

- Partial-equilibrium analysis of an import tariff: price, quantities, welfare (CS/PS/government revenue).
- Tariffs vs TRQs in agriculture; within-quota vs out-of-quota protection.
- How tariffs/TRQs appear as ad-valorem trade-cost wedges in gravity and CGE models.
- Empirical evidence on the level and evolution of agricultural tariffs.

Suggested readings:

- Beghin & Schweizer (2020) ([Beghin and Schweizer 2020](#)) – sections on tariffs, TRQs, and ad-valorem equivalents.
- Keeney & Hertel (2005), GTAP-AGR (overview of how agricultural tariffs and TRQs are modeled) ([Keeney and Hertel 2005](#)).

Week 6: Non-Tariff Measures (NTMs): SPS and TBT in Agri-Food Trade

- Sanitary and phytosanitary (SPS) measures: food safety, animal/plant health.
- Technical barriers to trade (TBT): standards, labels, quality requirements.
- When NTMs are trade-reducing vs trade-facilitating.
- NTMs as policy variables in gravity and CGE (SPS indices, AVEs).

Suggested readings:

- Beghin & Schweizer (2020) ([Beghin and Schweizer 2020](#)) – sections on SPS/NTM measurement in agriculture.
- Santeramo et al. (2018), On the Evolution of Trade and Sanitary and Phytosanitary Standards: The Role of Trade Agreements (focus on SPS and RTAs) ([Santeramo, Guerrieri and Lamonaca 2018](#)).

Week 7: Export Subsidies, Domestic Support, and WTO “Boxes”

- Export subsidies, export credits, export taxes and restrictions.
- **Domestic support in agriculture:**
 - Price support, input subsidies, coupled vs decoupled payments.
- **WTO AoA classification:** green, blue, amber boxes.
- Trade-distorting vs minimally trade-distorting support, and how they affect production and trade.
- Representation of domestic support in models (PSEs, ad-valorem wedges).

Suggested readings:

- Díaz-Bonilla et al. (2002), On Boxes, Contents, and Users: Food Security and the WTO Negotiations ([Díaz-Bonilla, Thomas and Robinson 2002](#)).
- Urban et al. (2014), Extending the GTAP Data Base and Model to Cover Domestic Support (intro + conceptual parts) ([Urban, Jensen and Brockmeier 2014](#)).

Week 8: Midterm Exam

Part III: Institutions and Agreements

Week 9: The WTO, Agreement on Agriculture (AoA), and Dispute Settlement

- **WTO basics:** principles (MFN, national treatment), structure, and main agreements.
- **Agreement on Agriculture (AoA):**
 - Pillars: market access, domestic support, export competition.
 - Commitments on tariffs/TRQs, AMS, and export subsidies.
- Role of the Dispute Settlement Mechanism in agricultural trade.
- Developing-country concerns and coalitions (G-20, G-33).

Suggested readings:

- Díaz-Bonilla et al. (2002) ([Díaz-Bonilla et al. 2002](#)) – AoA and food security.
- Gonzalez (2007), Institutionalizing Inequality: The WTO AoA, Food Security, and Developing Countries (selected sections) ([Gonzalez 2007](#)).

Week 10: Regional Trade Agreements (RTAs), Agriculture, and Gravity

- **Types of RTAs:** free-trade areas, customs unions, deep integration agreements.
- Trade creation vs trade diversion in agriculture.
- How RTAs handle agriculture: tariff phase-outs, TRQs, SPS chapters, rules of origin.
- RTAs as dummy variables in gravity; interpreting estimated RTA effects on agricultural trade.

Suggested readings:

- Balogh & Borges Aguiar (2022) ([Balogh and Aguiar 2022](#)) – RTAs (MERCOSUR, NAFTA) in LAC agricultural exports.
- Chang et al. (2025), Spillover Effects of the China–ASEAN FTA on Agricultural Trade: A Structural Gravity Approach (focus on methods and main results) ([Chang, Zhu and Chen 2025](#)).

Part IV: Contemporary Issues in Agricultural Trade

Week 11: Trade, Environment, and “Green” Trade Measures

- Linkages between agricultural trade, land use, and deforestation.
- **The EU Deforestation Regulation (EUDR):** scope, affected commodities, and potential trade impacts.
- Carbon border adjustment mechanisms (CBAMs) and possible extension to agriculture.
- “Green protectionism” vs environmental effectiveness.

Suggested readings:

- EU/European Parliament briefing on the EUDR (2023).
- Beghin & Schweizer (2020) ([Beghin and Schweizer 2020](#)) – brief look at emerging “green” trade costs in agriculture.

Week 12: Global Value Chains (GVCs) and Governance in Agri-Food

- Vertical coordination in agriculture: contracts, standards, certification.
- Governance of agri-food GVCs (lead firms, supermarkets, traders).

- Upgrading and value capture for producers in developing countries.

