Field Size and Per-Race Wagering Determinants

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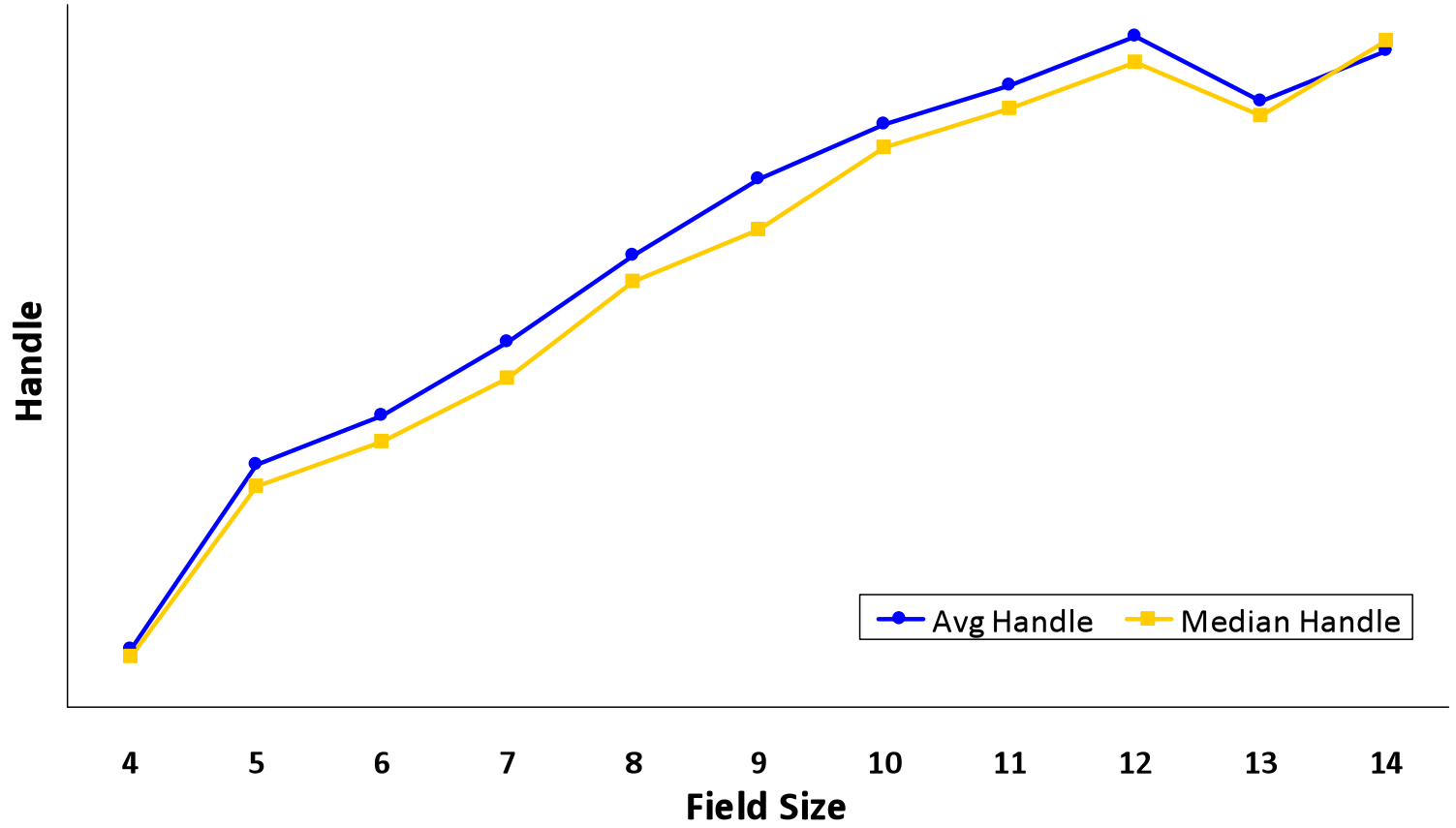
Average & Median Wager per Field Size

Woodbine 2014



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Average & Median Win Odds per Field Size

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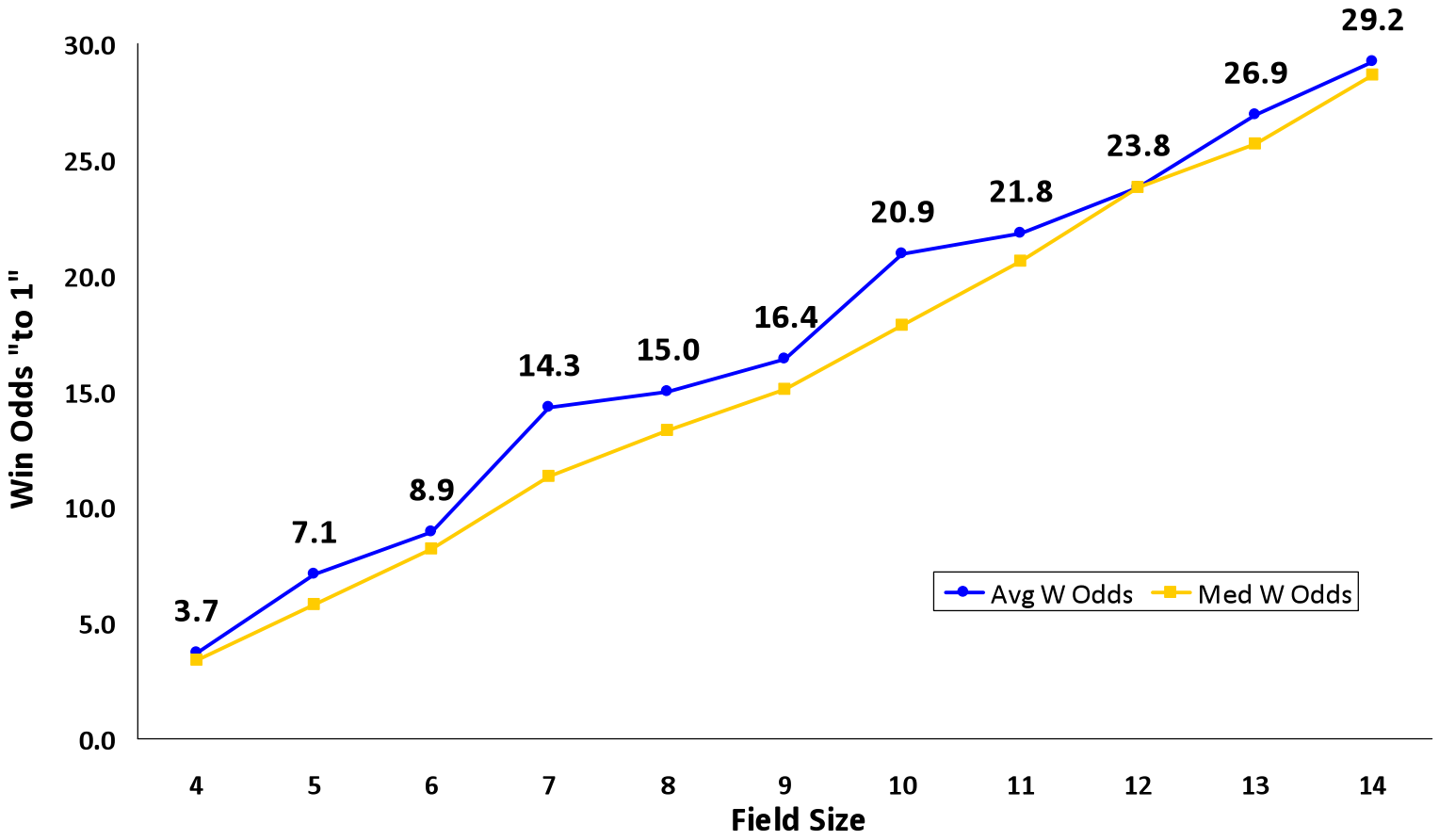

