Future Sources of Food and Energy: Implications for the Global Distribution of Income

Topic:
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The history of human societies is replete with instances of the extraction of wealth appropriated by one group from another, such as the transfer of gold and silver to Europe from Spanish colonies in America. However, even voluntary exchanges of goods and services through international trade in post-colonial times involve systematic transfers of wealth that are embedded within the prices paid for different items. To reveal the underlying detail of the transfers requires disaggregating the sums paid for goods into their ultimate constituent parts, distinguishing the payments to individual factors of production and separating each into a “normal” factor payment and a rent. Only the relatively low-cost producers of each good, or monopolistic producers, collect non-zero rents, in principle payable to the owners of scarce embodied factors. A number of countries export petroleum, but the lowest-cost producers earn the highest rents per barrel. License fees paid for the use of “intellectual property” are another example of a rent on a scarce resource. Petroleum rents have flowed in recent decades from developed to developing countries, with technology fees moving in the other direction. In this paper I develop the case that over the next several decades substantial funds, originating in developed countries or powerful developing countries, are likely to be invested in developing countries for the production of food and of non-fossil energy sources, essentially for export. The distribution of associated rents on embodied resources and other factors will be determined in part by resource endowments and climatic conditions and can be expected to differ substantially even among projects that produce the same output, say wheat or electric power. The paper includes some preliminary estimates of rent distributions obtained with an inter-regional input-output model of the global economy, the World Trade Model, under alternative scenario assumptions.