

The Digital Gosplan: Computational Central Planning and the Collapse of Economic Calculation

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I. Introduction

Digital interventionism is conventionally diagnosed as an expansion of state surveillance — a quantitative escalation of an old disease. That diagnosis is wrong, and the error matters. What is emerging under the banners of programmable central bank digital currencies (CBDCs), mandatory digital identity gateways, and algorithmic governance frameworks is not the same regulatory state wearing a new technological costume. It is a qualitative, ontological rupture: a shift from ex-post legal regulation, bound however imperfectly by the Rule of Law, to ex-ante infrastructural central planning, where compliance is no longer enforced after the fact but architected directly into the substrate of economic interaction. This essay argues that the Digital Gosplan fails for the same reason its analogue ancestor failed, but through a distinct and more insidious transmission mechanism. Oskar Lange and his Soviet contemporaries believed the calculation problem could be solved by a sufficiently large planning bureau processing sufficiently abundant data; today's technocrats believe it can be solved by a sufficiently large model processing sufficiently abundant telemetry. Both errors share the same root: the assumption that market complexity is a data-processing problem rather than a knowledge-generation problem. I will argue, through what I term Hyper-Micro-ABCT — an adaptation of Austrian Business Cycle Theory to the register of algorithmic micro-intervention — that continuous, condition-based digital interventions inject chronic noise into the price system at a granularity and frequency the original Misesian calculation debate never anticipated. This noise does not merely distort the economy; it dissolves the very signal entrepreneurs rely on to coordinate productive activity, deconstructs money itself into a fragmented matrix of conditional rationing tokens, and ultimately forces the planning apparatus into a parasitic dependence on the black markets it claims to be eliminating.

II. The Epistemic Illusion of Governance by Code

Traditional state intervention — taxation, price controls, licensing, censorship — operates ex-post. A law is promulgated; an agent acts; the state evaluates the act against the law and, where violated, imposes a sanction. However corrupted in practice, this model retains a formal kinship with Friedrich Hayek's conception of the Rule of Law: rules that are general, abstract, and known in advance, allowing individuals to form stable expectations and plan across time. Digital interventionism abandons that architecture entirely. When compliance is encoded directly into the payment ledger, the communication protocol, or the identity gateway a transaction must pass through, intervention stops being an exception requiring justification and becomes the default condition of existence. Liberty is inverted from a presumption into a permission — an algorithmically granted exception that can be revoked, narrowed, or conditioned at the discretion of whoever controls the codebase. The state no longer governs through law in the classical sense; it administers through code, and code does not argue, does not weigh circumstance, and does not tolerate the ambiguity in which human freedom has always lived.

The ambition underlying this shift rests on what I call the illusion of computational omniscience: the belief that with sufficient telemetry, an algorithmic system can optimize economic and social outcomes in real time, succeeding precisely where Lange's central planning board failed for want of computing power. This belief catastrophically misreads the nature of economic knowledge. As Hayek demonstrated in his 1945 essay on the use of knowledge in society, the information required to coordinate a complex economy is not a static dataset sitting somewhere, waiting to be harvested by a sufficiently capable sensor network. It is dispersed across millions of minds, tacit rather than explicit, subjective rather than measurable, and bound to particular circumstances of time and place that resist aggregation into any central register. Israel Kirzner's contribution sharpens the point further: this knowledge does not pre-exist the market process, sitting there waiting for an external observer to discover it. It is generated dynamically, through the entrepreneurial act of noticing an unexploited opportunity, and through the very act of exchange that reveals, for the first time, what a good is actually worth to the parties involved. A digital planning system that imposes ex-ante algorithmic constraints on behavior — restricting what may be purchased, when, by whom, under what conditions

— does not merely fail to capture this knowledge. It actively preempts the entrepreneurial discovery process that is the sole mechanism by which such knowledge could ever come into being. The system blinds itself by design, and no increase in processing power can restore sight to an eye that has been surgically prevented from forming an image in the first place.

III. The Transmission Vector of Chaos: Hyper-Micro-ABCT

Classical Austrian Business Cycle Theory explains how a single, relatively coarse intervention — an artificial suppression of the interest rate below its natural, time-preference-determined level — sends a false signal of abundant loanable funds throughout the capital structure, inducing entrepreneurs to initiate longer, more roundabout production processes than available real savings can sustain. The result is a boom that must eventually correct as the malinvestment becomes apparent. This theory was built to explain a single macro-distortion radiating outward from one point of origin: the central bank's discount window. Digital interventionism presents a structurally different and more dangerous phenomenon, because it doesn't inject one distortion but millions, simultaneously, continuously, at the level of the individual transaction.

