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The role of land in temperate and tropical agriculture

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ABSTRACT

We document that the elasticity of agricultural output with respect to land differs across temperate and tropical regions of the world. We show how to estimate this elasticity using the relationship of rural density and agro-climatic constraints. Using global district-level data we find the elasticity in temperate areas (0.24) is higher than the tropics (0.12), and this is not an artifact of the level of development. A two-sector model shows the larger the land elasticity, the more sensitive living standards are to shocks in population or technology. Evidence from the post-war mortality transition supports this prediction.

JEL Codes: O1, O13, O44, Q10

Keywords: land constraints, land elasticity, agricultural productivity, agro-climatic, temperate, tropical

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