Natural Competitive Advantage

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Preface

CAFOs have only been around for a relatively short time. Because of their explosive growth, we tend to forget that CAFOs are still a quasi-experimental approach to animal rearing—an attempt to use an industrial model to gain economies of scale in a manner that violates the basic requirements for generating those economies. To compensate for this weakness, CAFOs are designed to capture subsidies, not economies of scale, and it is important to note that they do not have a record of being able to adapt to fundamental changes in economic conditions. In fact, it is extremely doubtful CAFOs could have survived the last 25 years without heavy government intervention and without a virtual holiday from the enforcement of all government regulations that affected their operations.

Conventional farms, on the other hand, are today's manifestation of hundreds of years of agricultural tradition. They have weathered every type of economic change and they have clung, often in spite of hostile regulation and benign governmental neglect, to a way of life and method of agriculture that has stood the test of time and, in most cases, has minimized the impact on the land. At issue now is whether conventional agriculture, in the face of the structural economic changes we are now experiencing, has the remaining vitality to resume its role as the supplier of our agricultural commodities and whether the processing and distribution network can be rebuilt to accommodate this.

Incentive and the Industrial Operator

Economics is a discipline of incentive. Incentives occur when the attempt to make a profit (or to secure a government subsidy) motivates economic actors to make certain decisions and those decisions, based on the "nature of the enterprise," are absolutely predictable.

When the method of raising of animals was changed by Frank Purdue and our schools of agriculture from conventional farming—high variable cost, low fixed cost—to industrial operations—high fixed cost, low variable cost—it reversed the incentive structure under which the producers of agricultural goods operated.

Conventional agriculture—with its high variable costs and low fixed costs—limited the farmer's investment in buildings and equipment and stressed the variable costs of food and labor for husbandry and animal care. When the market price of animals fell, the conventional farmer had an incentive to reduce costs—and since the conventional farms had relatively little debt from investment in buildings and equipment, reducing cost translated to directly reducing the number of animals because each animal added to the conventional farmer's major costs—the variable costs of food, time, care. Thus, reducing the number of animals was a predictable response to a decrease in animal prices.

However, when faced with the same economic signal—a fall in the price of animals—industrial agriculture, with its high fixed costs and low variable costs—saw the problem very differently. With huge debts for barns, equipment and infrastructure, all of which was designed to reduce the variable costs associated with labor and husbandry, the industrial farmer had an incentive to reduce fixed costs. And the only way to do that was to add more animals because adding animals reduced the amount of fixed cost each animal had to carry. Again, this was not only a predictable response—it was the only response to this particular economic signal that allowed the industrial operation to survive.

And this is a critical point—the reactions of both the industry and the conventional farmer were completely predictable. Just as the conventional farmer had no choice but to reduce variable costs by cutting the number of animals because he had no other meaningful costs to reduce, the industrial farmer was forced to reduce fixed costs per animal (his most important costs) by increasing the number of animals because this was the only way industrial costs could be meaningfully reduced.

However, it is at this point that a major difference occurs between industrial and conventional operations. While the conventional farmer can avoid costs simply by reducing the number of animals he keeps and thereby reducing the costs that must be paid, the industrial operator is trapped—he cannot avoid the increased costs he incurs. Meaningful reductions in cost can be achieved by the industrial operator through increasing the number of animals only if the costs of keeping more animals—the variable costs faced by the industrial operator—stay so low they are insignificant. If variable costs begin to climb, the industrial operator cannot avoid them unless he can shift them to someone else. For example, cost shifting is frequently used by industrial operations when they dispose of manure—a variable cost. When the industrial operator finds the cost of manure disposal is increasing, operators frequently over-apply manure on the land closest to their operations. This causes pollution of the air and nearby waters and those costs are shifted to the neighbors of the CAFO. Thus, the variable costs of the industrial operator of keeping animals alive cannot be avoided—they can only be shifted to someone else.

The conventional farmer faces no similar conditions—conventional farmers can always avoid more fixed costs simply by refusing to purchase fixed assets and continuing to raise his animals in a conventional manner.

Thus, the symbiotic system that functioned over the last 25 years—the system where:

1. prices of animals fall and
2. industrial agriculture increases the numbers of animals in its operations and
3. conventional farmers decrease the numbers of animals they produce,

is stable only as long as the price of variable cost items like fuel, labor, feed and water stay very low. Because the industrial farmer is wedded to cheap fuel, cheap feed and cheap water, he is dangerously susceptible to a large and uncontrolled increase in these variable costs.

