Why do Employees (Not) Make Referrals?

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Motivation

- Employee referral very common method of hiring.
  - ~ 50% jobs found through referrals (Topa, 2012)
  - 69% firms have employee referral program (CareerBuilder, 2012)
- Growing evidence referrals provide benefits to firms
  - lower recruiting cost
  - lower turnover
  - possibly higher productivity
- What can firms do to increase hires from referrals?
  - Specifically: How effective are financial incentives?

This paper

- Firm-wide experiment in a large Eastern European grocery chain
- High cashier turnover -> stores are constantly hiring
- Stores were randomized to pay different levels of bonus for cashiers to make referrals
- High ratio bonus to wage (up to 40%)

Main findings

- *Marginal* referrals stay longer (referrals that the firm gets that were induced by increasing the bonus stay longer)
- Very modest number of referrals
- Cashier and manager surveys: cashier job is undesirable
- World Management Survey: firms with better reputation more likely have referral program

The study firm

- 238 stores, average sales ca. 200,000 Euros per month
- Employees in our study firm
  - On average 23 employees per store, 19 cashiers
  - Cashier job: no formal job requirements
  - Minimum wages (320-350 Euro)
  - Cashier annual turnover rate: 80%
- No formal referral program in our firm before our experiment

How much should the referral bonus be?

- Survey among blue collar production workers
- How much money would like to have for a referral?
- 25th, 50th, and 75th percentiles: 50, 90, 120 euros

The experiment

- Starting in Nov. 2015: Field experiment for 14 months
- 5 treatment arms
  - Control treatment
  - R0 treatment: Info, but no bonus
  - R50 / R90 / R120 treatments: 50 / 90 / 120 euros if both referral and referrer still with firm after 5 months + 15 euros immediate bonus
- High ratio bonus to wage (up to 40%)

Implementation

- Referral process:
  - Cashiers had to call HR before friend applies
  - friend applies in normal way
- Introduction of the program:
  - Managers conducted meetings with cashiers
  - Personalized letters on referral process to all cashiers
  - Multiple posters in break rooms

Referrals made and referrals chars across 5 arms

	Control ($N = 46$)	R0 ($N = 48$)	R50 ($N = 48$)	R90 ($N = 48$)	R120 ($N = 48$)
Panel A: Referrals Made:					
# Hires	808	807	788	747	857
# Referral Hires	0	0	16	28	42
Share Referrals	0	0	0.0203	0.0375	0.049
Panel B: Referral Chars:					
% Friend			31.25	17.86	19.05
% Family			18.75	35.71	35.71
% Acquaintance			37.50	14.29	14.29
% Neighbour			12.50	10.71	7.14
% Prior Colleague			0.00	3.57	4.76
% Prior Classmate			0.00	10.71	11.90
% Other			0.00	7.14	7.14
Years Known Referral			9.19	10.49	9.48
How Often See Referral per Month			14.75	15.54	13.53
Share Staying $\geq$3m			0.56	0.57	0.50
Share Staying $\geq$5m			0.43	0.35	0.31

Result 1: The bonus increases referrals, but not by much

Individual-level regression, DV = hire is a referral

	(1)	(2)	(3)
r0	-0.000	0.001	
	(0.000)	(0.002)	
r50	0.016***	0.019***	
	(0.006)	(0.006)	
r90	0.030***	0.032***	
	(0.009)	(0.010)	
r120	0.047***	0.047***	
	(0.013)	(0.012)	
Log(1+Bonus Level)			0.007***
			(0.001)
Observations	3,735	3,721	3,721
Store Controls	No	Yes	Yes
Time Controls	No	Yes	Yes

Notes: Standard errors clustered at the store level. An observation is a worker. Store controls are controls for headcount, netsales, shrinkage, footage, bigtown, and average monthly quite rate. Time controls are controls for the month-year of hire defined using a worker's first month at the firm. * significant at 10%; ** significant at 5%; *** significant at 1%

