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**LIVING WITHIN OUR MEANS: THE CASE OF POPULATION GROWTH
AND ECONOMIC DEVELOPMENT UNDER SCARCE WATER RESOURCES**

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ABSTRACT: In many regions of the United States, economic growth objectives are considered independently of resource availability. Nowhere is this more evident than in communities in the arid southwest where the emphasis is on job growth and business development. At the same time, city utilities warn of water scarcity and emphasize cutting back on water usage by promoting conservation through rebate plans or through fine mechanisms. The difficulty with these approaches is that they are mutually exclusive. Economic development often assumes growth is always desirable and open-ended. Conservation programs often assume that conservation and reduced water use is always the desired outcome. These divergent policy approaches create a conundrum since in actuality water, land, and labor are necessary inputs into economic output. This means that well-considered economic growth objectives reflect resource availability. We develop a dynamic theoretical model at the city level that considers labor and water as inputs into production. This allows us to consider the trade-offs between increased economic activity (with increased populations) and decreased water availability. In order to add salience to the problem, we develop a series of dynamic simulations, parameterized for Albuquerque, New Mexico, to consider not only the trade-offs between economic growth and resource scarcity, but also to find what optimal economic growth might look like under increasing resource scarcity. Preliminary results suggest that in many cases of scarcity economic expansion is not desirable or sustainable. In order to ensure a sustainable city, targeted growth that considers all aspects of the problem, including water scarcity, may be necessary.

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