

Alex Sharpe

FINC-460 Investments

Kellogg School of Management

- Alex Sharpe faces an asset allocating decision.
- Currently, she holds the S&P 500 index
- She is considering adding one of two stocks
 - ↪ Hasbro
 - ↪ RJ Reynolds
- How would allocating 1% of her assets into one of these affect the overall risk of her portfolio?

Asset classes

	S&P 500	Reynold	Hasbro	S&P 500 + 1% Reynold	S&P 500 SP + 1% Hasbro
Mean return (%, annualized)	6.90	22.50	14.21	7.05	6.97
Standard Deviation (%, annualized)	12.48	32.45	28.11	12.45	12.53

- Reynold is more volatile, yet adding it *reduces* the risk of our portfolio.
- How so?

Reynolds beta

2 . reg reynolds sp500

Source	SS	df	MS
Model	.041432968	1	.041432968
Residual	.47617722	58	.008209952
Total	.517610189	59	.008773054

Number of obs = **60**
 F(1, 58) = **5.05**
 Prob > F = **0.0285**
 R-squared = **0.0800**
 Adj R-squared = **0.0642**
 Root MSE = **.09061**

reynolds	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sp500	.735763	.3275181	2.25	0.028	.0801644	1.391362
_cons	.0145226	.0118478	1.23	0.225	-.0091934	.0382386

3 . reg hasbro sp500

Source	SS	df	MS
Model	.154285153	1	.154285153
Residual	.234328759	58	.004040151
Total	.388613912	59	.006586676

Number of obs = **60**
 F(1, 58) = **38.19**
 Prob > F = **0.0000**
 R-squared = **0.3970**
 Adj R-squared = **0.3866**
 Root MSE = **.06356**

hasbro	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sp500	1.419799	.2297543	6.18	0.000	.9598962	1.879703
_cons	.003684	.0083113	0.44	0.659	-.0129528	.0203208

- Use Stata to estimate the beta of each stock