GLOBAL FINANCIAL ENGINEERING, INC.

The Share That May Leave

The Machine States · Paper V · The Distribution State

Document GFE-PUB-MST-20261119-C · Dr. Glen Brown · Public Doctrine Series · 19 November 2026

ABOUT THIS SERIES

The Machine States is a sub-series of the Public Doctrine Series. It sets out how the houses charter a trading machine, name the conditions of its book, and govern when income may leave it. It describes internal doctrine applied to the houses' own capital. The case in Section VI is an illustration built from operating data. Its figures have been altered and it reports no account's results.

I. The only state with a door

The four states set out in Papers II to IV describe a book's standing against its Chartered Capital. None of them permits anything to leave the book. The Distribution State is different in kind. It is the one state with a door, the condition under which part of a machine's realised harvest may be taken out and the rest kept inside to go on working. Because it is the only state that lets value leave, it is the one the doctrine must govern most tightly, and its law is written before any book has reached it.

The discipline it borrows is that of a well-run pension fund, which must earn, grow and meet its obligations at the same time, and which pays out only from what it has earned while retaining enough to keep earning. The comparison is to a discipline and not to an offer. The houses apply it to their own capital and to nobody else's.

II. The threshold

A book enters the Distribution State when its Immortality Multiple reaches three: when its Retained Harvest is three times the harvest that Immortality requires. Nothing is distributed below that line, at any tier, under any circumstance.

$$\text{Distribution State:}\quad m = H / H^{*} \geq 3, \qquad \text{where } H^{*} = K \times c / (1 - c)$$

The threshold is set flat at three rather than allowed to vary with the tier, and the reason is in Paper IV. At a multiple of three, the capital could survive between two and three complete losses of everything the ceiling permits, in succession. A threshold that varied with the tier could be engineered more finely, and would in places sit lower; a flat three gives more protection everywhere and is simpler to verify. Where the doctrine must choose between a sharper rule and a safer one for the only state that lets value leave, it chooses the safer.

III. The Surplus Share Rule

The law that governs what may leave has four clauses, and one formula carries the weight.

Table 1. The law of distribution and retention

Clause	Rule
Source	Distributions are paid only from realised harvest, never from floating profit.
Floor	No distribution may take the multiple below three. Below three, nothing is paid.
Share	In each period, the share of that period's net realised harvest that may be distributed is 1 − 3/m, the share that the surplus above the threshold bears to the whole Retained Harvest. The rest is retained.
Suspension	If losses take the book below three, distributions stop of themselves and resume when the state is regained. Nothing else in the machine changes.

The period is a month. A period whose net realised harvest is zero or negative distributes nothing.

The share formula is the heart of the law, and its logic is simple. The Retained Harvest above three times H* is surplus; the rest is the reserve that the Distribution State exists to protect. The rule distributes each period's harvest in the same proportion as the book's own surplus bears to its whole harvest. A book just inside the state, with a multiple of three, distributes nothing. A book with a multiple of four distributes a quarter; at six, a half; at ten, seven-tenths.

Table 2. The distribution share by multiple

Multiple m	3	3·5	4	5	6	10	30
Share distributed	0%	14%	25%	40%	50%	70%	90%
Share retained	100%	86%	75%	60%	50%	30%	10%

IV. Three properties of the rule

The first property is that a distribution can never lower the multiple. In any period with a positive harvest h, the book retains h × 3/m, which is always positive, so the Retained Harvest rises and with it the multiple. The rule cannot walk a book out of the state it is paying from. Only losses can do that, and when they do, the suspension clause stops payment without any further decision.

The second property is that the rule is self-steadying. A book that earns well climbs in multiple and so distributes a larger share; a book that earns less climbs more slowly and distributes less. Distribution follows strength automatically, and no one has to judge when a book can afford to pay.

The third property concerns the long run, and it can be derived exactly. Let the harvest per period be roughly constant at h. Each period the Retained Harvest grows by h × 3H*/H, and the growth equation integrates in closed form:

$$H(t)^2 \approx H(0)^2 + 6 \times h \times H^* \times t$$

The Retained Harvest therefore grows with the square root of time, and the retained share 3H*/H falls in proportion. Over a long life, almost all of each period's harvest comes to be distributed, while the reserve beneath it never stops growing. The design never reaches a point at which it pays out everything and stops building. A book entering the state at a multiple of three, for example, reaches a multiple of six, and a distribution share of one half, after about 4.5 × H*/h periods. Where the harvest grows with the balance, as it does in a machine that sizes its risk on its balance, the climb is faster.

