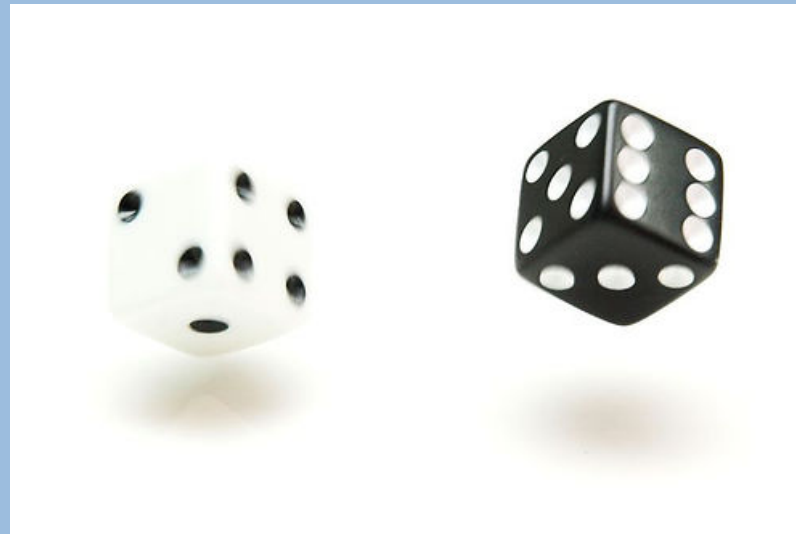


Luck and Entrepreneurial Success

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How important is luck for success?



How important is luck for success?

Those who have succeeded at anything and don't mention luck are kidding themselves.

Larry King, CNN

- > Luck seems to be central for success

How important is luck for entrepreneurial success?

Being a successful entrepreneur is 50% luck.

Greg Kiessling (1994), Canadian serial entrepreneur, e.g., co-founder Sitraka and Bullfrog

- > Is luck really that important for entrepreneurial success?

Was Bill Gates lucky?



April 2010 - European Financial Management, Montréal

Research question

- > How important is luck for entrepreneurial success?
- > Why is it important to understand the role of luck:
 - Is selection of entrepreneurs important?
 - Is training of entrepreneurs effective?
 - Stigmatizing unsuccessful entrepreneurs
- > Main findings
 - On average, luck is not that important than assumed so far.
 - Explains up to 17% of performance.

Structure of the talk

- > **Related literature and contribution**
- > Survey design
- > Investigative design
- > Main results
- > Conclusions

Related literature

- > Asset pricing literature
 - Hartzmark (1991) shows that the ability of superior traders regresses toward the mean
 - Barras, Scaillet, and Wermers (2009) show that skilled managers of actively managed funds are exceptionally rare (see also Kosowski, Timmermann, Wermers and White (2006) or Fama and French (2009))

- > Entrepreneurship literature
 - Entrepreneurial performance increases with effort (Bitler, Moskowitz, and Vissing-Jorgensen (2005))
 - Previously successful entrepreneurs are more successful in their subsequent venture (Gompers, Kovner, Lerner, and Scharfstein (2009))

Contribution

- > Gompers, Kovner, Lerner, and Scharfstein (2009)
 - We identify factors that their variable of prior success could represent, namely effort and skills

- > Kaplan, Sensoy, and Strömberg (2009)
 - Focus on the question of the „jockey“ or the „horse“ makes sense because luck is not that important.
 - We also confirm that replacing the „jockey“ does make sense because experience, talent, and effort are important for success.

Survey design

Where do we get the data from?

- > Questionnaire sent in the winter of 2007 to 40,000 randomly selected chairmen of the board, co-owners of companies of limited liabilities, and sole proprietors of new start-ups;
- > Another questionnaire was sent to 23,202 managers, public employees, teachers, engineers, mechanics, and commercial clerks;
- > 3,748 filled out the questionnaire for entrepreneurs, 4,497 filled out the questionnaire of the control group.

Investigative design

- > Performance regressions
 - *Unexplained variance*
Performance_i = f(skills, personality, control variables, correction for self selection)_i + e_i
 - *Marginal R-squared*
Performance_i = f(*good luck, bad luck*, skills, personality, control variables, correction for self selection)_i + e_i
 - *Variance decomposition*
Performance_i = f(*good luck, bad luck*, skills, personality, control variables, correction for self selection)_i + e_i
- > Directly asking entrepreneurs about success factors
 - > Very important (5) vs. very unimportant (1)

Variables definition

Performance measures

- > Firm performance (similar to Bitler, Moskowitz, and Vissing-Jorgensen (2005))
 - Sales
 - Aggregate income (firm earnings and personal income)
 - Return on initial capital (ROI)
 - Industry and formation year adjusted