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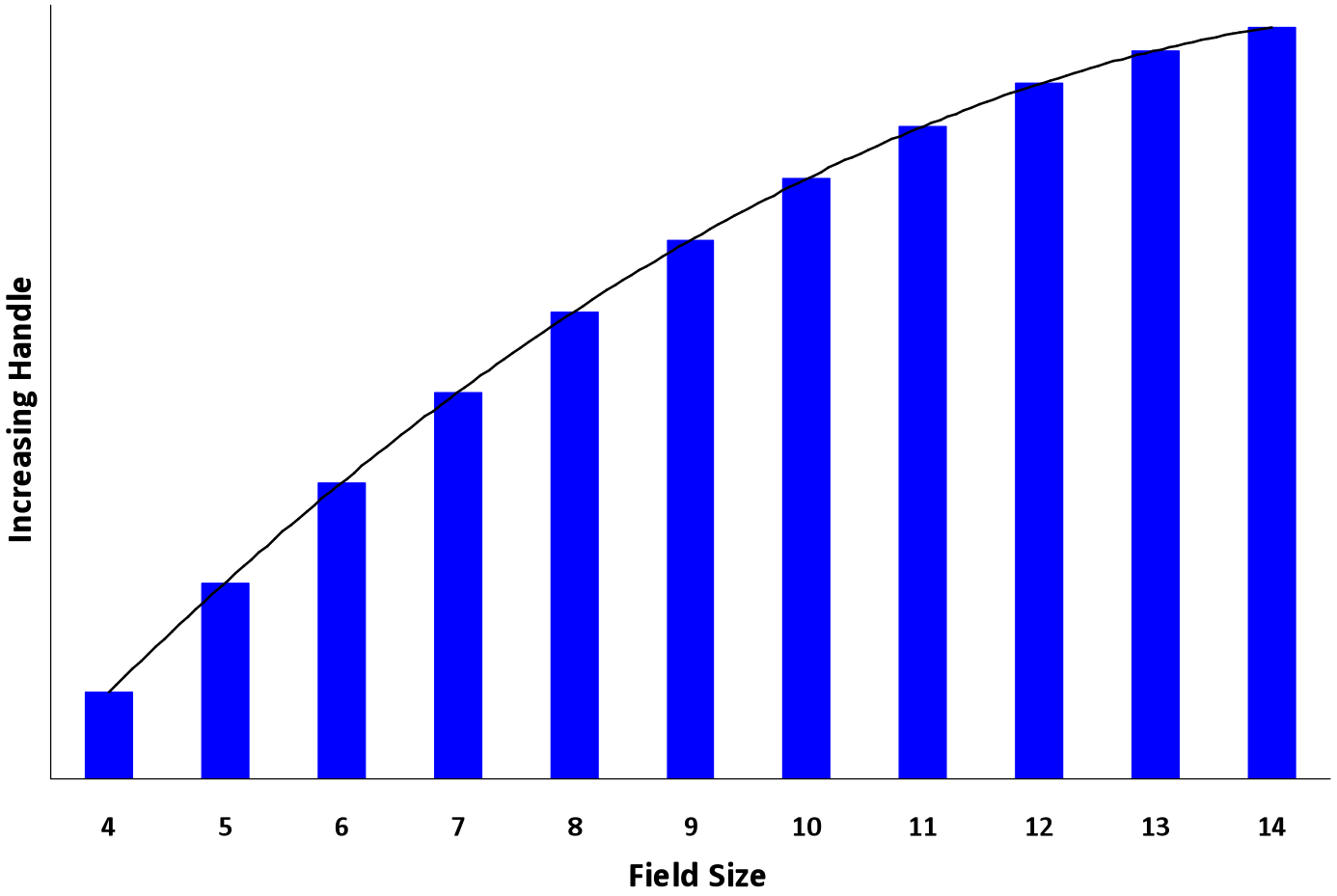
Econometric Analysis

- Woodbine 2012, $454m total wager on 1,515 races
- Multivariate Regression – empirically verify which variables are/not statistically meaningful to per-race wagering and isolate the true magnitude of these relationships.
- Mathematically control for intertwined relationships. Model results are "all else held constant" (aka, ceteris paribus).
- Basic Model:

