$ OddsCipher_

ODDSCIPHER LIBRARY · REFERENCE DOCUMENT

The Vig, Hold & Margin Handbook

How books price their cut, how to measure it, and what juice does to your break-even

2026 edition · updated 2026-07-19 · oddscipher.com/library · educational reference — not an app, not picks

[redacted]

1 · One idea, five names

Vig (vigorish) and juice are informal names for the book's commission. Overround and book percentage describe it from the probability side — how far a market's prices sum past 100 percent. Margin expresses that cut as a percentage of the book. Hold is the money the book actually keeps once bets settle. The only distinction that matters is theoretical (margin) versus realised (hold).

2 · Margin on a two-way market

Take the canonical American price of -110 on both sides. Its decimal equivalent is 1.909, and the margin falls out in three steps.

```
# -110 both sides -> decimal 1.909 each
p_a = 1 / 1.909 = 0.5238
p_b = 1 / 1.909 = 0.5238
book_pct = 1.0476            # 104.76%

overround = 104.76% - 100% = 4.76 points
margin = (book_pct - 1) / book_pct
       = 0.0476 / 1.0476 = 4.5%   # of the book
```

The overround of 4.76 points is the book-percentage view; the margin of about 4.5 percent expresses the same cut as a fraction of the total book. Both come from the prices alone — no bet volumes required — which is why they are called theoretical.

3 · Margin on a three-way market

Nothing changes but the number of terms. A soccer 1X2 market has three outcomes, so you sum three implied probabilities. Figures are illustrative.

```
home 2.40 -> 0.4167
draw 3.30 -> 0.3030
away 3.10 -> 0.3226
book_pct = 1.0423
margin = 0.0423 / 1.0423 = 4.1%   # of the book
```

4 · Margin versus hold

Margin is what the prices imply; hold is what the book actually banks. They agree only when the book's exposure is balanced across outcomes. When money stacks heavily on one side, the book carries directional risk, and realised hold on a single event can land above the margin (if the crowd loses) or below it, even negative (if the crowd wins). Over many events these swings average toward the margin.

5 · Break-even win rate at any price

The margin sets the win rate you need just to stay level. Break-even = 1 / decimal price.

Juice and the win rate needed to break even

American	Decimal	Break-even win rate
+100 (even)	2.000	50.00%
-110	1.909	52.38%
-115	1.870	53.48%
-120	1.833	54.55%

6 · What widening juice does to required accuracy

Read the gap between -110 and -120: the required win rate climbs from 52.38 to 54.55 percent. That two-point jump is the difference between a beatable price and a punishing one, and it is paid on every bet, win or lose. Widening juice is the quietest way a book protects itself.

7 · Comparing margin across books

The book percentage is a single comparable number. Line up the same market across several books, sum each one, and the lowest sum is the tightest price — the least margin standing between you and a fair bet. This is a structural comparison, not a prediction, which is why it is reliable to compute and one of the highest-return habits a bettor can keep.

Risk notice. This is an educational reference document, not a betting app, software, account, or picks service. All prices and probabilities are illustrative teaching examples chosen to demonstrate the math; they are not claims about any real