Referral status and worker durations

Dep. Var.:	Stays>5m	Is Referred	Stays>5m	Stays>5m	Cox Haz	Cox Haz	Cox Haz
Model:	OLS	1st Stage	2SLS	2SLS	Baseline	Reduced Form	"2SLS"
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Is Referred	0.128**		0.502	0.890	-1.188***		-4.220**
	(0.052)		(0.545)	(0.548)	(0.288)		(1.865)
Ln(1+Bonus)		0.008***				-0.035**	
		(0.002)				(0.016)	
Observations	3,085	3,085	3,088	3,085	3,721	3,721	3,721
Controls	Yes	Yes	No	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the store level. Controls are the store level controls mentioned above, as well as dummies for a worker's month-year of hire. To avoid right-censoring, columns 1-4 restrict attention to workers who join the firm in September 2016 or earlier. Column 6 is a "reduced form" regression in that it uses Log(1+Bonus Level) as the primary regressor in the Cox proportional hazard model. For the Cox models in columns 5-7, coefficients are shown. Column 7 is a "2SLS" style regression in that it uses predicted values (after a first stage regression of referral status on Log(1+Bonus Level)) as the regressors in the Cox hazard model. Odds ratios can be obtained by exponentiating the coefficients. * significant at 10%; ** significant at 5%; *** significant at 1%

Result 2:

- On *average*, referred workers stay longer (compared to a non-referral)
- *Marginal* referrals stay longer: Referred workers at stores with higher bonuses have lower attrition than referrals hired at stores with lower bonuses

Our proposed mechanism

- Social costs in making referrals
- Cashier jobs have a bad reputation: people don't want to incur reputational / social cost of referring friend for "bad job"

Store manager survey

Why were there so few referrals?

	Share of managers	
Undesirable job	47.80%	67.78%
No friends to refer	10.49%	12.76%
Didn't want to refer someone who could embarrass	11.70%	13.14%
People were unaware of referral system	9.29%	10.05%
No trust that firm will pay the money	6.01%	6.96%
Referral process was burdensome	5.12%	4.51%
Bonus too low; referral might not stay	4.01%	4.25%
No open jobs in the store	6.49%	
Referral system worked in her store	11.13%	
Other reasons	10.58%	9.54%
No reasons mentioned	8.01%	

Cashier survey

Why were there so few referrals?

Reasons:	Share of workers Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
"Many people perceive working conditions in supermarkets as not very attractive (e.g. low salary, high workload)"	50.95%	28.52%	12.93%	4.56%	3.04%
"Employees' friends already have jobs"	23.17%	31.66%	29.73%	5.79%	9.65%
"Employees don't want to want to be responsible if their friend doesn't do a good job"	15.83%	22.78%	36.29%	17.37%	7.77%
"Employees were not informed by the company about the opportunity to refer a friends/did not know how the referral program worked"	3.86%	12.36%	14.29%	50.19%	19.31%
"The amount of money that employees could get for a bonus was too low"	7.34%	6.18%	5.79%	21.26%	59.46%

Other explanations

- **Were cashiers unaware of the incentive system?**
  - Took many steps to ensure significant awareness: personalized letters, posters, phone calls to store managers
  - Cashier survey: 87% aware firm welcomed referrals
- **Did cashiers trust the firm to actually pay the money?**
  - Study involved multiple managers to increase credibility
  - Program presented in paper form by multiple managers
- **Did cashiers not have any friends to refer / did no one need a job?**
  - country is not a stand-out economically, about 8% unemployment
  - no relationship between unemployment rate and referrals made
- **Were cashier concerned about reputation with firm?**
  - No relation between tenure at the firm and whether someone reported making a referral
- **Manager/cashier surveys: Low rank for all of these explanations**