This is not speculation—we have just witnessed the results of such an uncontrolled increase in variable costs. In the last six months, when the costs of fuel and feed accelerated sharply we saw:

a. Smithfield profits decreased by 94%.
b. baby pigs were slaughtered and Canadian CAFOs closed.
c. sows sold for 10 cents a pound in Nebraska, and Iowa.
d. milk producers were unable to truck their product to market over any significant distance due to cost.

The lesson here is plain: given the current economic realities, the existence of industrial operations in general and CAFOs in particular is predicated on an unsustainable set of circumstances. These circumstances will continue to raise the costs of industrial agriculture and will make CAFOs and other industrial methods less and less competitive with conventional agriculture—unless government policies keep this from happening. It is certain that industrial agriculture, as it attempts to survive in an increasingly unfavorable environment, will make every attempt to reduce its costs through various forms of government intervention and the economics of vertical integration. At the same time, industrial agriculture will attempt to increase the costs of conventional agriculture through the use of regulation directed at conventional farming and the processing of conventionally-grown food.

A Policy Approach to Controlling Industrial Agriculture

Consider the following menu of potential agriculture and energy polices. If one is interested in controlling CAFOs and industrial agriculture, it is clear one should actively pursue policies that drive up those costs of raising animals that industrial operators are least able to handle. These costs are the variable costs of production—the cost of feed, energy, water, manure disposal and animal health-related issues. Now, a critic of this approach might complain that a conventional farmer also has to deal with variable costs. However, there is a major difference between the two. The conventional farmer has always dealt with variable costs and he has developed a number of ways to compensate for them—from the use of locally produced feed to the local spreading of animal waste to maintaining lower animal density to reduce disease. The industrial farmer is not capable of making these adjustments—in fact, they are simply not available to him if he follows the industrial model of production. So the following policies can be evaluated with respect to their impact on the variable costs of animal production and their effect on the competitiveness of industrial and conventional operations:

[A] Enact a minimum price tax on oil: this raises variable costs for fuel and makes ethanol and other fuel more competitive. The industrial producer has no way to avoid these costs because the concentrated production philosophy calls for feed, animals and labor to be trucked to the production location, for cheap energy to replace labor, and for manure to be trucked away from the operation.
<u>Advantage: to conventional agriculture</u> which can avoid some of these costs by growing feed locally, using manure locally, and using local labor in normal husbandry practices.

[B] Increase regulations across the board on conventional and industrial animal production facilities. Unless the regulations are size-specific, cost of compliance falls on a facility as a fixed annual cost. Both the conventional and the industrial operator must pay this cost.
Advantage: to the industrial operator who can spread the cost of regulation over more animals.

[C] Enforce existing regulations on air and water pollution and on captive supplies. These are all costs that increase as the number of animals increases.
Advantage: to the conventional operator

[D] Promote bio-fuel programs
Advantage: to the conventional operator when products like soy and sorghum are used
Advantage: to the industrial operator when animal by-products are used because this reduces the cost of animal mortality disposal.

[E] Promote methane digester construction and operation
Advantage: to the industrial operator if the digester uses manure and if the cost of energy to the industrial operator is reduced.

[F] Promote ethanol production
Advantage: to the industrial operator if subsidized feed from distiller's grains is used in the CAFO and if the existence of the ethanol plant is used as a rationale for building more CAFOs around the plant.

[G] Increase regulation of food processors
Advantage: to the industrial operator who can spread the fixed costs over more production in a vertically integrated facility and who can use fixed costs to promote standardization in animal size to increase efficiency in large processing facilities.

[H] Revise the agriculture bill to limit payments based on the land area involved.
Advantage: to the conventional producer.

[I] Enact an immigration policy that controls cross-border flows of immigrant labor
Advantage: to the conventional producer if this policy raises the price of farm labor.

[J] Promote humane animal treatment standards
Advantage: to the industrial producer if these standards raise the cost of housing animals or providing increased areas for grazing and other animal use (both of which are fixed costs)
Advantage: to the conventional producer if standards are concerned with the quality of feed, the use of grass-fed operations, getting rid of animal cruelty practices and the use of good husbandry techniques.

