


Credit Scoring & Credit Control XII: Risk & Reward in Consumer Credit



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Outline

I. Problems with Modeling Profit

II. Modeling Profit

III. Strategy

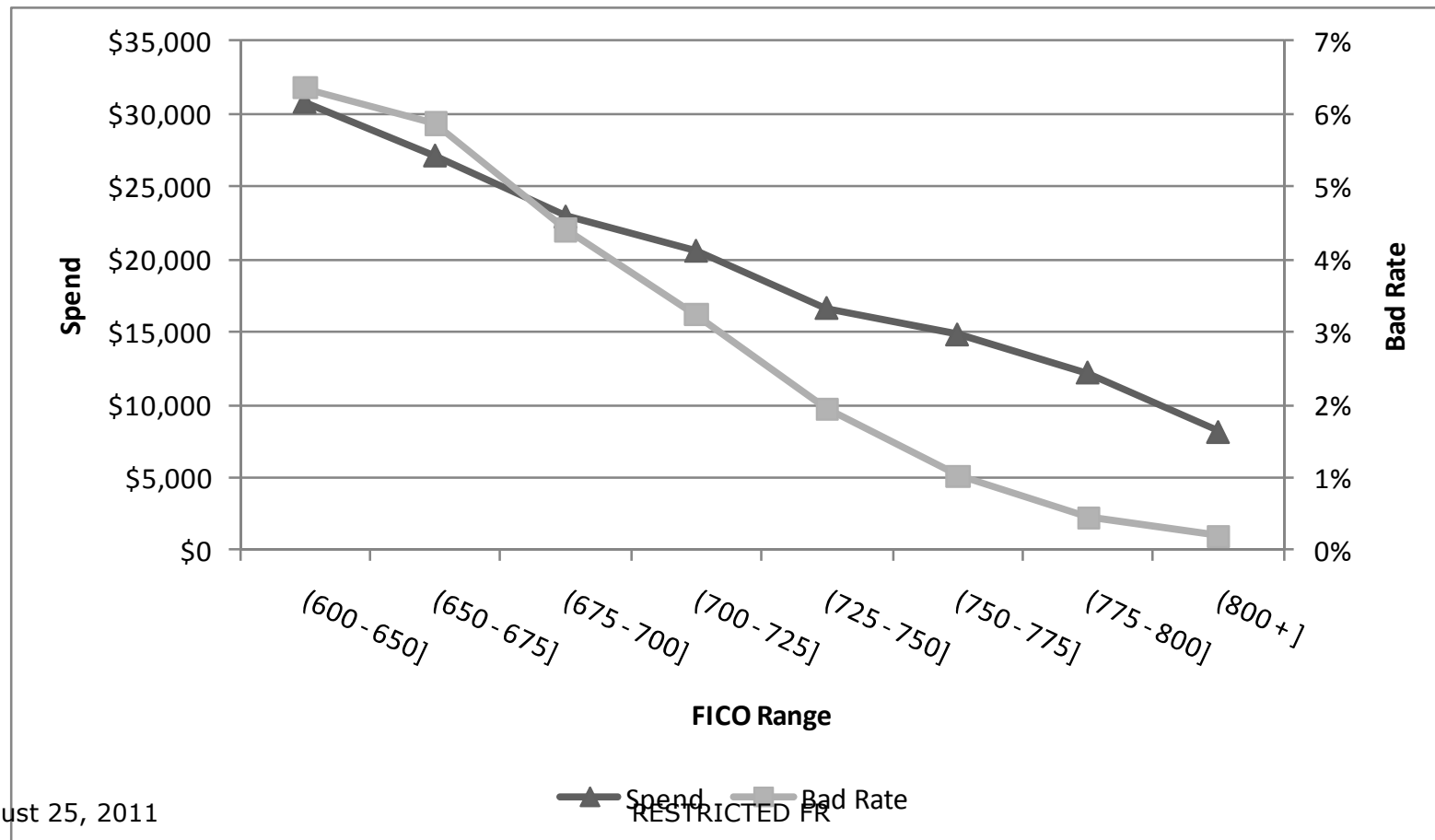
I. Challenges Modeling Profit

1. Defining Profit

- a. Account level
- b. What time horizon
- c. Introductory deals
- d. Arbitrary concept