Other explanations

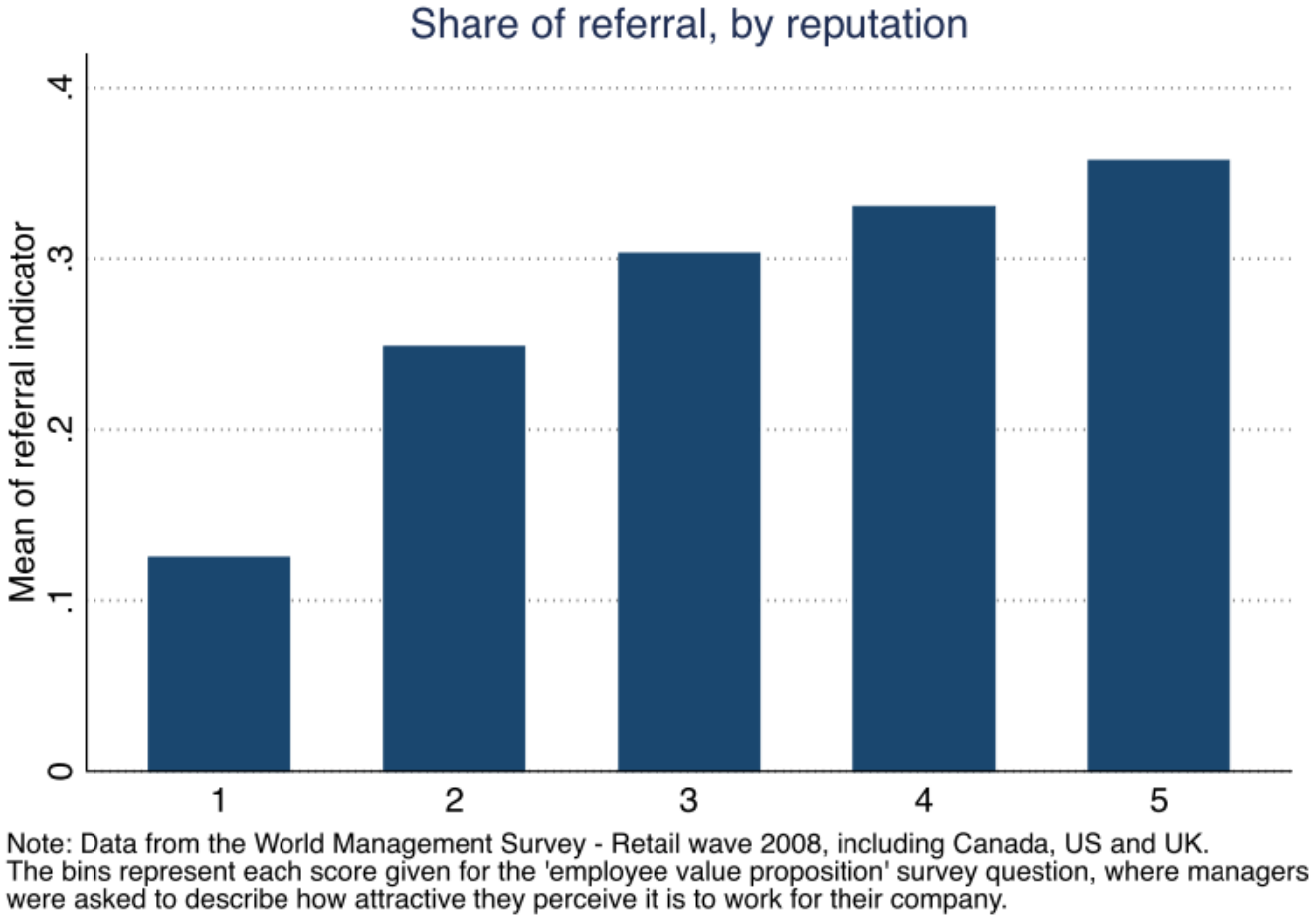
- **Were the refereed cashiers not hired?**
  - Most applicants get hired (86 of 89 referrals get hired)
- **Was the referral process burdensome?**
  - referral process designed to be easy, low time burden
  - low wages = low opportunity cost time
- **Was the expected value of the referral bonus too low?**
  - Comparable or higher than in other studies as % of pay in expected value terms
  - Bonus quit salient (Englmaier et al., 2016)
  - Similar results with higher expected value bonus: Jan. 2017, firm moved all stores to 30 euros after hire, 100 euros after 3 months
  - Following months: 0.07 referral hires per store

- **Manager/cashier surveys: Low rank for all of these explanations**

Undesirable firm or undesirable job?

- Survey: 200 randomly selected people in the country
  - **How attractive are the following occupations?** (Scale: 1 (not attractive) - 7 (very attractive)). Mean rating (SD):
    1. Finance: 6.1 (1.0)
    …
    12. Maintenance and customer service in cars: 3.9 (1.6)
    13. Cashier: 2.3 (1.5)
  - **How attractive are jobs in the stores of the following retail chains?** Please rank (1=most, 5=least attractive employer). Mean rank (SD):
    1. Our firm: 2.2 (1.1)
    2. Competitor A: 2.3 (1.2)
    …
- Jan. 2017: Roll-out of the referral program in the whole firm (incl. jobs in admin, logistics, production…)
- Much more referrals for other jobs in the firm

Employer Reputation and Having a Referral Program (World Mgt Survey on Retail 2010)



Note: Data from the World Management Survey - Retail wave 2008, including Canada, US and UK.
The bins represent each score given for the 'employee value proposition' survey question, where managers were asked to describe how attractive they perceive it is to work for their company.