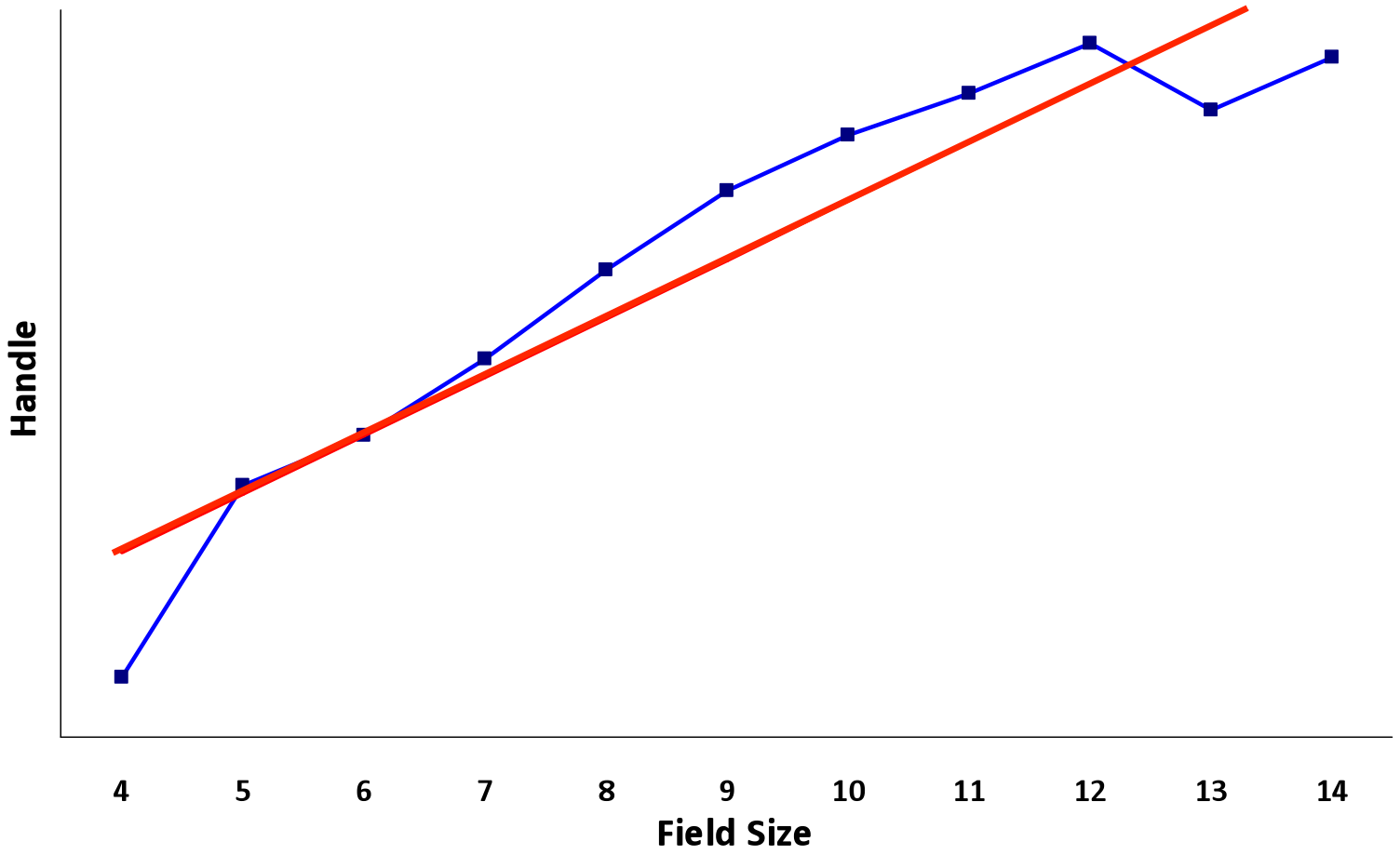
  Per-Race Handle = f(Field Size, Race Quality, Surface, Race Conditions, Raceorder, Special Events, Market Timing, Market Distribution)
- Data complications include Serial Correlation and "Stacked" Correlation Effects

Handle Increases at a Diminishing Rate as Field Size Increases



Average Wager per Field Size w/ Linear Trendline

Woodbine 2014



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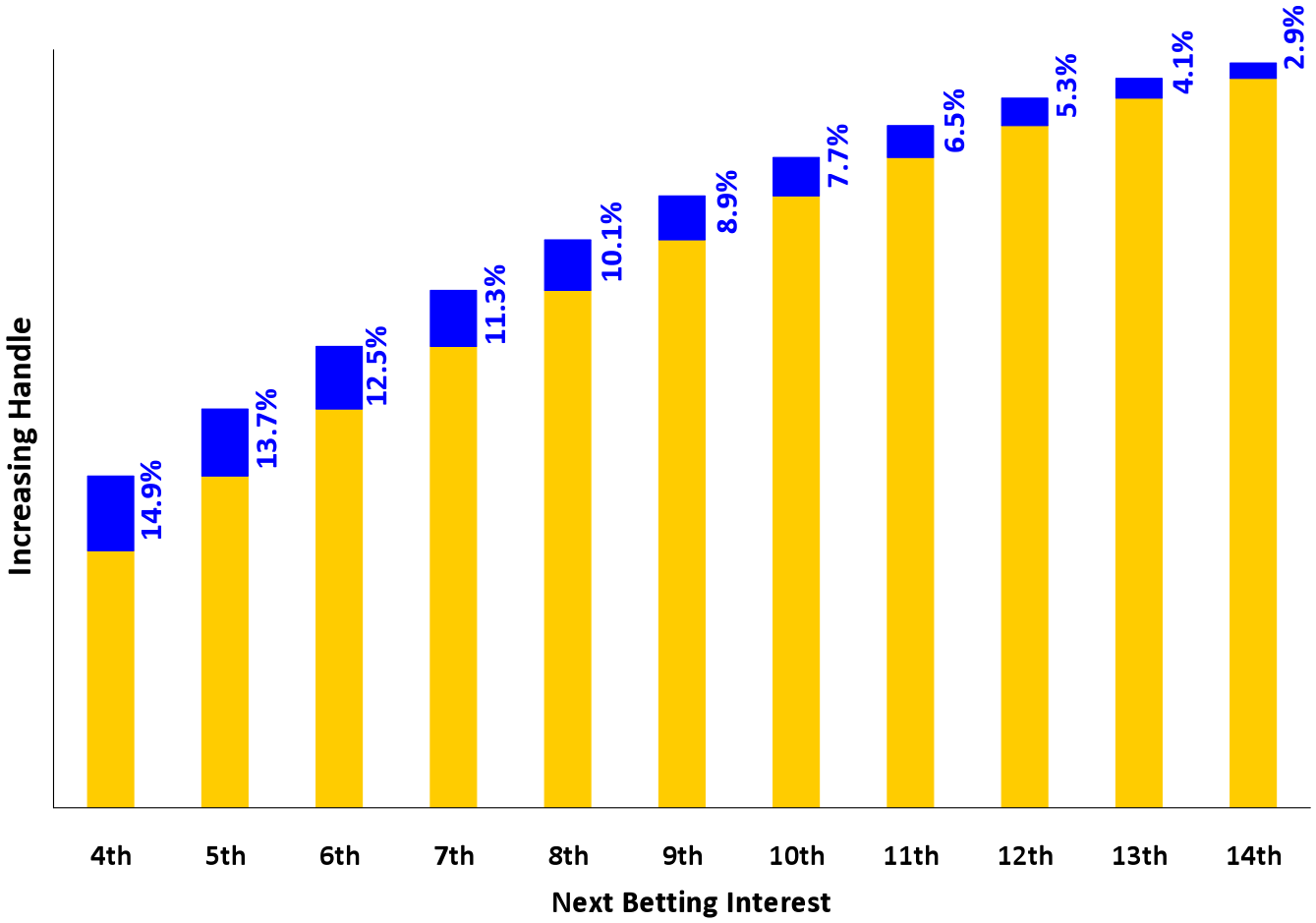
Diminishing Marginal Value of the Next Horse



