Quantitative Literacy Cover Sheet – New Assignment Instructions
Article Analysis with respect to the following economic concepts: price elasticity of demand, taxes and tax revenue, burden of taxation, supply/demand analysis, efficiency, equity, normative and positive economics

Quantitative literacy - also known as Numeracy or Quantitative Reasoning – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

Criteria of VALUE rubric	The criterion is addressed in the assignment and the assignment's grading rubric	The criterion is taught as part of course instruction
Interpretation *Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)*	Yes. Graphs provided with explanation linked to analysis of the imposition of a tax; graphical analysis related to the concept of price elasticity of demand, the impact of the tax on prices, tax revenue, sales; mathematical representation of elasticity	Yes. Students expected to explain economic concepts and outcomes using words, graphical analysis, mathematical presentation, and tables
Representation Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, words)	Yes. Graphical and mathematical representation of the impact of the tax on consumption – ability to convert numerical information provided in the article into an equation and graph	Yes. Express data in table form – convert data from table form to a graph; represent information graphically or algebraically; ability to convert data or information into equations, calculations, graphs and tables
Calculation	Yes. Calculation of price elasticity of demand and estimation of relative tax burden (graphical)	Yes. Calculation of costs, benefits, profits, losses, tax burdens, price elasticity of demand, and other computations
Application / Analysis *Ability to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis*	Yes. Analysis required; application of price elasticity of demand to tax rates and tax revenue; link this quantitative analysis to examine the impact of the tax on buyers and sellers – ability to be definitive is limited based upon information provided. Extend analysis to other equity issues beyond tax burdens again recognizing limitations to do so conclusive. The focus on assumptions in the assignment instructions should move students toward the recognition their analysis and conclusions depend upon the assumptions of the author of the article itself or their own assumptions Different assumptions → different implications	Yes. Analysis of changes in taxes, changes in market structure, changes in value and culture and how to draw appropriate conclusions with respect to economic implications of these changes and their representation

Assumptions *Ability to make and evaluate important assumptions in estimation, modeling, and data analysis*	Yes. Explicit in directions to consider assumptions should lead students to explore assumptions they make or the author has made regarding relative elasticity of supply and demand, short run versus long run, assumptions regarding behavior of low income versus higher income groups	Yes. Encouraged to identify assumptions made in someone else's or their own analysis; encouraged to explore the impact of the assumption and the accuracy. Led to adjustment in course outcomes and discussion in department
Communication *Expressing quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)*	Yes. Use estimates of responses in consumption to a change in price – present this quantitative evidence in support of the argument that increase in the tax will increase tax revenue. Use graphical analysis to effectively represent impact of tax on price and tax burdens in addition to tax revenue.	Yes. Uses quantitative evidence and graphical representation to depict impact of changes in market conditions or economic policy on prices, quantities, efficiency, and decision-making behavior of buyers, sellers, and government.

Because these rubric dimensions are addressed as part of the course across course topics, multiple assignments that increase in their level of difficulty and include less scaffolding over the course of the semester could be more carefully and intentionally designed. Often, my assignments are not so intentionally linked except where the material inherently builds upon itself.

Clearly indicating the topics covered in class the article addresses was helpful to students and improved economic analysis

Additional prompts led to better organization (introduction and conclusion) and led to better integration.

Students made explicit attempts to identify and account for assumptions given change in assignment prompt.

More or less scaffolding within assignment – here more scaffolding is appropriate for timing of assignment in the course and the level of the course. Reflection has led me to think about the degree of scaffolding in upper level courses and consideration of assignment design as students progress through the program curriculum