

# UMR Herbivores

## Sustainable farming systems Team (Comète)

### Generation and distribution of productivity gains in beef cattle farming:

#### Who are the winners and losers between 1980 and 2015?

Surplus accounting is a method for evaluating trends in how a firm's productivity factors (intermediate inputs, capital, land, labour) are performing and how the productivity gains are redistributed between agents in the economy. We applied this method on a database of 164 Charolais-area suckler cattle farms running from 1980 to 2015. Over this 36-year period, the cumulative productivity surplus (PS) increased at a low rate of +0.17%/year. We observe a constant expansion in labour productivity whereas other factor productivities have shrunk. Farmers struggle to protect their revenues, and direct support-policy payments climb sharply. The bulk of the cumulative economic surplus has been captured downstream – 64% downstream of the cattle value chain as a drop in prices, and 22% downstream of other value chains (chiefly cereals). The simple fact that farmers' incomes are stagnating is a clear indication that they are net losers in this distribution of productivity gains.



Factor (labour and/or capital and/or intermediate inputs) productivity has always been seen as the main driver of economic growth and competitiveness. Productivity gains made by agriculture have enabled declining farm production costs and declining farm commodity prices driven by specialized farms, increased use of inputs, and increased capital intensity (equipment and buildings). Nevertheless, since the late 1990s, even though labour productivity on commercial farms continues to climb, French agriculture have been losing competitiveness, as farmers struggle to hold onto their income. Suckler beef production has counted among the sectors of agriculture most heavily subsidized by support-policy aids. Beef cattle farms in France have been continually restructuring, rebuilding, readapting and improving their labour productivity, and yet beef cattle farmers continue to register less income than practically any other sector of the French agriculture economy with no real signs of improvement on the horizon. The drop in variable-factor productivity was demonstrated and analysed for these beef cattle farms. Beyond the measurement of productivity gains, it is important to look at the determinants of the formation of these gains, and their distribution among the various economic agents (farmers, suppliers, downstream sector, landowners, etc.) in order to determine who are the beneficiaries of these overall productivity gains. The generation and distribution of total factor productivity gains are evaluated by the surplus accounting method. The surplus accounts serve to single out how the economic surplus driven by productivity gains is distributed between agents in the economy.

Analysis of how the Charolais beef cattle sector's productive resources have been redistributed over the course of the past 36 years finds that the sector's downstream customers have come out as the main winners via declining prices. Government via CAP payments and other support-policy aids has essentially subsidized these declining prices. There are total factor productivity gains, but they tend to be modest (+0.17%/year), fluctuating between periods but tending to a downward curve, whereas the labour productivity of the livestock farmers shows constant steady growth. The gains in labour productivity made by the farmers mask the steady decline in all other factor productivity (land, intermediate inputs and equipment) leaving the beef cattle production systems increasingly inputs- and capital-dependent. The bulk of the cumulative economic surplus generated by these farms' activities has been captured downstream

– 64% downstream of the cattle value chain as a drop in prices, and 22% downstream of other value chains (chiefly cereals). The simple fact that farmers struggle to protect their income is a clear indication that they have been losers in this distribution of productivity gains.

These macrotrends manifestly mask relatively significant interfarm and year-on-year variabilities that warrant further investigation in future studies. Government subsidies to farming are designed to support a number of objectives (to support farming income, to support price competitive agrifood supply chains, to curb food price inflation, etc.), yet in the case of the beef sector, producers have captured practically none of this support. Livestock is more than just a sector of the economy producing market goods – it also plays a pivotal role in territorial land occupancy and rural development in less-favoured pasture-based zones where few if any viable alternatives exist. To stem the decline in value-added created by livestock farming and improve livestock farmer profits (without redistributing their share down to other agents in the economy), one solution could be to more actively couple farm outputs to territory, via localized bioregional farming practices (fattening livestock locally) and quality labels. The challenge is for livestock farmers to capture a share of the fast-growing services value component of food consumption, for example, through new marketing chains or cooperatives. The variability of individual livestock farmers' trajectories should be explored through econometric studies to analyze size/growth/productivity/income relationships. The quantification and economic evaluation of the services provided by livestock farming remains a major challenge for the sector, particularly for livestock farmers.

#### Valorisation

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Contact: Veysset Patrick, [patrick.veysset@inra.fr](mailto:patrick.veysset@inra.fr), UMR Herbivores, F-63122 Saint-Genès-Champanelle, France.