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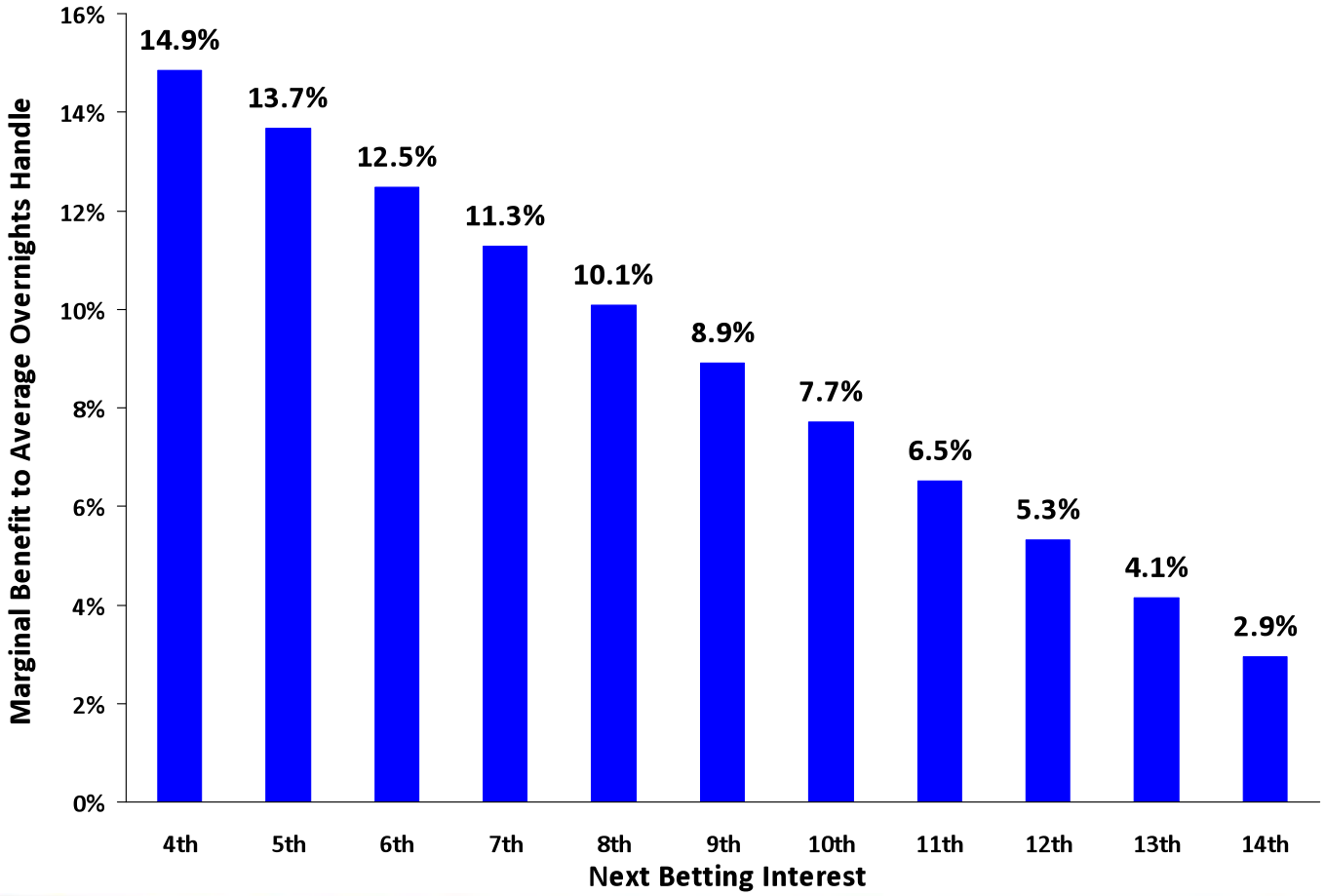

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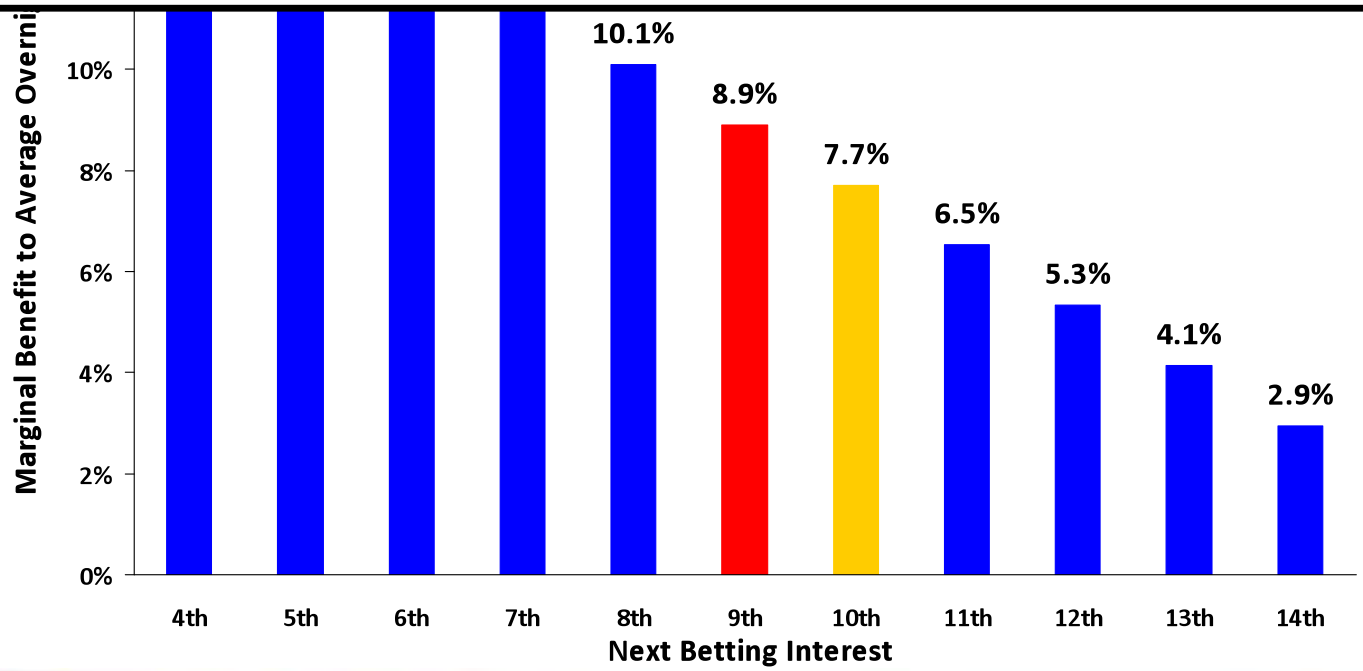
Diminishing Marginal Value of the Next Horse