- Firms with better reputation more likely have formal referral programs

Conclusion

- Field experiment to shed light on why employees make referrals
- *Marginal* referrals stay longer (referrals that the firm gets that were induced by increasing the bonus stay longer)
- Weak economic impact referral bonuses on referrals
  - driven by reputation firm's jobs as undesirable
- World Management Survey: firms with better reputation more likely have referral programs
- We do not argue that referral bonuses are ineffective in general. But:
  - referral programs efficacy varies by the identity of the firm
  - reputational considerations affect the efficacy of the use of referrals

BACKUP

Reputation Survey

- May I ask you what firms you would say are the three most attractive employers in [Country Name]?
- We're interested in getting your views about which occupation and sectors in [Country Name] have a reputation as the best jobs or sectors to work in. For each of the following occupations/sectors, please evaluate them on a scale from 1-5, where 5 is a great sector to work in, and 1 is the least desirable sector to work in:
  - cashiers
  - customer service such as hair, nails
  - sales jobs, e.g., in insurances, tourism
  - maintenance & customer service in cars, gas stations
  - facility managers
  - service personnel in restaurants, bars
  - …
- We are particularly interested in food retail. How attractive are jobs in the stores of the following retail chains? Please rank. If you feel they are all equally attractive or unattractive, please say, all equal.
  - Study Firm
  - Four competitors

Literature and Contribution

- Economics field experiments:
  - Beaman and Magruder (2012): who gets hired? Do stronger perf incentives lead to better screening?
  - Pallais and Sands (2016): why do firms use referrals?
  - Beaman et al. (2017): do referrals disadvantage women?

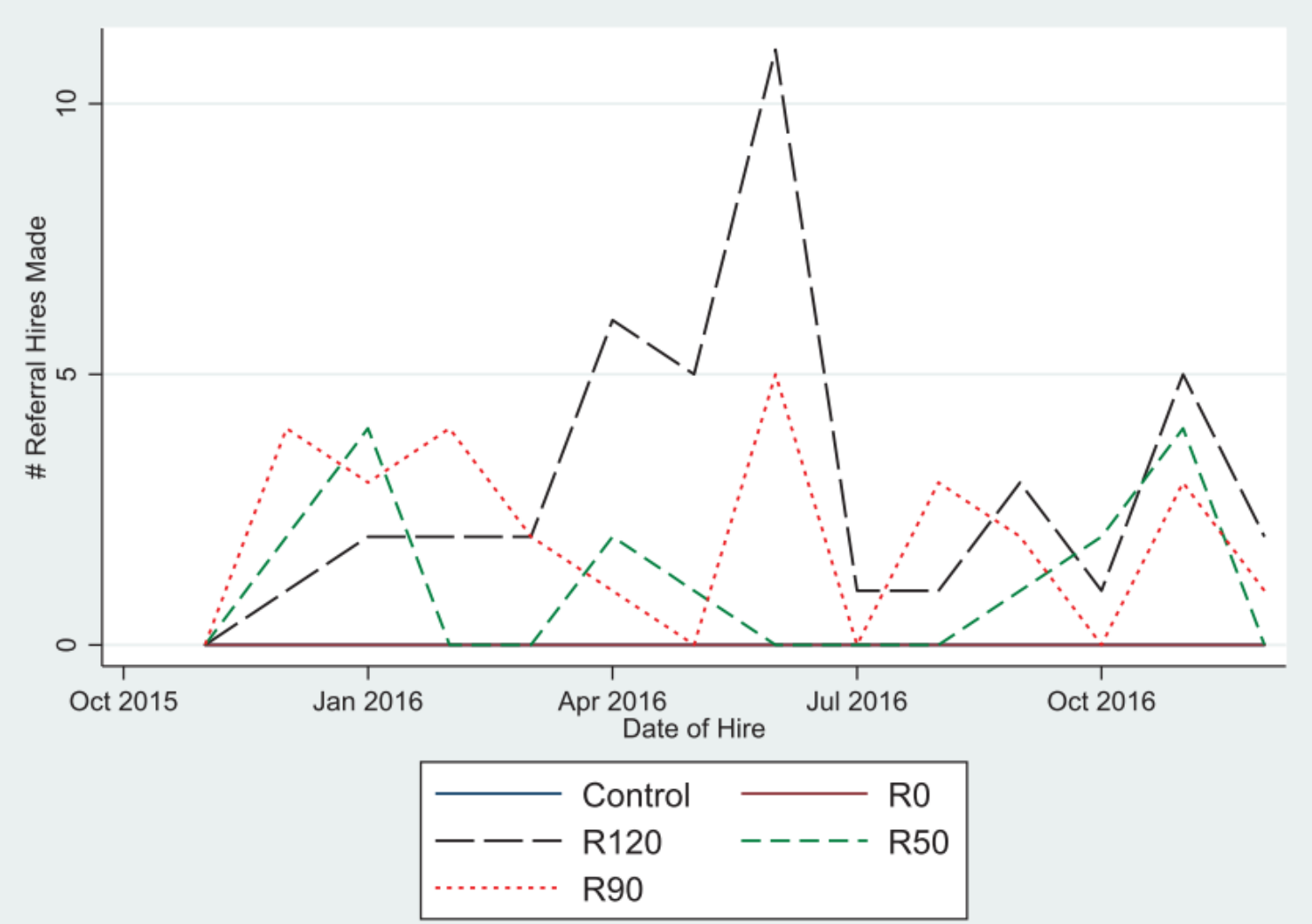
- Theories of why firms use referrals:
  - learning: Simon and Warner (1992)
  - homophily: Montgomery (1991)
  - moral hazard: Kugler (2003); Castilla (2005); Heath (2013)