I. Challenges Modeling Profit

2. Correlation between Profit and Risk

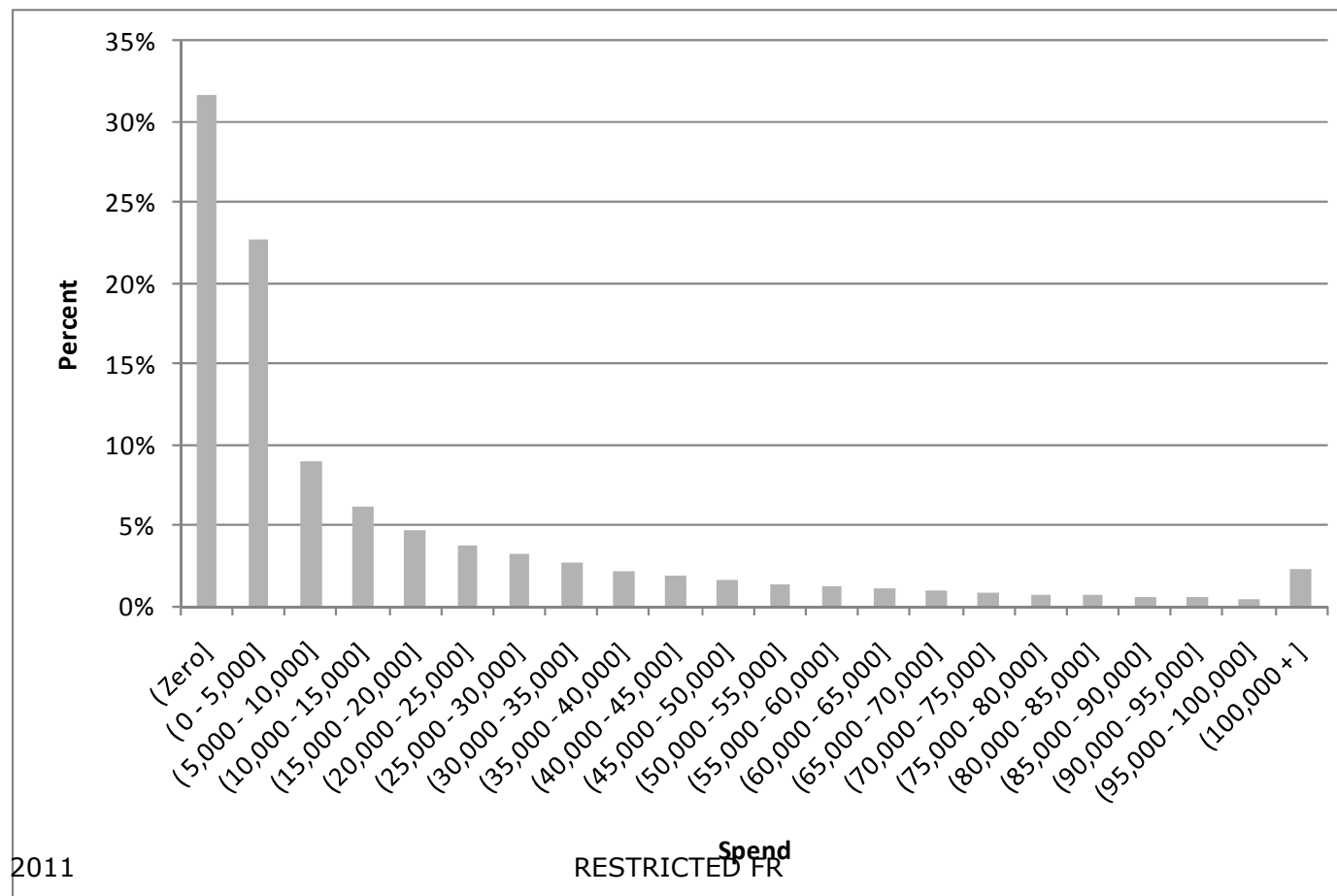


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I. Challenges Modeling Profit