Adding a 9th horse to a field of 8 yields **8.9%** handle win.

Adding a 9th and 10th horse to a field of 8 yields
(**8.9%** + **7.7%**) 16.6% gain.



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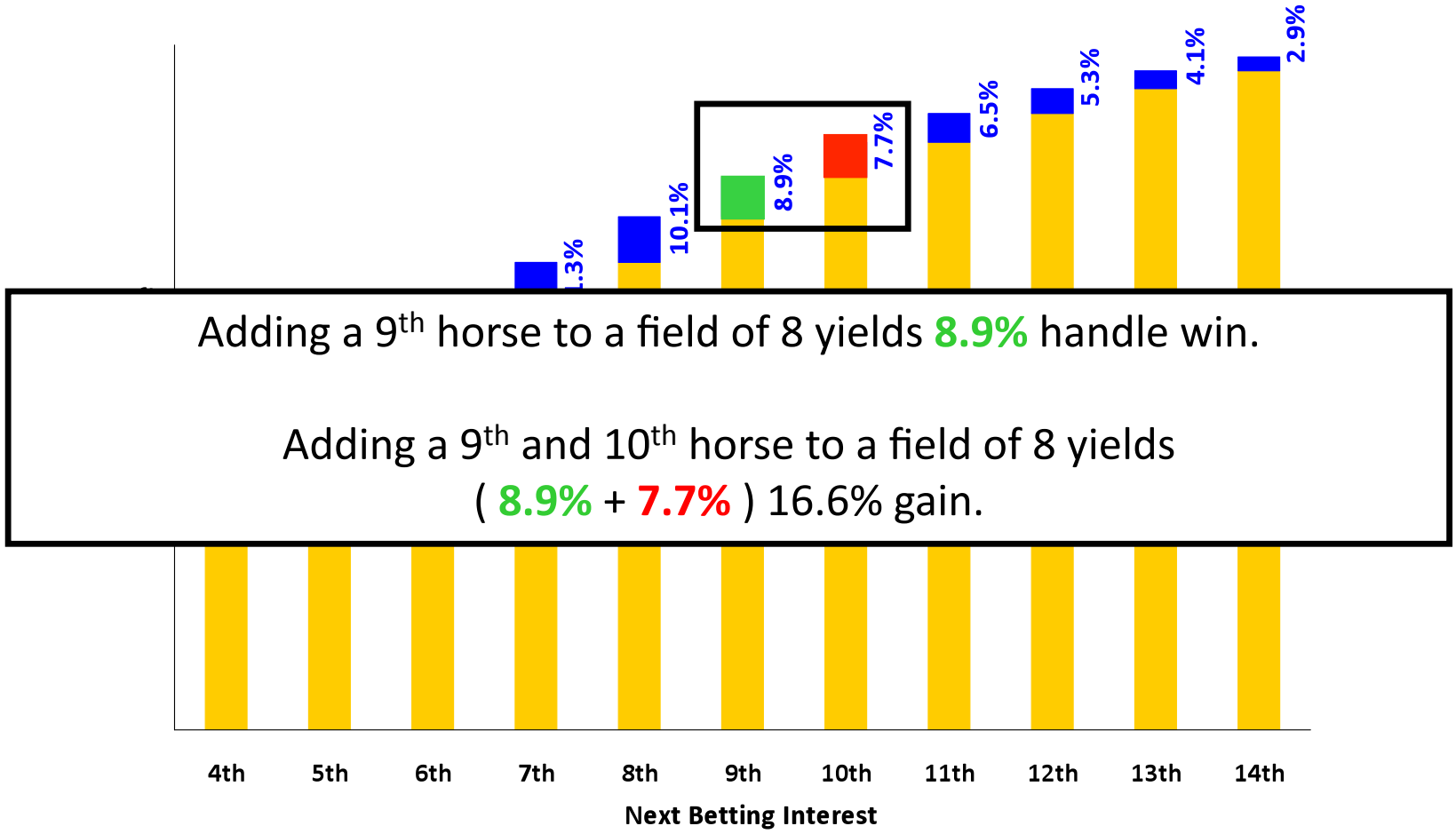

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Distribution of Races w/r/t Field Size

