A Theory of Profit

Is economics either a physical or a social science? Economists are divided. Claims of a basis in physical science rest upon The Law of Supply and Demand, a theory of price that describes an economy as a rocking cradle or a see-saw. We propose instead a "thermo-economics" that is a theory of profit, and that describes an economy as an engine.

Supply-demand proposes that two equivalent forces see-saw toward an equilibrium of price stability, as though gently rocked by an Invisible Hand. Supply-and-demand cannot be evaluated as physical. Neither has precise causes nor unambiguous, measurable effects, and running their numbers has no guaranteed, predictive value. Regardless, the unfettered freedom of the market to equilibrate remains the kernel of the "free market" argument that calls for less government regulation of business and finance, and for a freer hand for innovators.

Defenders blame the failure of supply-demand to predict economic outcomes on illogical, not yet quantifiable "quirks" of human motivation. Motivation might describe why someone starts an engine, but an engine works according to its own physical laws. Thermo-economics suggests a novel idea of economic motivation, and a rational model of "economic engine" science.

Most important among the difficulties of considering economics as science is that supply-demand is a theory of price, not profit. We explain. In supply-demand, profit is an inefficiency like friction that keeps the economic mechanism from perfect price equilibrium. In a theoretical state of perfect competition, profits reduce to "normal profits", which are the minimum necessary to make running a business worthwhile. Profits beyond normal are "economic profits". One infers that good business (maximum profit) is bad (inefficient) economics, which is a problem left to the Invisible Hand to solve.

Normal profits are counted as a cost in supply-demand price reckonings. Normal profits are thus *un-eliminable inefficiency*, like the residual friction that slows down a pendulum. Sneaking in "normal profits" as a cost obscures that inefficiency is a thermodynamic concept. Inefficiency requires fuel to overcome, and there is no specific accounting for economic fuel in supply-demand.

The 19th Century, Second Law of Thermodynamics is the only fundamental law of expansion, creation, and destruction. It describes how engines extract work from the expanding flow across a temperature gradient of ignited fuel. The 2nd Law provides a rational basis for economic science.

Previous attempts to reconcile economics and the 2nd Law did not address economic temperature. We start with a thermoeconomic theory of motivation: A Buyer is hotter than a Seller; desire heats up a Buyer, who desires to cool off.

We find it possible to estimate profit margins and proper pricing using measures of Buyer-to-Seller, economic temperature gradients. The greater the gradient, the greater the profits. Business success requires knowing how to maintain the gradient, keeping Buyer temperature high and Seller temperature low. Apple Corporation is the master of hot buying and cool selling.

Engines consume fuel, accomplish work, and expel waste. Economic engines consume currency, perform economic work, and produce profits. Economic work is the recovery of value, by which we mean the recovery of costs-to-market. Profits are surplus, which means that profits only acquire value as they are invested in new value production.

Supply-demand economic action flows back and forth, making it plausible that either may originate economic behavior. In an economic engine model, ignited currency flows one way, across a gradient from warmer Buyer to cooler Seller, producing goods, services, and wealth. A "thermo-economics" makes it plain that every dollar originates with the aptly-named "consumer".

Supply-demand describes profit as market inefficiency. Thermoeconomics measures profit as a sign of business health.

Profits from finance are more complicated to address than those directly from value production, because of their participation in financial bubbles. When these burst, only the richest people still have cash. Each new bubble-burst cycle increases the wealth gap in favor of the super-rich.

Apologists for growing wealth inequality assert that steep wealth gradients generate creative genius among the every-day but charismatic risk-takers who drive prosperity and create jobs. This is Creation Science Economics, which credits miracles over science.

Arthur Jonath and Richard Goldwater

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