Cattle Drive Contracts

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The complex financial contracts produced in the canyons of Wall Street had their antecedents in the canyons of the Old West—and anywhere else that farmers and ranchers faced the vagaries of weather and of imperfect people. Futures, forwards, options, and many other complex financial contracts were common in agricultural settings long before they appeared in industrial and other nonagricultural markets.

Economics is all about incentives, and a contract is nothing but a bundle of incentives, all tied together to elicit desired behavior from all the signatories. A single contract can deal simultaneously with multiple, interrelated risks. One need not look to the great financial centers to see how this works. A fine illustration appears in "Cattle Drive", a short story by B. Traven. Traven was a secretive, enigmatic writer whose best-known work is his novel, Treasure of the Sierra Madre (later a John Huston film starring Humphrey Bogart). Traven's works often delve into the minute details of contracts involving working people in remote places, and these details illuminate the ways that financial incentives bend human behavior toward desired ends.

"Cattle Drive" is Traven's account of a rancher who hires a stranger to drive a thousand head of cattle across the wilds of Mexico. This job sounds arduous but simple—walk some cattle from point A to point B. But the endeavor is fraught with natural and human risks for both rancher and driver. To pull off the drive, the two must weave a complex legal agreement—unwritten and signed only with a handshake, but a contract nonetheless. Following are some of the factors, and the way the contract deals with them:

Risk of insider robbery: The rancher knows that the wrong crew may steal the cattle, sell them en route, and vanish without a trace. The rancher has a foreman, for example, who is perfectly competent to manage the drive but can't be trusted. So instead, the rancher turns to the stranger, who's not really a complete stranger. The rancher has heard that the man is competent and reliable, and any banker can tell you that a good reputation is a most valuable financial asset. Still, he doesn't know the man well enough to have complete faith, so he sends the unreliable foreman, along with six other ranch hands to go along on the drive. The rancher plays on the mutual lack of familiarity between the stranger and the hired hands; it's unlikely that they'll trust one another enough to join forces in a heist.

Risk of uncertain route: The journey is 350 miles as the crow flies, but the terrain is unmapped and criss-crossed by rivers and mountains; it could be as much as 600 miles. If the rancher paid the driver a flat fee, such as 300 pesos for the whole trip, that could turn out to be 10 pesos a day (or more) or 4 pesos a day (or less), depending on how long the trip takes. The driver doesn't want to take that kind of risk, so the rancher offers him 6 pesos per day—a longer trip means higher wages, so the driver's fear of delays is calmed.

Risk of delay: The rancher wants his money as soon as possible, and he needs to have the cattle at the port by a certain critical market date. At 6 pesos a day, though, the driver might choose to roam the wilderness for months. So, the rancher offers the driver a 100-peso bonus for reaching the port early and in good shape. Now, the driver has no need to fear a long trip, but he also has reason to want a short one.

Risk of weight loss: The speed bonus has given the driver the incentive to hurry the cattle to market, but that's risky, too. If you run the cattle too quickly, they'll lose weight and health, and the rancher is paid on the basis of weight and condition of the cattle. So, he offers the driver a bonus of 60 centavos for every head of cattle that arrives in good shape.

Risk of lost cattle: The journey is dangerous for the cattle. They can drown, they can fall prey to disease or predators, they can be stolen by bandits, or they can just wander off. The rancher wants to provide extra incentive for taking good care of the herd, so he offers a 100-peso bonus if fewer than 2% (20) of the cattle are lost. Once the 2% threshold is passed, the rancher begins to deduct 25 pesos from the bonus pay for each head lost. So, if losses get near that 2% mark, the driver has a huge incentive to prevent further losses. The rancher knows that even the best driver is almost certain to lose at least five head, so he offers the driver an extra five cattle to take along. So, the driver is really transporting 1,005, and not 1,000.

Risk of quality of cattle: Cattle vary in quality, and it's important to have good, strong ones in the lead. The driver's pay is partly based on the condition of the cattle upon arrival, so he won't want to be handed the worst specimens that the rancher can find. So, the rancher allows the driver to pick the first 100 head of the 1005 to be driven.

Risk of unforeseen expenses: The driver may encounter expenses along the way, so the rancher provides him with checks to cash. Knowing that checks aren't universally accepted in the wilds of Mexico, he also provides some silver and cash.

Routine expenses: The rancher is much better situated to provide up-front money than the driver is, so he provides the capital needed to get the operation going. In addition to the money for unforeseen expenses and some money for routine expenses, he provides a horse, saddle, and equipment.

Market risk: Cattle prices are likely to be in flux when the herd arrives, so the rancher has hired an agent to sell the herd at the port. The agent has specialized knowledge of how to obtain the best prices at any given time.

Future drives: In the end, the driver brings in the cattle, early and in good shape. The rancher vows that if he receives good prices for the livestock, he'll pay the driver an extra, previously unpromised 100-peso bonus. Why? Either because he's decent and appreciative, or because he wants to influence his reputation among other drivers. (Or, it could be a little of both.) Either way, it's likely that the men who drive cattle will hear of the rancher's unexpected and voluntary generosity.

Under this highly complicated contract, the driver faces a complex set of prices that determine his final compensation: there's a wage for his time, a charge for weight loss, a bonus for good condition, a bonus for promptness, a penalty for lost cattle, and an unexpected bonus just for having done a good job. The deal provides a crew, horses, and means for paying routine and unexpected expenses. The deal also incorporates an intricate set of checks and balances to protect the rancher and the driver from the risks that come from human temptation, greed, and dishonesty. The contract, unwritten though it be, pits multiple incentives against one another to arrive at a bargain that will be good for rancher and driver alike. The deal is as complex as many late-20th Century Wall Street deals. And, like any Wall Street deal, it's all about economic incentives and desires and people.