

Edward J. Balistreri<sup>1</sup> and Lauren M. Davis<sup>1</sup>: (1) Colorado School of Mines

***Modeling the Colorado Oil and Gas Industry: an Applied General Equilibrium Approach***

Applied General Equilibrium (AGE) techniques now dominate the literature on economic-impact analysis, at the national and international levels of geographic aggregation. These techniques are favored in both academic and policy arenas because, unlike reduced-form econometric models, they generate theoretically consistent simulations and, unlike input-output models, they explicitly model markets---accounting for price changes and the behavioral reactions induced by price changes. Although it is logical to take advantage of modern AGE techniques at all levels of geographic aggregation, few AGE model have been applied to local impact analysis (e.g., at the state or county level). We formulate a regional model of the Colorado economy, using AGE techniques and county-level data. The model puts primary focus on the role of the oil and gas industry in the overall Colorado economy. We document and demonstrate the model as a tool for analyzing external price shocks and policy changes. Our model generates logical and tractable simulation results, while enhancing the academic credibility of local impact analysis.