Suggested readings:

- Ponte (2002), The “Latte Revolution”? Regulation, Markets and Consumption in the Global Coffee Chain (World Development).
- Selected policy/overview on agri-food value chains (instructor’s choice).

Week 13: Food Security, Shocks, and Trade

- Food security dimensions (availability, access, utilization, stability).
- Trade as a buffer for local shocks vs source of vulnerability.
- Export restrictions, stock policies, and price volatility in staple food markets.
- Lessons from global shocks (food price spikes, pandemics).

Suggested readings:

- Narayanan & Balié (2017), Trade Policy, Farm Income Security and Global Food Security (overview) ([Narayanan and Balié 2017](#)).
- Arita et al. (2021) or Ridley et al. (2022) on COVID-19 and agricultural trade (focus on main findings) ([Arita et al. 2021](#)) ([Ridley, Akhundjanov and Devadoss 2022](#)).

Week 14: Emerging Markets, Exchange Rates, and South–South Trade

- Exchange rates and agricultural competitiveness (pass-through to export prices).
- Commodity prices, terms of trade, and macroeconomic linkages in ag-exporting countries.
- Rise of South–South agricultural trade (e.g. Brazil–China soy, India–Africa food trade).

Suggested readings:

- Sarris & Morrison (2009) or Sarris (2006) on evolving structure of world agricultural trade ([Sarris and Morrison 2009](#)) ([Sarris 2006](#)).
- Arita et al. (2021) or Ridley et al. (2022) on COVID-19 and agricultural trade (focus on main findings) ([Arita et al. 2021](#)) ([Ridley et al. 2022](#)).
- A recent empirical or descriptive piece on Brazil–China agricultural trade (instructor’s choice).

Week 15: Synthesis, Review, and Student Presentations

- **Student presentations linking a country/commodity to:**
 - Trade theory (comparative advantage / factor endowments / new trade),
 - Policy instruments (tariffs, NTMs, subsidies), and
 - Institutions (WTO/AoA, RTAs).
- **Review of key concepts:** theory, gravity, policy instruments, WTO/AoA, RTAs, food security, environment.
- Discussion of future challenges: climate change, new standards, digitalisation of trade.

Final Exam: Comprehensive (per university schedule).

References

Arita, S., J.H. Grant, S.S. Sydow, and J. Beckman. 2021. “[Has global agricultural trade been resilient under covid-19? Findings from an econometric assessment of 2020.](#)” *Working Paper Series - National Bureau of Economic Research*.

- Balogh, J., and G.M.B. Aguiar. 2022. “[Determinants of latin american and the caribbean agricultural trade: A gravity model approach.](#)” *Agricultural Economics (Zemědělská ekonomika)*.
- Beghin, J., and H. Schweizer. 2020. “[Agricultural trade costs.](#)” *Applied Economic Perspectives and Policy*.
- Chang, T., W. Zhu, and Y. Chen. 2025. “[Spillover effects of the china-ASEAN free trade agreement on agricultural trade: A structural gravity model approach.](#)” *Agribusiness*.
- Díaz-Bonilla, E., M. Thomas, and S. Robinson. 2002. “On boxes, contents, and users: Food security and the WTO negotiations.”
- Gonzalez, C. 2007. “Institutionalizing inequality: The WTO agreement on agriculture, food security, and developing countries.”
- Karp, L., and J. Perloff. 2002. “A synthesis of agricultural trade economics.” *Handbook of Agricultural Economics:1945–1998*.
- Keeney, R., and T. Hertel. 2005. “[GTAP-AGR: A framework for assessing the implications of multilateral changes in agricultural policies.](#)” *GTAP Technical Paper Series*.
- Martin, W. 2018. “[A research agenda for international agricultural trade.](#)” *Applied Economic Perspectives and Policy* 40:155–173.
- Narayanan, B., and J. Balié. 2017. “Trade policy, farm income security and global food security: A quantitative assessment.”
- Reimer, J., and M. Li. 2010. “[Trade costs and the gains from trade in crop agriculture.](#)” *International Trade eJournal*.
- Ridley, W., S. Akhundjanov, and S. Devadoss. 2022. “[The COVID-19 pandemic and trade in agricultural products.](#)” *The World Economy*.
- Santeramo, F., V. Guerrieri, and E. Lamonaca. 2018. “[On the evolution of trade and sanitary and phytosanitary standards: The role of trade agreements.](#)” *Agriculture*.
- Sarris, A. 2006. “Agricultural commodity markets and trade.” *Research Papers in Economics*.
- Sarris, A., and J. Morrison. 2009. “The evolving structure of world agricultural trade: Implications for trade policy and trade agreements.”
- Urban, K., H. Jensen, and M. Brockmeier. 2014. “[Extending the GTAP data base and model to cover domestic support issues using the EU as example.](#)” *GTAP Technical Paper Series*.
- Yotov, Y., R. Piermartini, J.-A. Monteiro, and M. Larch. 2016. “[An advanced guide to trade policy analysis: The structural gravity model.](#)”