[K]Promote a reduction in the use of antibiotics
Advantage: to the conventional producer because the industrial operation will be forced to reduce the number of animals it raises because it cannot compensate by decreasing the density of animals.

[L] Reduce the national interest rate/allow the value of the dollar to decline
Advantage: to the industrial producer who can borrow money more cheaply for large, fixed-cost projects and who faces a better export market.
Advantage: to the conventional producer if the declining dollar raises the cost of fuel.

[M]Promote policies to slow global warming and greenhouse gas emissions
Advantage: to the conventional farmer.

[N] Promote policies to subsidize alternative energy generation.
Advantage: to the industrial operator if these subsidies are used by industrial agriculture as a means of disposing of its waste or lowering its energy costs.

[O] Promote country of origin labeling (COOL)
Advantage: to the industrial operator since this fixed cost can be spread over more animals.

[P] Enforce existing laws on captive supplies and vertically integrated organizations
Advantage: to the conventional operator.

As these sixteen potential policies demonstrate, the (sometimes) unintended consequences for CAFOs from various energy and agricultural policies should motivate us to carefully choose and sparsely employ government solutions to the CAFO problems. However, among all possible agricultural and environmental policies, the first priority for supporters of conventional agriculture should be those policies that promote positive social and environmental outcomes while, at the same time, creating disincentives for industrial operations. The most desirable policies fall into five rough categories:

1. Energy policies designed to promote conservation through higher fuel prices.
2. Antibiotic use policies designed to lengthen the useable time of various classes of antibiotics.
3. Market policies designed to decentralize processing of agricultural goods and promote local production.
4. Environmental policies designed to limit air and water emissions and reduce the carbon footprint of industrial and agricultural operations.
5. Agricultural production and distribution policies designed to increase the production of "fundamental" sustainable products such as animal feed and fertilizers that allow other sustainable and organic operations to proliferate and to restore the processing and distribution sectors that once served conventional agriculture.

Promotion of these policies is one part of a two-pronged effort to control CAFOs. The second part of this comes from the recognition that the proliferation of CAFOs was not a result of a natural progression from conventional to industrial agriculture. CAFOs were not a step in the logical progression of agricultural methods, they were, instead, a predictable reaction to a system of agricultural regulation without enforcement, and a corporate system of investment and production through vertical integration. These factors, not real economies of scale, made CAFOs more profitable than alternative production methods and that profitability was based on a few, very specific assumptions:

1. lack of enforcement of environmental laws and regulations

2. a surplus of low-cost feed
3. a stable supply of cheap energy
4. a supply of cheap water.

Further, the environment of the industrial operator is directly shaped and altered by independent, external events that are beyond the control of any of the major players in the agricultural arena. Viewing these events through the same lens used by the industrial producer helps us to recognize and exploit events that adversely affect CAFOs. Recent events of this kind have been:

1. rising fuel prices due to world demand.
2. rising feed costs due to competition from bio-fuel production.
3. water scarcity due to global warming and the droughts that accompany it.
4. the falling dollar and its effect on exports.

It is important to recognize these events for what they are—changes that occurred because of external events—and to use them to maximum advantage. If policies are required to address the conditions caused by these events, one should choose those policies that address the event without aiding the CAFO. Again, the five general areas listed on the previous page should serve as a guideline in these choices.

Of more interest are those policies that would appear to promote CAFOs while attacking economic or environmental problems. These policies fall in two general areas:

1. Increase regulation of agriculture and food production through
    i. Regulation of animal production facilities
    ii. Regulation of food processors
    iii. Country of origin labeling (COOL)
2. Promotion of alternative energy programs with dual uses as both fuel and feed or fuel and waste disposal. These are programs such as:
    i. Bio-fuel programs from animal waste or by-products.
    ii. Methane digester construction and operation
    iii. Ethanol production as part of a feed component; i.e., the use of ethanol subsidies to get distiller's grains for animal feed without transportation costs.

Conclusion

Many of the policy approaches that promote CAFO growth are superficially appealing, and some may be desirable based on the social benefits they promote. However, when CAFOs are involved it is better to promote enforcement of existing regulations than write new ones and it is also better to promote energy conservation than to propose new energy production from dual-use sources. And irrespective of the policy involved, the following truisms always remain:

1. CAFOs do not realize important economies of scale and
2. CAFOs have only been able to compete under the most narrow of economic and regulatory assumptions and
3. those assumptions are being destroyed by the economic and environmental changes we are now experiencing.