

AI-03681 Burn Rate vs Inverse

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Inverse of burn rate? Run rate?

Good instinct—those terms get mixed up a lot, but they're not exact inverses.

🔄 "Burn Rate" vs "Inverse"

- Burn rate = how fast you're spending down capital (e.g., \$10k/month going out)
- The closest "inverse" concept depends on context:

1. Savings Rate / Contribution Rate

- If burn rate is outflow, the inverse is how much you're putting in
- In retirement:
 - Burn rate → withdrawals
 - Inverse → contributions (pre-retirement) or portfolio returns (post-retirement)

2. Runway (True Mathematical Inverse)

- In startups/finance:
 - Runway = Capital ÷ Burn rate
 - If burn rate is "speed," runway is "time remaining"

👉 Example:

- Burn rate: \$120k/year
- Portfolio: \$2M
- Runway: ~16.7 years (ignoring returns)

3. Run Rate (Different Concept)

- Not the inverse.
- Run rate = extrapolated annual performance
 - Revenue run rate → "If this month continues, what's the yearly total?"
- It's about projection, not depletion.

🧠 In your retirement context:

- Burn rate = withdrawal rate (e.g., 4%, \$80k/year)
- Inverses you should think about:
 - Portfolio growth rate (returns offsetting burn)
 - Safe withdrawal multiple (e.g., 25× = inverse of 4%)

👉 Key identity:

- Withdrawal rate = $1 \div$ Portfolio multiple
 - 4% → 25×
 - 5% → 20×
 - 3% → 33×

Bottom line

- Closest conceptual inverse of burn rate:
 - Runway (time perspective)
 - Portfolio multiple (25×, 33×) (retirement math)
- Run rate is unrelated—it's about scaling, not depletion

What is burn rate? What is the inverse of burn Rate? map your exact \$2M plan into burn rate vs runway vs probability of ruin.

In business and personal finance, **Burn Rate** is the speed at which you consume your cash reserves to cover operating expenses before generating a positive cash flow.

Understanding the Core Metrics

Burn Rate: The amount of money you are "burning" through per month.

- *Gross Burn:* Total monthly operating expenses.
- *Net Burn:* Total expenses minus any incoming revenue.

The Inverse of Burn Rate (Runway): While there isn't a single "mathematical inverse," the functional inverse is **Runway**. If Burn Rate is how fast the candle burns, Runway is the length of the candle.

- **Formula:** $\text{Runway} = \frac{\text{Total Cash}}{\text{Monthly Burn Rate}}$

The \$2M Strategic Map

Mapping a \$2M portfolio requires balancing the speed of consumption against the statistical likelihood of outliving the capital. Below are 22 scenarios and considerations mapping Burn Rate, Runway, and the Probability of Ruin (the chance of hitting \$0).

#	Monthly Burn	Annual Burn	Runway (Years)	Probability of Ruin (30Y)	Strategy Type
1	\$3,333	\$40k	50.0	< 1%	Absolute Preservation (2% Rule)
2	\$5,000	\$60k	33.3	~2%	Conservative (3% Rule)
3	\$6,666	\$80k	25.0	~5-10%	Standard "4% Rule" Benchmark
4	\$8,333	\$100k	20.0	~15-25%	Moderate Risk (5% Rule)
5	\$10,000	\$120k	16.6	~35-45%	Aggressive (6% Rule)
6	\$15,000	\$180k	11.1	> 80%	"Die Fast" / High Consumption
7	Variable	\$0-\$100k	Infinite?	< 1%	Guardrail Strategy (Adjusting burn to market)
8	Cash Buffer	N/A	+2-3 yrs	Reduces Ruin	The "Cash Bucket" for sequence risk
9	Yield-Only	~\$80k	Infinite	< 1%	Burning only dividends/interest (FTEC/Growth)
10	Sequence Risk	Market Down	Drops	Increases Ruin	High burn during a market crash is lethal
11	Inflation Adjust	+3% / yr	Shrinks	Increases Ruin	Purchasing power erosion over 20+ years
12	The 27th Floor	Fixed	Fixed	Low	Low-cost-of-living (LCOL) efficiency
13	SWR Limit	3.5%	28.5	< 3%	The "Safe Withdrawal Rate" ceiling
14	The "Lump"	One-time	Reduced	Variable	Large capital purchases (Real Estate/Travel)
15	Health Buffer	Escalating	Compresses	Late-stage	Factoring in rising costs in year 25+

#	Monthly Burn	Annual Burn	Runway (Years)	Probability of Ruin (30Y)	Strategy Type
16	Yield Shield	Fixed Inc	Stability	Decreases	Using bonds to "floor" the burn rate
17	Growth Factor	7-10%	Extends	Decreases	Equity heavy (ETF) growth extending runway
18	Tax Drag	15-25%	Shrinks	Increases	Net burn must include the tax man's cut
19	Binary Exit	Zero	N/A	100%	The "Die With Zero" end-state goal
20	Margin of Safety	-20% Burn	+5 yrs	Decreases	Living on 80% of the planned withdrawal
21	The "Test"	High	Short	High	Intentional high-burn periods for lifestyle
22	Legacy Zero	Max	Matched	Target: 100%	Aligning runway exactly with life expectancy

The Relationship Dynamics

- **Inverse Correlation:** As your **Burn Rate** increases linearly, your **Runway** decreases exponentially.
- **The Ruin Threshold:** Probability of Ruin stays low until Runway drops below **25 years** (for a 30-year horizon). Once Runway is less than the expected lifespan, the Probability of Ruin climbs sharply toward 100%.
- **The "PARA" Perspective:**
 - **Projects:** High-burn, short-term (e.g., world travel).
 - **Areas:** Consistent burn (e.g., housing, health).
 - **Resources:** The \$2M portfolio generating the "fuel."
 - **Archives:** Past spending habits analyzed to optimize future burn.
By maintaining a burn rate below **\$6,600/month** (4%) on a **\$2M** portfolio, you maintain a runway that likely outpaces a standard 30-year retirement horizon with a very low probability of ruin.