

CHALLENGES AND OPPORTUNITIES FOR THE SUSTAINABLE DEVELOPMENT OF CATTLE RAISING IN BRAZIL

Eustáquio Reis

Economist. Instituto de Pesquisa Econômica Aplicada, Rio de Janeiro.

This paper discusses policy options for a sustainable development of cattle ranching in Brazil. The first lesson to be drawn is that the extensive land use pattern as well as other inefficiencies of cattle raising in Brazil have deep and persistent economic and institutional roots. Land abundance – defined both in terms of relative factor availability and open access to land property – and high transport costs were major historical drivers of the extensive land use patterns of cattle raising in Brazil. These conditions are still pervasive in the Brazilian Amazon and to that extent the expansion of cattle ranching remains, by far, the most important source of deforestation in the region. Accordingly, empirical results show that cheaper land leads to slower intensification of pastures and faster specialization in cattle with no significant effect on the expansion of farming.

The structure of incentives provided by the Brazilian institutional context impairs simple policy proposals to bring inefficient cattle raisers to the technological frontier. The problem becomes more complex once we recognize the social and equity issues derived from the fact that cattle raising has always been and still is as one of the most traditional channels of economic and social mobility in agrarian economies, particularly for poor and small farmers. For those social segments, wealth or capital accumulation is practically synonym to increase in cattle herd. Furthermore, from an individual perspective, extensive cattle ranching is amply justified by the price incentives provided by cheap land and by the mining of unpaid natural resources.

From a policy perspective the crucial issues are: first, to identify the structural factors conditioning the choice of output, technologies, and land intensity made by farmers, with special focus on poor small farmers. Second, to identify the best strategies to foster the increase of land productivity within the cattle raising sector, as well as the shift of inefficient cattle raising to other agricultural activities with less intensive uses of land. Third, how to best impose quantitative regulations and taxes as well as other price based incentives

to make cattle ranchers account for the environmental costs caused by their productive activities

The empirical analysis of the paper provided a few preliminary steps in this direction. Thus, estimation results show first that projected changes in transport costs – to both regional, national and international markets – will bring forth challenges and opportunities for cattle raising and agriculture, in general. Reductions of transport cost to all market levels will tend to increase the rates of growth of Brazilian cattle herd. Decomposing this effect, it is possible to see that it will be associated with a less extensive pattern of cattle ranching, with higher growth of pasture productivity, and reduced growth in cattle specialization.

The second important result is the fundamental role played by education and human capital. More education will create alternatives inside and outside agriculture thus reducing the rates of growth of farm area and cattle specialization while increasing the growth of pasture intensification, all such factors leading to a decreased rate of growth of herd. Thus education is perhaps the best policy option to halt the expansion of extensive cattle ranching. The big question mark is how fast educational policies, particularly in rural environments, can be implemented.

The estimation of the effects of credit policies are also interesting. Credit availability hardly affects the growth of herd size. Though it tends to increase the growth of farm area, this is associated with a significant reduction of the growth of cattle specialization as well as a significant increase of the growth of pasture productivity. Thus, the net result of credit constraints will probably be an increased growth of pasture areas.

Differently, interest rates have a negative impact on the growth of herd size with hardly any effect on pasture productivity. Thus, higher interest rates will tend to decrease of pasture.

When we put both results together, credit crunch situations, combining both quantitative constraints

and interest rates, rise will probably tend to have no effects on herd size and pasture areas close to null.

Poverty alleviation, be it by means of government social policies or market mechanism, is undoubtedly a top policy priority in Brazil. From an environmental perspective, however, it will bring some policy trade-offs which are related to the arguments mentioned before that extensive and inefficient cattle ranching is a traditional channel for the upward mobility of poor people in rural areas. Thus, tough poverty reduction has no significant implication for the growth of farm area and it tends to reduce the growth of cattle specialization, it will significantly increase the growth of herd with negative effects on the productivity of pasture. Thus, pasture area will tend to show a faster increase as poverty goes down.

Urbanization and the growth of population density show contradictory effects. On the one hand, population density has hardly any effect on the growth of cattle herd. It affects negatively the growth of farms and cattle specialization and positively the intensification of pastures. As a consequence it tends to reduce pasture areas. Urbanization, on the other hand, has some effect on the growth of cattle herd but no effects on pasture productivity and, therefore, it will tend to increase pasture areas. Perhaps it should be qualified that urbanization is practically coming to a halt in the Brazilian case and therefore not much can be expected from their effects when compared to those of the growth of population density per se.

A policy issue which deserve a more thorough scrutiny is the size distribution of farms. The estimation result show that they have practically no effects on all the relevant variables. Once gain, further assessment would require a better treatment of regional disaggregation as well as of cross-effects with other relevant explanatory variables.

EXECUTIVE SUMMARY