- Average (median) firm:
 - Sales: CHF 2 million (200,000)
 - Aggregate income: CHF 169,000 (119,000)
 - ROI: 421% (220%)

Variables definition

Luck measures

- > Luck = unpredictable performance
 - Good luck = firm performance is better as expected
 - Bad luck = firm performance is worse as expected
 - Stated by the entrepreneur (ex post)

- Problems with our measure of luck
 - Binary variable
 - Depending on the entrepreneur's subjective ex post expectation
 - Overconfidence bias
 - Look back bias

Descriptive statistics

- > The average entrepreneur
 - Has 14.5 year (13.9 for employees) of education and is educated in 1.1 (0.65) management area;
 - Has 24.4 (30.6) years working experience, 15 (22.3) years of industry experience, and 11.9 (12.6) years of managerial experience;
 - Invest 70% (57%) of new additional wealth in risky assets, 21% (8%) in his own company.

- > Proportion of entrepreneurs
 - 37% had good luck;
 - 13% had bad luck;
 - 23% were previously successful entrepreneur;
 - 8% were previously unsuccessful entrepreneur.

Selection equation

Probability to become an entrepreneur

- > Positive effect
 - Education, management education
 - Managerial experience
 - Previously unsuccessful entrepreneur
 - Overconfidence

- > Negative effect
 - Industry experience
 - Risk aversion

- > No effect
 - Previously successful entrepreneur
 - Working experience

Luck as unexplained performance

	Industry-adjusted log(firm sales)		Industry-adjusted log(aggregate income)		Industry-adjusted return on initial capital	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic

Number of observations	2,349		1,499		1,421	
R-squared	0.326		0.088		0.098	
Adjusted R-squared	0.311		0.056		0.069	

Marginal R-squared

	Selection equation (probit)		Industry-adjusted log(firm sales)		Industry-adjusted log(aggregate income)		Industry-adjusted return on initial capital	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Good luck			0.583***	10.036	0.498***	7.848	1.619***	6.755
Bad luck			-0.587***	-6.535	-0.549***	-5.045	-1.268***	-3.273
Number of observations	7,495		2,349		1,499		1,421	
R-squared			0.377		0.196		0.143	
Adjusted R-squared	0.274		0.362		0.167		0.111	
Marginal contribution of the luck variables to the overall R-squared of the regression			0.051		0.041		0.042	

Variance decomposition (R-squared in percent)

	Industry-adjusted log(firm sales)	Industry-adjusted log(aggregate income)	Industry-adjusted return on initial capital
Entrepreneurial skills index	2.65	1.97	1.18
Entrepreneurial luck index	7.51	8.26	5.06
Personal characteristics index	4.24	1.49	2.65
Firm-specific controls variables index	22.04	2.77	3.29
Inverse Mills ratio	0.96	0.02	0.48
Region index	0.26	0.86	1.57
R-squared of the model	37.66	15.38	14.23
Number of observations	2,349	1,499	1,421

The opinions of entrepreneurs

Results

	Average score (1)	Average rank (2)	Most important vs. least important (3)	Very important vs. very unimportant (4)
Luck	3.19	4.50	15.47% ; 78.43%	13.88% ; 11%
Experience	4.66	1.94	60.43% ; 18.46%	57.71% ; 0.23%
Talent	4.47	1.61	70.99% ; 14.34%	67.98% ; 0.2%
Effort	4.63	1.58	74.86% ; 14.53%	72.35% ; 0.1%
Education	4.25	2.48	47.23% ; 28.3%	44.41% ; 0.49%
Network	4.19	2.62	47.11% ; 28.12%	44.09% ; 1.08%
F-Value (ANOVA equality test of means)	1,325***	1,553***		
Start-up need no luck for success	57.8%			
Minimum number of observations	3,018			

The opinions of entrepreneurs

Robustness test

- > No systematic additional success factor
 - Only 9 of 100 mentioned an additional success factor

- > Average score, ranking are robust to
 - Success
 - Luck
 - Previously successful entrepreneurs
 - Overconfidence
 - Risk aversion
 - Education
 - Management education
 - Experience
 - Starting entrepreneurs

The opinion of entrepreneurs

Conclusion

- > If the list of success factors is complete, then they are in principle responsible for 100% of the variation in performance.

- > If all success factor are equally important
 - Luck explains 1/6th (17%) of entrepreneurial performance

- > But luck is the least important one
 - Luck explains less than 17% of entrepreneurial performance

- What if there are more systematic success factors?

Conclusions

- > Entrepreneurs are indeed different
 - Lower risk aversion
 - Higher overconfidence
 - Male
 - More educated

- > Entrepreneurial success seems to reflect much more dedication, skills, and personality than pure luck.

Thank you!