3. Profit Distribution



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I. Challenges Modeling Profit

4. Population Drift

- a. Changes in the economy
- b. Competition
- c. Legal Changes
- d. Regulatory changes

II. Spend Model

1. Use Spend – 2 Year Cumulative Spend

- a) Interest on revolving accounts
- b) Fees – late, over-limit, annual
- c) Other Services, i.e. payment protection insurance

II. Spend Model

2. Spend is Correlated with Risk

FICO Band	Count	Bad Rate	Standard Deviation of Bad Rate	Mean Spend
[600 - 690]	16,077	5.3%	0.18%	\$25,711
(690 - 720]	18,980	3.5%	0.13%	\$21,565
(720 - 760]	30,420	2.0%	0.08%	\$16,404
(760 - 850]	54,345	0.5%	0.03%	\$11,408

FICO Range	Two Year Merchant Spend (Thousands)		t Value	Pr > t
	Zero Balance on Revolving Credit Cards	Positive Balance on Revolving Credit Cards		
< 700 FICO	\$30	\$24	8.52	<.0001
> 800 FICO	\$8	\$8	0.48	0.6294

II. Spend Model

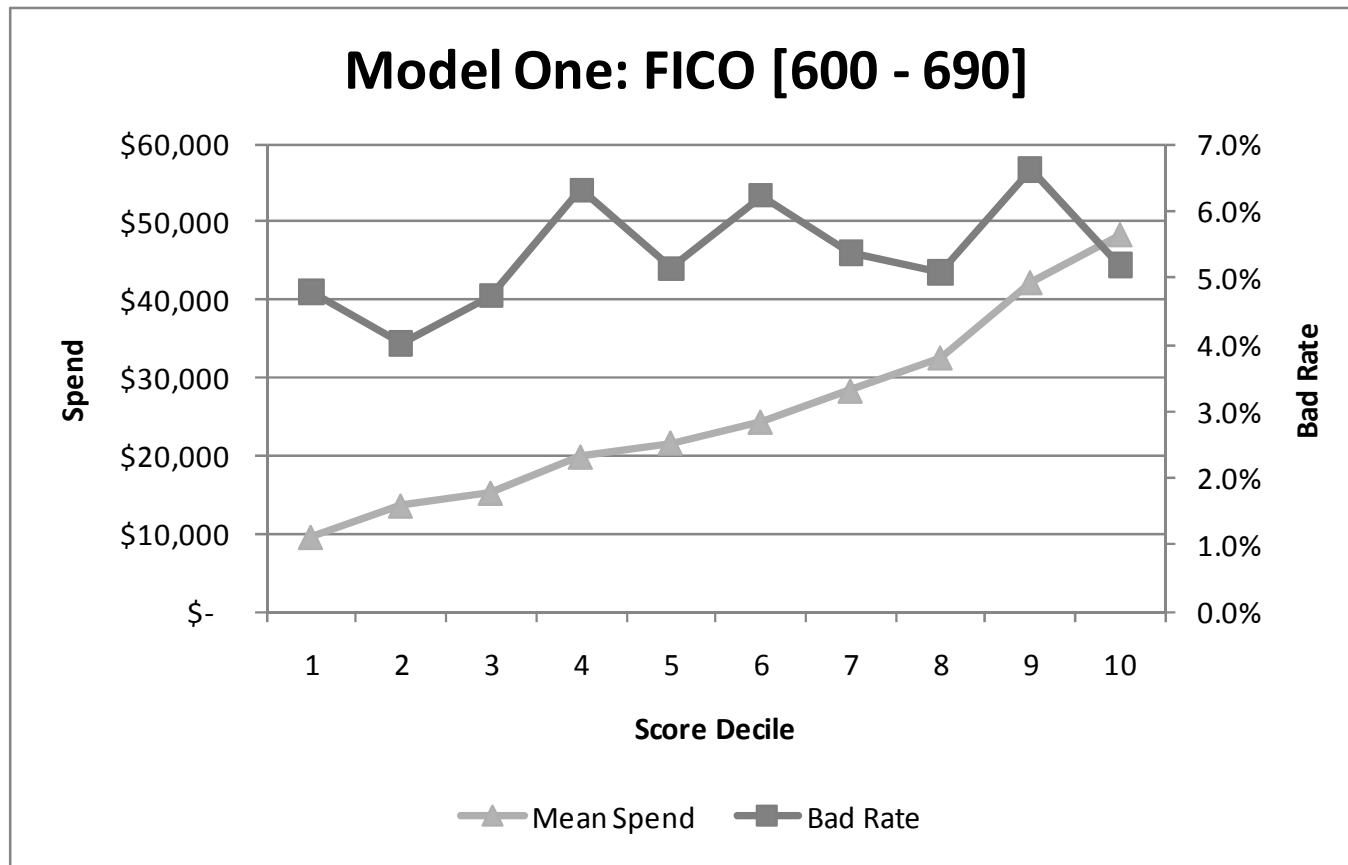
3. Variable Selection

Applicant Reported Monthly Income	Percent	Bad Rate	Two Year Merchant Spend (Thousands)
[\$0 - \$2,500]	11%	5.7%	\$16
(\$2,500 - \$5,000]	33%	6.0%	\$23
(\$5,000 - \$99,999]	56%	4.9%	\$29

Age of Oldest Revolving Trade in Months	Percent	Bad Rate	Two Year Merchant Spend (Thousands)
[0 - 71]	17%	6.3%	\$19
(71 - 999]	83%	5.2%	\$27