Consider the function prices perform in an undistorted market order. They are not arbitrary ratios of exchange; they are dense, compressed signals broadcasting relative scarcity, the subjective valuations of countless individual consumers, and the time preferences embedded in every act of saving or spending. When a digital state deploys programmable CBDCs and smart contracts to continuously micro-adjust incentives — throttling carbon-intensive purchases at the point of sale, applying negative interest rates to disfavored savings balances, geofencing capital so it cannot leave a designated jurisdiction or sector — it does not produce one identifiable distortion that analysts can trace back to a single policy lever, the way they can with a discount-rate cut. It produces an unbounded number of asymmetric, condition-based micro-distortions, each specific to a sector, a consumption profile, a geographic zone, or even an individual account, all firing concurrently. The cumulative effect is what I term the progressive epistemic contamination of the price system: the signal isn't bent in one direction, as under classical

ABCT, but shredded into noise across the entire structure of relative prices simultaneously.

Because capital is heterogeneous and production processes are intricately interlinked across time — a point emphasized by both Ludwig Lachmann's work on capital structure and Eugen von Böhm-Bawerk's analysis of the time-structure of production — a distortion injected at any single node propagates instantly through every complementary and substitute market connected to it. An algorithmic restriction on fuel purchases alters the relative price of logistics; the altered logistics cost immediately distorts the cost-accounting calculations of agriculture, which in turn misdirects the allocation of labor and capital toward or away from farming inputs that no longer reflect genuine scarcity. Because these interventions are not a one-time policy shock but an adaptive, continuously updating algorithmic process, the noise never settles into a new equilibrium that entrepreneurs could learn to read. It becomes chronic. The entrepreneur, whose entire function depends on correctly interpreting price movements as signals of underlying reality, is subjected to a paralyzing epistemic fog: a given price fluctuation might represent genuine consumer demand and material scarcity, or it might be nothing more than a transient artifact of the planning algorithm's current optimization parameters — parameters that may themselves change before the entrepreneur has finished interpreting them. Economic calculation becomes impossible — not, crucially, because data is lacking, which was Lange's framing of the original calculation debate, but because the data itself has been stripped of its organic informational integrity. Mises's original insight survives the addition of computing power, because the problem was never a shortage of data; it was the absence of genuine exchange ratios formed through real ownership and real trade-offs.

The most dangerous feature of this system is its capacity to suppress the very corrective mechanism classical ABCT relies on to end a boom. In the traditional account, a credit-fueled boom eventually meets reality: malinvestments are liquidated, capital is reallocated to uses the market actually values, and the economy, however painfully, heals. A digitally planned economy equipped with programmable money possesses an unprecedented capacity to indefinitely defer this reckoning. By dynamically overwriting bad debt on the ledger, instantly injecting targeted liquidity to failing enterprises, and

algorithmically forbidding the transfer of capital away from state-favored but insolvent firms, the digital Gosplan can prevent the market's liquidation phase from ever beginning. The result is not stability but a zombified, hyper-fragile economic structure accumulating unaddressed distortion indefinitely. Because the crisis is denied its normal financial expression — bankruptcies, defaults, falling asset prices — it doesn't disappear; it is displaced into the physical economy, where it must eventually manifest as supply-chain paralysis, shortages, and cascading production failures that no algorithm can paper over, because at that point the distortion is no longer a matter of ledger entries but of goods that simply do not exist.

IV. The Ontological Deconstruction of Money

If the price system is contaminated at this granularity, the medium of exchange in which prices are denominated cannot survive unscathed. For economic calculation to function at all, money must be universally acceptable and fungible: any unit must be interchangeable with any other unit of the same denomination, regardless of who holds it or what they intend to do with it. Carl Menger demonstrated that money emerges spontaneously precisely to solve the problem of the double coincidence of wants, and Ludwig von Mises's regression theorem establishes that money's present value is rooted in a continuous chain of past purchasing power, traceable back to its origin as a commodity valued for non-monetary uses. Programmable CBDCs attack both foundations at once. By embedding individualized, real-time conditionality directly into the currency itself — dictating who may spend a given unit, where, on what category of good, and within what time window before the balance expires or is reallocated — the state does not merely regulate the use of money; it fragments the monetary unit into something no longer fungible. A digital euro that expires after thirty days, or that cannot be spent on meat, or that carries a different effective value depending on the social-credit standing of its holder, is not the same economic good as an unconditioned digital euro, even though both display an identical numeral on a screen. What was a universal medium of exchange devolves into a complex matrix of what I term Algorithmic Rationing Tokens (ARTs) — instruments that superficially resemble money but have lost the defining property that made money useful in the first place. This fracturing of the unit of account

is not a secondary inconvenience; it is fatal to entrepreneurial calculation, because profit-and-loss accounting depends on the ability to sum heterogeneous revenues and costs into a single comparable figure. If the units themselves are conditional and non-fungible, no such summation is possible, and the epistemic contamination described in the previous section is no longer confined to relative prices — it has infected the very yardstick by which those prices are measured, accelerating the systemic discoordination of Hyper-Micro-ABCT into the monetary core of the economy itself.

