The "Transformation Problem" and the Labor Theory of Value
Michael McCormack with Professor Deepankar Basu
UMass Economics Undergraduate Research Assistantship

Research Question
What is the significance of the transformation of values into prices of production in Marxian economics and the economic sciences more generally?

Description of Project
The literature around the debate spanning from Capital Volume III (1894) to the development of the Temporal Single System Interpretation of the transformation problem (1980s) was surveyed to track the qualitative and quantitative changes that have occurred since Marx's original formulation of the transformation problem in Capital Volume III, chapter 9.

Methods
- The methodology of this assistantship consists of a semi-chronological review of the debate surrounding the transformation problem.
- Qualitative synopses of each critique/adjustment to the transformation problem were combined with quantitative recreations of the economists' mathematical arguments to track the development of the debate beginning with Marx's original calculations.
- A comparative analysis between arguments was also utilized to contextualize the debate's development since 1892.

1894 - original formulation of the transformation problem in Capital Volume III, chapter 9
1896 - Eugene Bohm-Bawerk criticizes Marx's labor theory of value and refutes transformation of values to prices
1907, 1942 - Ladislaus Bortkiewicz makes adjustments to Marx's original algorithm (converting constant and variable capital from values into prices, not just output values). The solution is popularized in the United States by Paul Sweezy's The Theory of Capitalist Development in 1942.
1971 - Michio Morishima mathematically expands the transformation, weakens Labor Theory of Value to have consistent algorithms, maintains exploitation
1977 - Using Piero Sraffa's work, Ian Steedman criticizes the transformation problem as a pseudo-problem, rejects LTV, sparks intense debate among Marxists and non-Marxist economists

Recent Responses within Marxian economics to Steedman's Critique
2. Iterative Solution: Shaikh (1978)
4. Temporal Single System Interpretation: Kliman and Freeman (1980s)

Conclusions/Implications
The transformation problem and the labor theory of value continue to be the most contested aspects of Marxian economics. Based on the research this semester, the debate is of great importance for the theoretical vigor of the Marxian method. What remains to be seen is a comprehensive solution to the problem. With so many contesting opinions stemming from the Sraffian critique of Marx, many interpretations do not provide a resolution to the debate. They do, however, attest to how advanced economic theory can be integrated with Marx's landmark critique of capital, suggesting a new frontier for political economy and heterodox economic theory.

Role of Student
The student prepared summaries of each interpretation of the problem, analyzing the qualitative and quantitative aspects of arguments. A critical analysis of the debate that summarizes the literature in an understandable way was the main task for the student.

Quantitative recreations of the arguments were undertaken by the professor. The work completed in this assistantship will assist the professor in writing a journal article or book that comprehensively analyzes the transformation problem.