Funding the Future

The Quantum Essays: Is equilibrium only possible in dea...

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Background

Having finished the first series that I plan to publish on quantum economics (others are planned), it became clear that explaining the use of this thinking was important before moving on to further ideas. The result is a new series, called The Quantum Essays, of which the third is below. Previous posts are listed at the end of the post.

This idea came out of a conversation with my wife. We were talking about my series on quantum economics when she asked whether equilibrium was really ever possible in life. The more I thought about it, the more I realised she was right: equilibrium may only be possible in death.

Physics helps explain why. All systems are subject to entropy, which is the tendency for disorder to increase over time. In a closed system — one sealed off from external sources of energy — entropy always wins. Energy dissipates, order dissolves, and the system runs down. Eventually, it reaches a state where nothing more can happen, no new work can be done, and no new order can be created. That is equilibrium. But it is also death.

Life tells a different story. Living systems survive precisely because they are not closed. They are open. They constantly import energy and resources from outside themselves. They reorganise matter, build structure, and create enough order to resist the disorder that entropy would otherwise impose. In doing so they hold off death, at least for a time. But the struggle never ends. Survival depends on continually reducing disorder to a level that allows growth and renewal. Without this effort, life collapses back into equilibrium — which is another way of saying, into death.

What does this mean for economics? Economists borrowed the concept of equilibrium from physics, but they misapplied it. In the neoclassical tradition, markets are said to tend naturally toward balance. Supply and demand meet. Prices clear. The economy,

like a machine, settles into rest. But this is a fantasy based on the assumption that economies are closed systems.

Real economies are not closed. They are living, open systems. They survive only because they bring in energy from outside. Human labour is one source of this energy: the application of time, effort, and creativity to transform the world. Natural resources and ecological flows are another. Ideas, relationships, and cooperation all feed into the same process. It is this continual input of new energy and new order that makes economic life possible.

The reality, then, is that economies can never be in equilibrium. They are always in motion, always in flux, always engaged in the same struggle with entropy that life itself faces. They are sustained by imbalance and by the constant management of disorder. And when they stop moving — when the flows dry up, or when the openness is shut down — they collapse.

Quantum physics sharpens this point. At the smallest scale, what looks stable is never still. A so-called stable atom is a dance of shifting probabilities. A supposedly solid state is a pulsing of energy fields. Stability in this world does not mean stillness. It means dynamic balance, sustained only through continuous change. That is why quantum theory is such a useful metaphor for economics. From a distance, the economy may look stable, but up close it is always a swirl of transactions, exchanges, conflicts, and innovations.

The neoclassical dream of equilibrium, then, is not the dream of a healthy economy. It is the dream of a dead one. Equilibrium means the absence of flows, the cessation of work, the collapse of openness. It is not a goal to be pursued but a condition to be feared.

Yet our economic policy is too often built on the false assumption that equilibrium should be the objective. Think of the constant political demand for “balanced budgets” or “fiscal rules” that tie government hands. These are attempts to impose closure on an open system. They imagine that the economy should be like a household, keeping its books tidy, rather than like a living organism that must remain open in order to survive. By suppressing flows of energy, cutting back spending, and reducing investment, such policies do not create health: they accelerate the move toward the stillness of death.

My wife’s question was right, then. Equilibrium is not a state that can ever be achieved in life. The struggle with entropy is perpetual. Our task is not to eliminate disorder but to keep it manageable — to import enough new energy, to remain open enough, to reduce disorder enough that life and growth can continue.

For economies, this means valuing disequilibrium rather than fearing it. Disequilibrium is the condition of creativity, of adaptation, of survival. It is the sign that the system is alive. Our real challenge is to manage it well: to channel energy into useful work, to

sustain openness, and to prevent entropy from overwhelming us.

Equilibrium, finally, belongs only to death. Life — and economics — depend on our refusal ever to reach it.

Previous posts

* ***The Quantum Economics series*** ***(this link opens a tab with them all in it***

* ***The Quantum Essays: Observing and Engaging***

* ***The Quantum Essays: Quantum MMT: The wave function of sovereign spending***

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