V. The Inevitability of the Parallel Polis

A system this ambitious must eventually confront the limits of its own enforcement, and it does so in two related ways. The first is what I call Enforcement Sclerosis. The technocratic vision assumes a frictionless, total monopoly over digital infrastructure, but human action is irreducibly creative, and individuals subjected to total algorithmic constraint will continuously search for and find gaps. As the planning apparatus tries to plug every leak and suppress every unauthorized transaction, the administrative complexity required to maintain control doesn't scale linearly with the population it governs — it scales exponentially, because each new patch to the system creates new edge cases, new exemptions, and new attack surfaces that must themselves be monitored. The state is forced to dedicate an ever-larger share of its computational capacity, fiscal resources, and real thermodynamic energy — server farms running deep packet inspection, physical compliance agents, biometric verification infrastructure — merely to sustain the appearance of total control. This is not a cost the productive economy can absorb indefinitely; it is a parasitic drain that cannibalizes the very output the planning system claims to be optimizing, rendering the digital panopticon economically unsustainable on its own terms, independent of any moral objection to it.

The second and more philosophically interesting limit is what I call the Parasitic Symbiosis Paradox. As algorithmic administration progressively destroys the epistemic quality of the prices it observes, the planning intelligence becomes increasingly blind to genuine scarcity and authentic subjective valuation — the very inputs it requires to calibrate its own interventions. A system that has successfully suppressed organic exchange has, by that same success, destroyed its own source of usable information. To

avoid total systemic collapse, the state is forced into an uncomfortable dependency: it must quietly monitor, tolerate, and in practice harvest pricing data generated within the underground economies it is nominally trying to eliminate — black markets, decentralized cryptographic networks, and the broader phenomenon political theorists have called the Parallel Polis. This is the deepest irony of the Digital Gosplan: it cannot generate the economic knowledge it needs to function. It can only parasitize the surviving pockets of unmonitored, spontaneous market action, using them as an external oracle to recalibrate equations its own design has otherwise rendered meaningless. The planner's professed goal — total, frictionless control — and the planner's actual operational requirement — a functioning external price signal it does not itself produce — are in permanent contradiction. It is worth noting, against the most sophisticated objection to this argument, that decentralization at the protocol layer offers no escape from this dynamic if the state controls the choke points above it. Should compliance be mandated at the level of the internet service provider, the hardware manufacturer, or the fiat on-ramp through which value enters a cryptographic network, the decentralization of the ledger itself becomes a formality; the state bypasses the ledger entirely by capturing the infrastructure surrounding it. Nor does the promise of superior processing power rescue the project. The objection that a sufficiently advanced AI, unlike Lange's planning bureau, could finally solve the calculation problem mistakes the nature of the obstacle: data is historical record, but the knowledge economic calculation requires is ex-ante and subjective, generated by entrepreneurial discovery and consumer choices that have not yet occurred. No model, however large, can compute a preference a consumer has not yet discovered they hold, or anticipate an innovation that doesn't yet exist. The calculation problem is an ontological barrier, not a technological bottleneck, and it does not yield to additional GPUs.

VI. Conclusion

The trajectory traced here — from the epistemic illusion of governance by code, through the Hyper-Micro-ABCT propagation of chronic price contamination, to the ontological deconstruction of money into non-fungible rationing tokens, to the inevitable retreat into a parasitic dependence on the very black markets the system was built to extinguish —

describes a single, coherent failure mode rather than a series of unrelated technical glitches. The Digital Gosplan does not fail at the margins; it fails at its foundation, for the same reason every central planning project has failed since the calculation debate began, only now operating at a granularity and a velocity its twentieth-century predecessors could not have imagined. Its failure lies not in insufficient computing power, infrastructure, or political will, but in its attempt to replace, by administrative fiat, the very entrepreneurial and exchange-based processes that alone generate the knowledge it seeks to compute. A planner cannot harvest knowledge that does not yet exist, and trying to harvest it ex-ante is precisely what prevents it from ever coming into being. Liberty, in this light, is not merely a moral preference to be weighed against the promised efficiencies of algorithmic administration. It is the structural precondition for the only process — the free, spontaneous, repeated act of exchange among individuals who actually bear the consequences of their choices — capable of producing the information any economy, planned or otherwise, ultimately depends upon.