

TRENOX ADVISORY

AI, CAPITAL AND THE FUTURE OF PROFITABILITY

From labour displacement to capital abundance - a structured summary of the argument

AI

CAPITAL

PRODUCTIVITY

OWNERSHIP

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Executive thesis

AI does not automatically abolish capitalism. In a first phase it can strengthen capital by replacing scarce human labour with scalable machine intelligence. The deeper transformation begins only if AI also makes capital goods themselves increasingly cheap and reproducible. Then capital accumulation can continue while the return on capital falls.

The key distinction is between profit mass, capital return and capital share. These variables can move in different directions.

1. Illustrative automation scenario

The following figures are a stylised scenario, not a forecast. They show how output can rise while labour's share falls and capital income expands.

Automation	Output	Labour income	Capital income
0%	100	60.0	40.0
10%	115	62.1	52.9
50%	175	52.5	122.5
90%	235	14.1	220.9

At very high automation, aggregate capital income can rise dramatically even when human labour becomes economically less important. This is the displacement channel: machines take over tasks while total productive capacity expands.

2. Profit mass is not the same as the rate of profit

To evaluate capitalism's incentive structure, the relevant question is not only how much profit is generated, but how much capital must be committed to generate it. Let $r = \Pi/K$, where Π is capital income or profit and K is the capital stock.

Automation	Capital income Π	Capital stock K	Π / K
0%	40.0	100	40.0%
10%	52.9	115	46.0%
50%	122.5	200	61.3%
90%	220.9	400	55.2%

The example demonstrates a central paradox: the absolute profit pool may continue to grow even after the marginal return on additional capital has begun to decline.

3. Competition converts AI advantage into falling margins

Early adopters can earn exceptional returns because AI temporarily creates a productivity advantage. Those returns attract competitors and investment. As the technology diffuses, supply expands, prices and margins come under pressure, and AI itself ceases to be a durable source of economic rent.

AI investment → productivity → excess profit → imitation and investment → more capacity → competition → lower margins → lower return on capital

4. Scarcity moves rather than disappears

Once general-purpose AI becomes broadly available, rents migrate toward factors that remain scarce: energy, land, raw materials, chip capacity, data-centre infrastructure, grids, intellectual property, brands, regulatory access, trusted distribution and ownership rights.

5. The self-reinforcing capital loop

A more radical phase begins when AI not only substitutes for labour but accelerates the creation of capital itself: AI designs better AI, robotics builds factories, factories build robots, and data centres support more capable models. This creates a positive accumulation loop.

AI → productivity → profit → investment → capital → automation → higher productivity

6. The ownership question

If labour income approaches a very small share of national income, distribution becomes primarily an ownership question. A society in which a narrow group owns productive AI capital produces a very different outcome from one in which households broadly own equities, pension assets, AI funds or shares in collective capital vehicles.

Technology determines productive possibilities; ownership, competition and institutions determine who receives the resulting income.

7. Long-run interpretation

Capital can become more abundant while its return declines. If reproducible AI capital becomes sufficiently cheap, exceptional returns are competed away and the return on ordinary capital may converge toward a lower equilibrium. Capitalism would not necessarily disappear, but the basis of economic rent would shift toward whatever remains genuinely scarce.

Core conclusion

AI may first destroy the scarcity of human intelligence and shift rents from labour and knowledge toward ownership of scarce productive factors. If AI subsequently destroys the scarcity of reproducible capital itself, conventional capital returns also come under structural pressure. The decisive issue is therefore not simply employment, but the evolving scarcity structure of the entire production system.

Note: All numerical examples in this paper are illustrative model assumptions and should not be interpreted as forecasts or investment advice.