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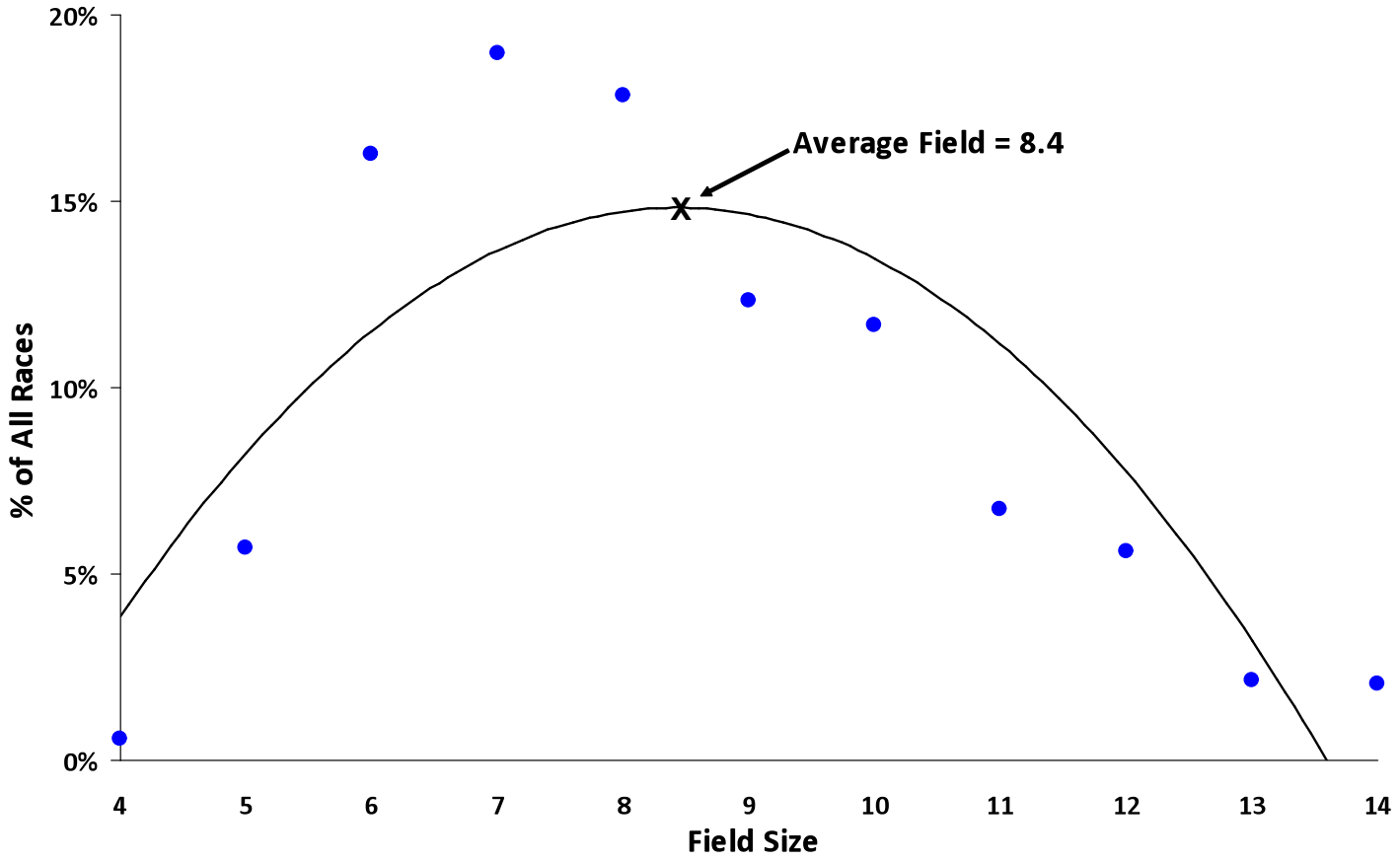

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Distribution of Races w/r/t Field Size

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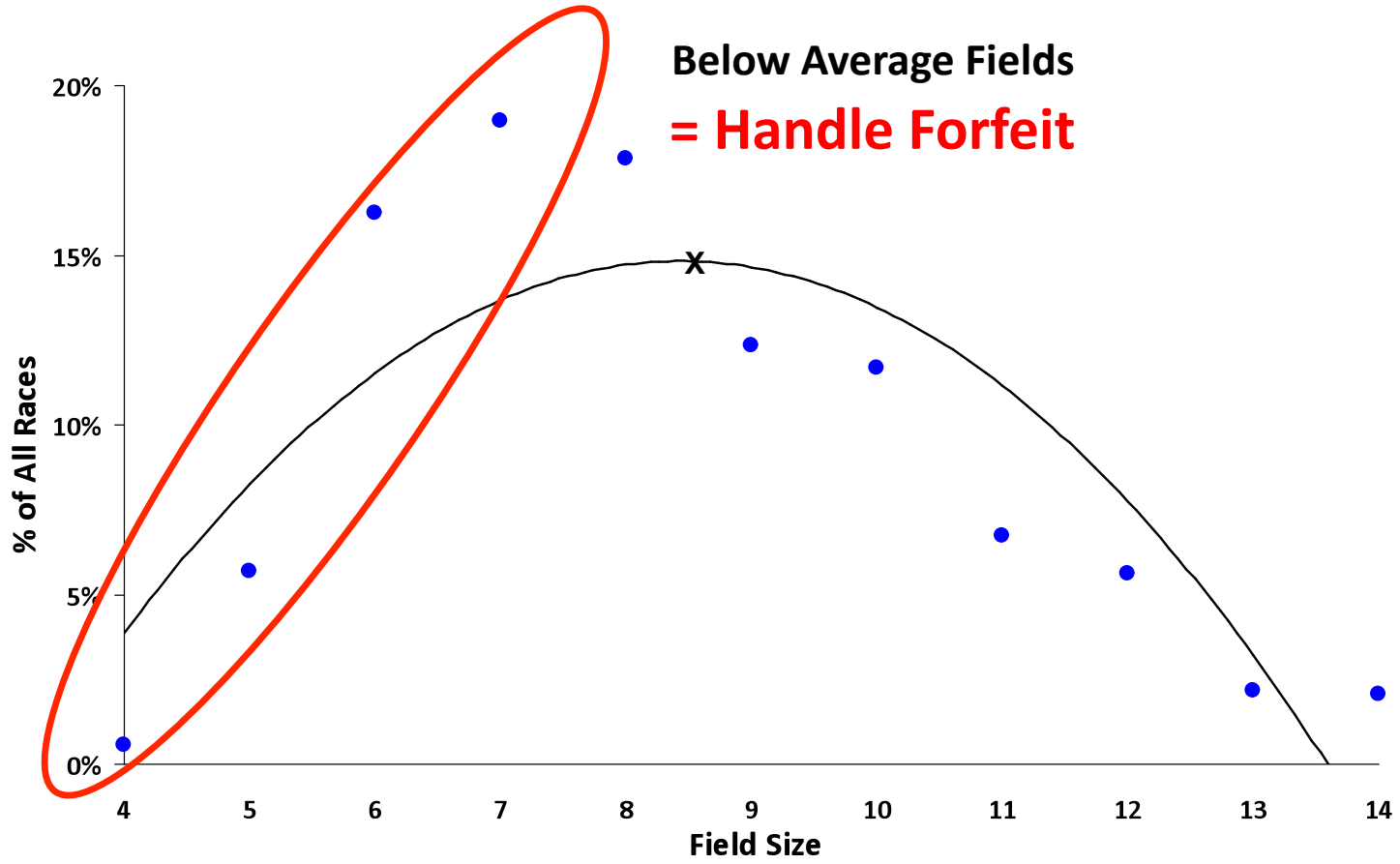