V. What the rule does not touch

The law governs only what leaves. It confers no authority over any position, any admission or any exit, and the machine trades in the Distribution State exactly as it traded below it. A distribution is not a signal and not a reward; it is a transfer out of a book that has earned the right to make one.

Three interactions with the rest of the doctrine follow. First, Chartered Capital does not change when harvest is distributed, so a distribution leaves the threshold where it was. Second, new capital deposited into a book raises its Chartered Capital and therefore its H*, and lowers the multiple in proportion. A deposit can thus take a book out of the Distribution State without any loss, and distributions resume only when the harvest regains three times the new requirement. Third, a change of ceiling moves H*, as Paper IV showed. A lower ceiling can carry a book into the state, and a higher one can suspend its distributions, without a trade.

One engineering condition precedes all of this. A distribution is a capital event to the machine. It changes the balance on which risk is sized, the base from which tiers are measured and the reading of any circuit that watches the book. A machine must therefore know its Chartered Capital and record each distribution as such, so that a payment is never mistaken for a loss. Until a controller can do that, no distribution should be made from it, whatever its multiple.

VI. The Case

The following case is an illustration built from operating data. The figures have been altered and it reports no account's results.

The book of the earlier papers is chartered at 100 units under a ceiling of one quarter, so H* is 33.3 units and the Distribution State requires a Retained Harvest of 100. Suppose that, much later, its Retained Harvest is 140 and its multiple 4.2. In a month it realises a net harvest of 12. Its distribution share is 1 − 3/4.2, or 28.6 per cent, so 3.43 units leave and 8.57 are retained. Its multiple rises to 4.46.

The next month it realises a net loss of 20. Nothing is distributed, because the month's harvest is negative; its multiple falls to 3.86, and it remains in the state. Were further losses to take its Retained Harvest below 100, distributions would stop until the harvest returned above that line. At no point does anyone decide whether the book can afford to pay. The law has already decided.

VII. How the rule can mislead

The rule inherits every limit of the multiple it reads. If the risk a book carries ever exceeds its ceiling, the multiple overstates the book and the rule pays from a reserve that is thinner than it appears. If a book's realised harvest includes gains that will be given back through costs already incurred but not yet charged, a period may distribute what it has not truly earned. And because the rule reads the multiple at the start of each period, a sharp loss early in a period does not reduce that period's share until the next. None of these is a reason to abandon the rule; each is a reason to read it beside the instruments of Papers II to IV.

VIII. What would falsify this reading

The account given here would be wrong if a book under this law were ever found to have distributed while its multiple stood below three, or to have had its multiple lowered by a distribution; either would mean the rule had been applied incorrectly or specified wrongly. It would be wrong if the Retained Harvest of a book in the state failed to grow while its realised harvest was positive. And the doctrine itself would be in error if books in the Distribution State were found to fall below Immunity in the ordinary course, for the reserve the rule protects would then be too thin. Each can be checked against the distribution ledger of a book.

RELATED IN THE PUBLIC DOCTRINE SERIES

A Machine With a Charter: The Machine States, Paper I, which defines the states and the Immortality Multiple.

The Floor Beneath the Book: The Machine States, Paper III, on Immunity and the floor ratchet.

Immortality Under the Law: The Machine States, Paper IV, on Immortality and its depth.

A Deposit Is Not a Recovery: The Machine Readings, Paper IV, on why new capital must be read apart from harvest.

ABOUT THE AUTHOR

Dr. Glen Brown is President & CEO of Global Financial Engineering, Inc. and Global Accountancy Institute, Inc. He is the architect of the GCPIAUT framework and the broader GATS-native proprietary capital doctrine. His work focuses on sovereign capital governance, algorithmic trading architecture, reserve-first compounding systems, and institutional financial engineering within closed proprietary environments.

BUSINESS MODEL CLARIFICATION

Global Financial Engineering, Inc. and Global Accountancy Institute, Inc. operate as closed-loop proprietary institutions. They do not offer public investment products through the doctrines described herein, do not invite retail participation into their proprietary capital architecture, and do not present the GCPIAUT framework as a public collective investment scheme. The concepts discussed in this article are part of the firms' internal intellectual and operating doctrine.

RISK DISCLAIMER

Trading and investment activity across foreign exchange, equities, futures, commodities, and digital assets involves substantial risk. Market conditions may change rapidly, and losses may occur. This article is provided for intellectual, institutional, and educational discussion only and does not constitute investment advice, an offer, a solicitation, or a recommendation to buy or sell any financial instrument or to participate in any investment structure.