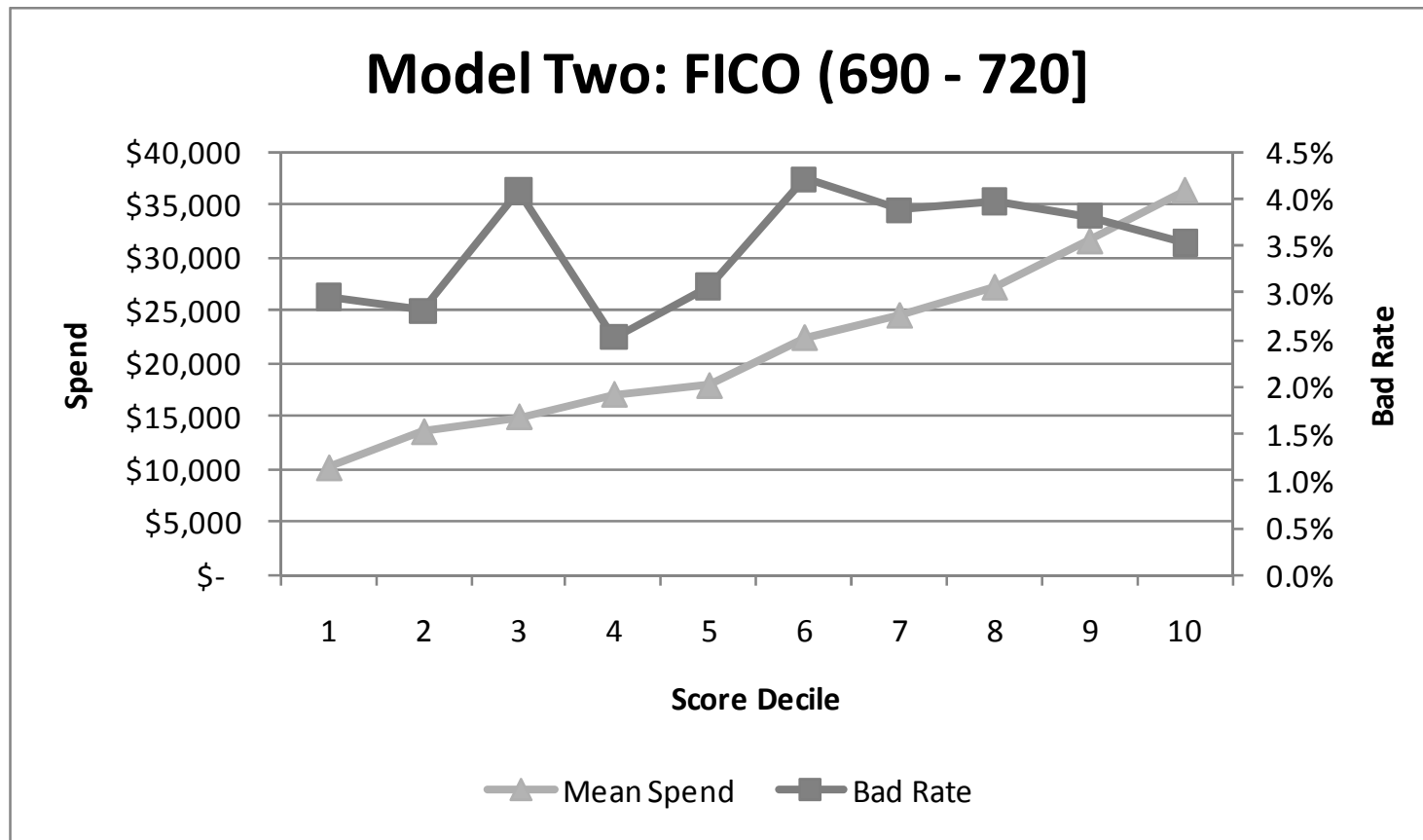
II. Spend Model

4. Exponential Distribution



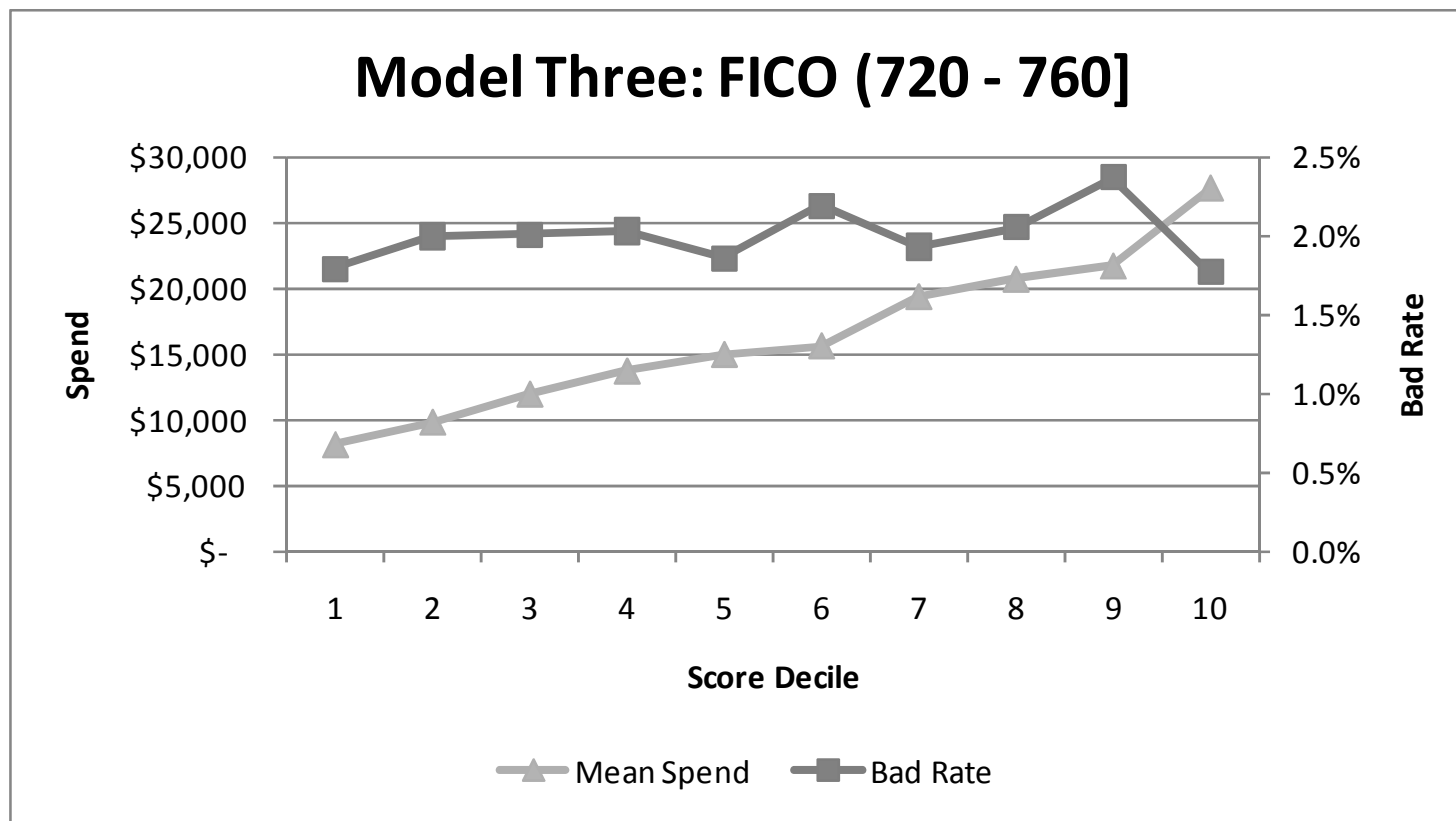
II. Spend Model

4. Exponential Distribution



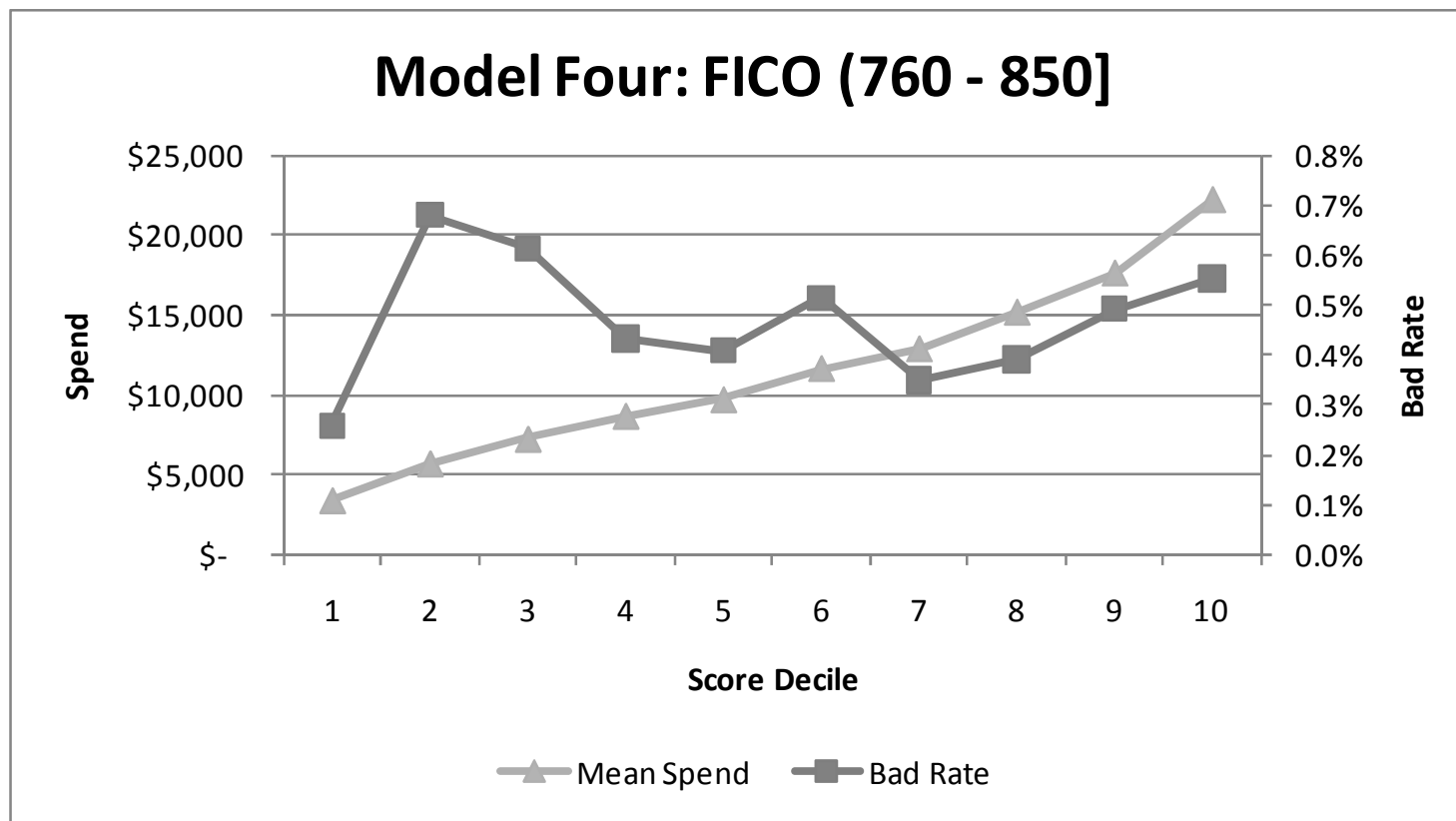
II. Spend Model

4. Exponential Distribution



II. Spend Model

4. Exponential Distribution



III. Strategy

1. Multiple Objectives: Market Share