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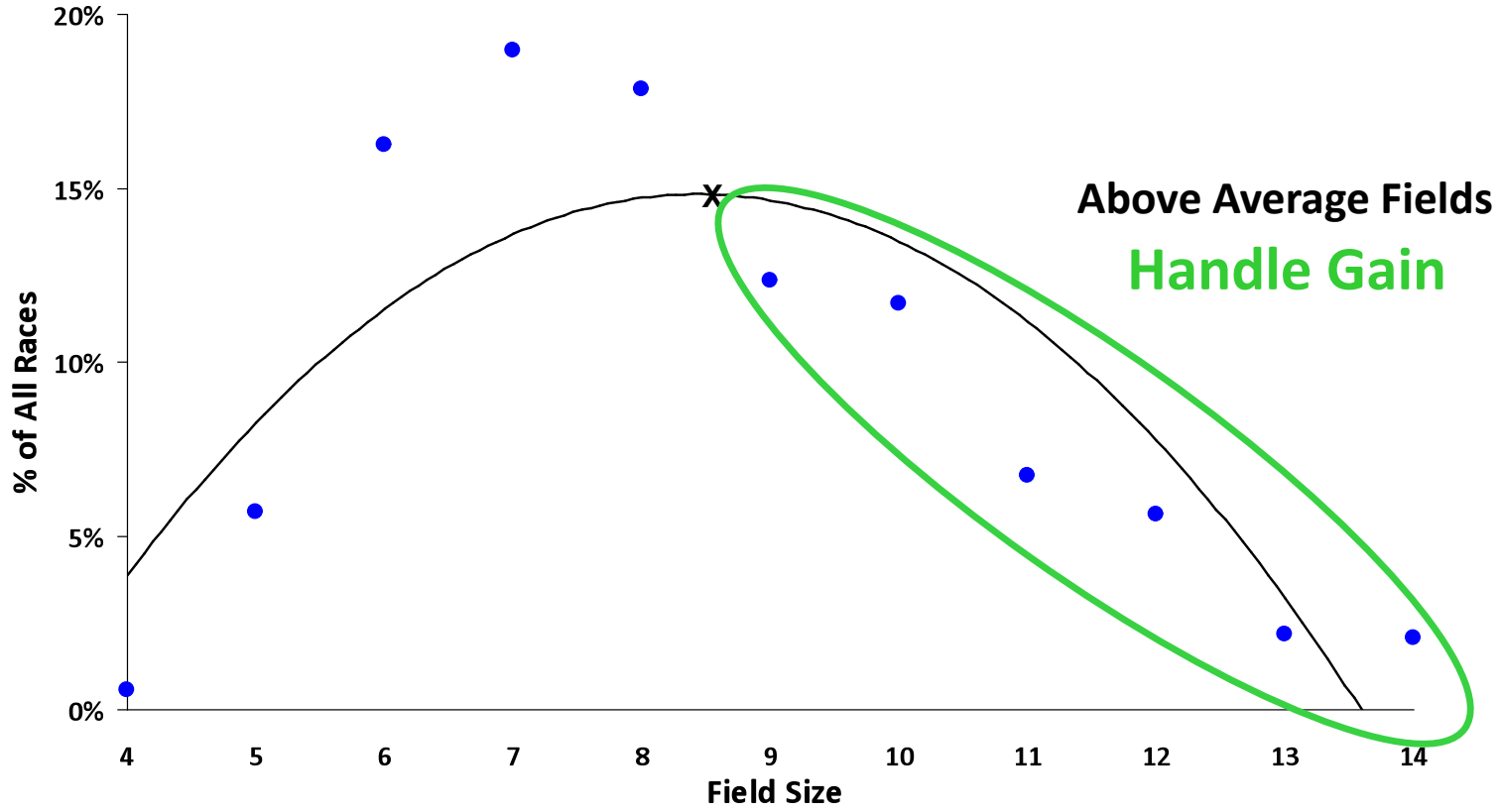

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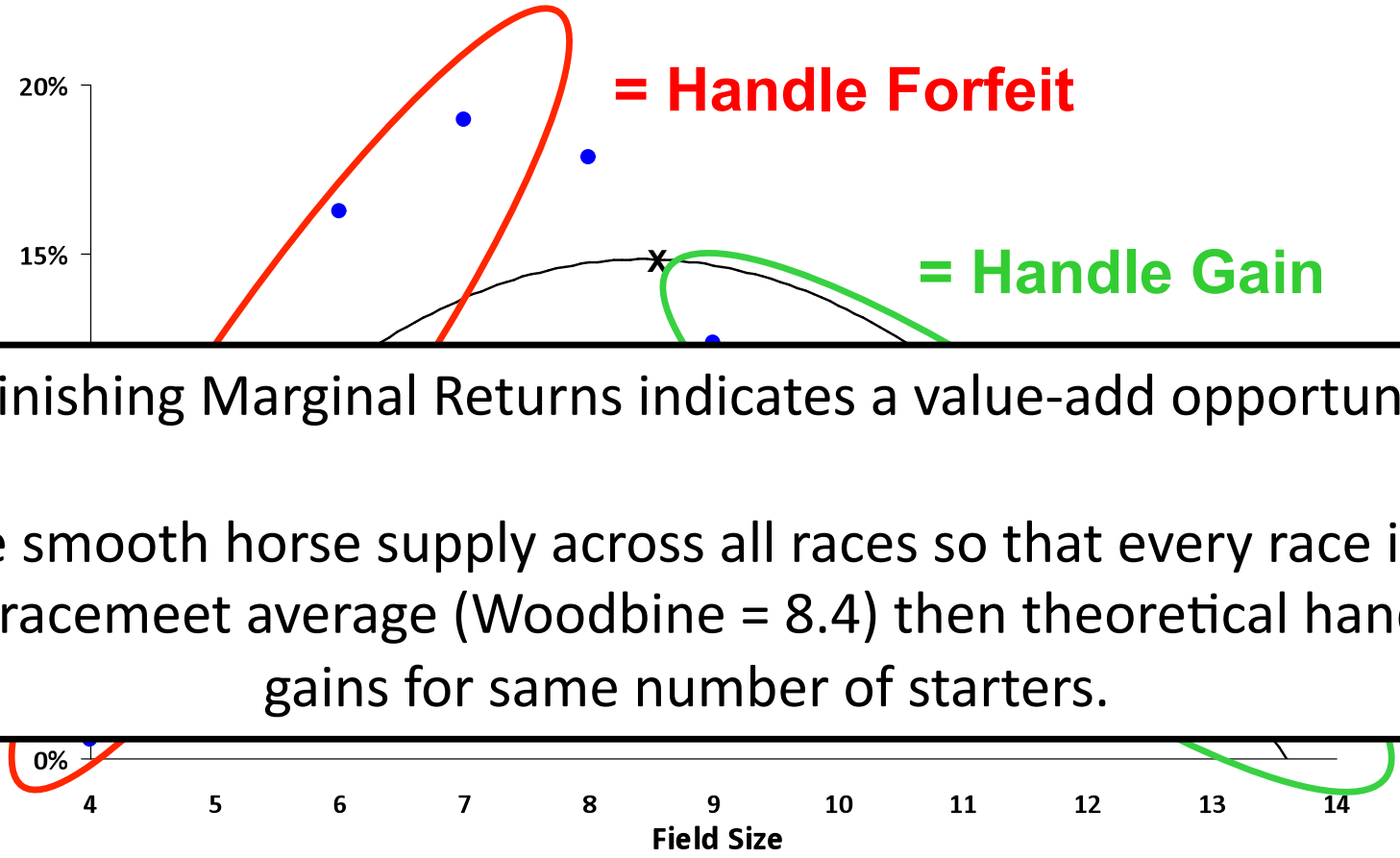

