

### The Nethergill Axioms

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1. Profitability is maximised in farming at the point where the natural assets are either exhausted or are about to be adulterated. In livestock farming, for example, it is the point at which the natural grass runs out. This point is the position of *maximum sustainable output* (MSO). The MSO represents both the physical (natural assets) aspects of farming and the economic (profitability) - it is the same point for both.
2. *Nature* plays the role in a farming business of a silent, neutral, and vital stakeholder alongside the farmer. Well-tended, it provides a continuous economic benefit; badly maintained, it progressively deteriorates in fertility and ultimately becomes sterile.
3. The value of natural capital in a business is that the natural assets so presented (*Nature's Bounty*) produce a benefit which can be measured by the avoidance of costs that would otherwise be incurred in its' absence.
4. As *natural capital*, therefore, behaves in exactly the opposite way (arithmetically) to a capital investment in a business, which creates the obligation to and the burden of a dividend, it demands to be treated as a *negative entity*. Nature's stake is therefore of the form of a negative liability on a balance-sheet and there will be a corresponding negative asset (*Nature's Bounty*) to make the balance.
5. All businesses, farming included, should have a strategy to improve its' *returns on total assets employed* (ROTA). The most effective strategies follow a "path of least regret" from prevailing levels of performance to those levels chosen as necessary targets. Following such a path will involve actions which start with improvements to the balance sheet and end with actions which improve the profit & loss accounts. When accounting conventions accommodate the inclusion of natural capital (as *Nature's Bounty*) the business returns *always* improve.
6. The realities of the MSO phenomenon are that access, in farming, to the benefits of the "economies of scale" (as exploited by mass production in industry) is completely

compromised. Scale has both natural and physical limits in farming; a given acreage will only produce a limited amount of grass; and a 300 hp tractor is uncompetitive when a 60 hp tractor can do all that is required, or a piece of kit is only used 10 days out of 365.

7. Farming is more driven by the “economies of scope”. Bigger farms, in acreage terms, offer better total returns (leaving outputs per acre unchanged). Unfortunately, farming is denied the phenomenon of the “experience-curve effect” that underpins all truly competitive manufacturing. The *experience-curve-effect* is that, in those enterprises that manufacture products with more than 30 components, as cumulative production doubles so unit manufacturing costs reduce (through the application of experience) by between 20 – 25%. Note that this phenomenon has nothing to do with scale; it is a simple case of productivity.
8. Farming productivity will only be improved by exploiting the *economies-of-scope* effect. Farming activities must start to embrace, more-and-more, a move away from the commodity production of food; it needs to “move up the supply chain”, deliver more added-value, promote branded products, and seek to acquire a stake in the abattoir business.
9. Abattoirs, which can easily masquerade as a factory, have exploited the *economies-of-scale* effect in an industrial fashion. This has had a detrimental effect on animal welfare; certainly in the impact of long-distance transportation and, arguably, in other areas too. Localised farmer-owned slaughter facilities provide an obvious way of *breaking-out* for farmers.