FICO Band	Count				
	Spend One	Spend Two	Spend Three	Spend Four	Spend Five
[600 - 690]	3,125	3,328	3,153	3,217	3,254
(690 - 720]	3,781	3,790	3,823	3,747	3,839
(720 - 760]	6,555	5,460	5,766	6,111	6,528
(760 - 850]	10,794	10,981	10,842	10,797	10,931

III. Strategy

1. Multiple Objectives: Revenue & Costs

FICO Band	Two-Year Cumulative Spend				
	Spend One	Spend Two	Spend Three	Spend Four	Spend Five
[600 - 690]	\$11,662	\$17,509	\$23,250	\$30,513	\$45,227
(690 - 720]	\$11,830	\$15,981	\$20,228	\$25,791	\$33,875
(720 - 760]	\$9,157	\$12,973	\$15,188	\$19,411	\$24,808
(760 - 850]	\$4,549	\$7,950	\$10,666	\$13,990	\$19,841

FICO Band	Bad Rate				
	Spend One	Spend Two	Spend Three	Spend Four	Spend Five
[600 - 690]	4.4%	5.4%	5.7%	5.3%	5.9%
(690 - 720]	2.9%	3.3%	3.7%	3.9%	3.7%
(720 - 760]	1.9%	2.1%	2.0%	2.0%	2.1%
(760 - 850]	0.5%	0.5%	0.5%	0.4%	0.5%

III. Strategy

2. Results

Cutoff Strategy	Approval Rate	Bad Count	Bad Rate	Mean Spend	Total Spend (Millions)
Fico Only	90%	1,724	1.6%	\$15,032	\$1,622
Fico & Spend Score	83%	1,637	1.6%	\$16,617	\$1,660

Questions

Comments