Diminishing Marginal Returns indicates a value-add opportunity.

If we smooth horse supply across all races so that every race is at the racemeet average (Woodbine = 8.4) then theoretical handle gains for same number of starters.

Race Competitiveness

- Overwhelming favourites drive down total wagering as that runner becomes a “key” in exotics.
- Although, the Show pool can increase – BridgeJumpers
- Various wagering studies have unsuccessfully attempted to model versions of a “Competitiveness Index”
- Overwhelming favourites increase as Field Size decreases. Econometric models consume this effect with the Field Size test.

But Field Size Isn't Everything…

Our customers reward us for Quality racing

- Purse levels can proxy for Woodbine Overnight race conditions (purses unchanged for full year 2012)
- Each $10k move up the purse scale brings 2.6% handle growth, c.p.
- Combine 2.6% wagering elasticity of race quality with the Diminishing Returns to Field Size…

Heat Mapping Quality vs Quantity

		Bet Interests					Avg Field = 8.4						
Purse Value		3	4	5	6	7	8	9	10	11	12	13	14
	$20,000	33	47	61	74	85	**95**	104	112	118	123	128	131
Claiming $16k	$25,000	34	49	62	75	86	**96**	105	113	119	125	129	132
	$30,000	35	50	64	76	87	**98**	106	114	121	126	130	133
Claiming $25k	$35,000	36	51	65	77	89	**99**	108	115	122	127	131	134
Median Overnight	$40,000	38	52	66	79	90	**100**	109	117	123	128	133	136
Claiming $50k	$45,000	39	54	67	80	91	**101**	110	118	124	130	134	137
	$50,000	40	55	69	81	92	**103**	111	119	126	131	135	138
Maiden Allowance	$55,000	41	56	70	82	94	**104**	113	120	127	132	136	139
	$60,000	43	57	71	84	95	**105**	114	122	128	133	138	141
Open Allowance	$75,000	46	61	75	87	99	**109**	118	125	132	137	141	144
	$80,000	48	62	76	89	100	**110**	119	127	133	138	143	146
Overnight Stake	$100,000	53	67	81	94	105	**115**	124	132	138	143	148	151

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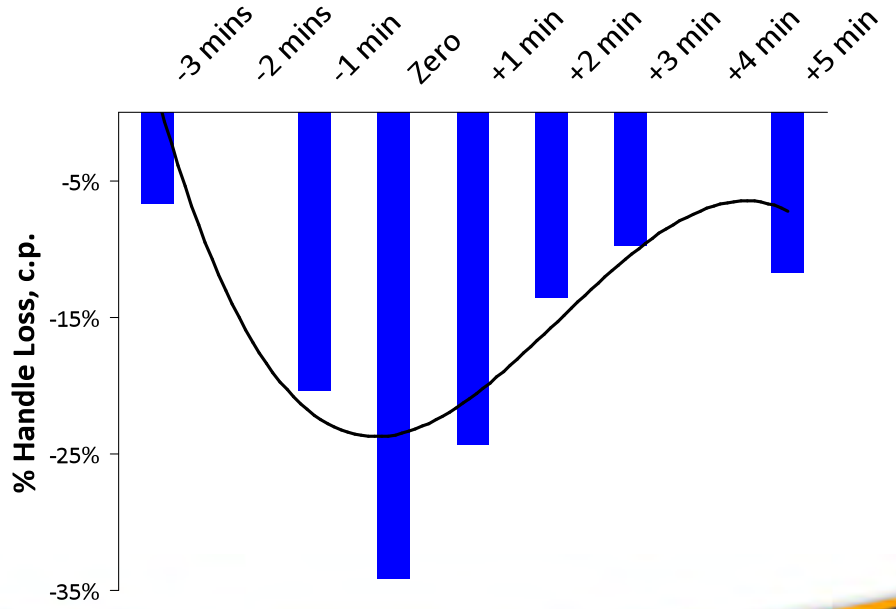
Additional Model Insights

- Races taken Off-the-Turf cost 10% in handle after controlling for change in field size
- Restricted races cost 5.3%, c.p.
- The market rewards coordinated (punishes overlapping) posttimes with major simulcast competitors



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But we're running low on horses...

- Less Racing? Not a traditional "go-to" solution.
- How to get more starts per horse?
  - Reduce the cost of losing?
- Restricted and Open programs don't intersect, means fewer horses in more races.
  - Entice/Convert restricted runners into Open events.
  - Woodbine open race bonuses: 40% to Ontario-Sired, 20% to Ontario-Bred
- Can the tracks partner on horse supply?
- Elephants at the watering hole.

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