# 🪙 Revised Float Mechanics – Scarcity-Weighted by Era

## 📘 Concept

In **Panel Profits**, "float" represents the estimated **surviving, tradable copies** of an issue. This estimate is uncertainty-weighted based on **era**, **print data reliability**, and **known survival rates**.

## 🧮 New Float Calculation Model

### Base Formula

floatEstimate = printRun \* survivalRate \* (1 + (1 - confidenceLevel))

### Definitions

* **printRun**: Known or estimated initial number of copies
* **survivalRate**: Estimated percent still in circulation
* **confidenceLevel**: % accuracy of data (0 to 1), based on era

## 📊 Era Confidence Table

| **Era** | **Confidence Level** | **Survival Rate** | **Notes** |
| --- | --- | --- | --- |
| Pre-1960 | 0.10–0.25 | 5–15% | Records scarce; war-time losses |
| 1960–1980 | 0.25–0.50 | 10–25% | Mixed distributor data, regional gaps |
| 1980–1993 | 0.50–0.75 | 25–40% | Overprints common, moderate accuracy |
| Post-1993 | 0.80–0.95 | 40–65% | Diamond & Comichron reliable |
| Modern Era | 0.95–0.99 | 60–80% | Tracked by digital and CGC systems |

## ⚠️ Float Variability

* **Float ↑** = More certainty, larger known inventory (modern books)
* **Float ↓** = Less certainty, higher scarcity (older books)
* **Uncertainty Amplifier** = Larger risk in valuation predictions

## 🧪 Sample Use Case

* **Amazing Fantasy #15 (1962)**
  + Estimated print: 250,000
  + Survival: 8%
  + Confidence: 0.20
  + → Float = 250,000 × 0.08 × (1 + (1 - 0.20)) = 36,000 copies (weighted)
* **Batman #608 (2002)**
  + Print: 100,000
  + Survival: 70%
  + Confidence: 0.95
  + → Float = 100,000 × 0.70 × (1 + (1 - 0.95)) ≈ 73,500 copies (weighted)

## 🛠 System Use

* Stored in floatIndex.json
* Called by rarity calculator, auction simulator, and NPC trader behavior
* Used to adjust *market liquidity*, *scarcity multiplier*, and *pricing bias*

## 🧠 Game Implication

Float isn't just how many exist — it's how sure we are that they do.