- Reputation and referrals in sociology:
  - Smith (2005): "Don't put my name on it"

- Employer reputation:
  - Benson et al. (2015), Brown and Matsa (2015)

- Contributions:
  - First field experiment on referral bonuses in for-profit firm
  - First evidence: reputation considerations affect referral bonus efficacy
  - First evidence on retention value of marginal referral

Referral Hires per Month



Store-Level, DV = Number of Referral Hires

	(1)	(2)	(3)
r0	0.000	-0.001	
	(0.000)	(0.007)	
r50	0.025***	0.025**	
	(0.009)	(0.010)	
r90	0.042**	0.046***	
	(0.017)	(0.017)	
r120	0.066***	0.062***	
	(0.024)	(0.020)	
Log(1+Bonus Level)			0.010***
			(0.002)
Observations	3,255	3,234	3,234
Store Controls	No	Yes	Yes
Time Controls	No	Yes	Yes

Notes: Standard errors clustered at the store level. An observation is a store-month. Store controls are controls for headcount, netsales, shrinkage, footage, bigtown, and average monthly quite rate. Time controls are controls for the current month-year. * significant at 10%; **significant at 5%; *** significant at 1%

Heterogeneity in Referral Bonus Impacts: Effects on Number of Referral hires

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log(1+Bonus Level)	0.0131**	-0.00743	-0.00570	-0.00286	-0.00628	0.00985***	0.00661***
	(0.00595)	(0.00529)	(0.00540)	(0.00387)	(0.00610)	(0.00253)	(0.00194)
Ln(B) X PBonus	-8.17e-05						
	(0.000158)						
Ln(B) X headcount		0.00103***					
		(0.000383)					
Ln(B) X netsales			6.98e-08**				
			(2.84e-08)				
Ln(B) X shrinkage				2.57e-06**			
				(1.01e-06)			
Ln(B) X footage					2.54e-05**		
					(1.11e-05)		
Ln(B) X bigtown						0.00208	
						(0.00450)	
Ln(B) X quitrate							0.0512**
							(0.0208)
Observations	3,234	3,234	3,234	3,234	3,234	3,234	3,234
Store Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table is similar to our main results, but considers interaction effects. Beyond the characteristics there, we also add the pre-treatment average performance bonus level in a store. Standard errors clustered at the store level.

MODEL

Model: Summary

- Referral-based hiring based on reputational concerns and/or social preferences toward
  - one's employer (DellaVigna et al., 2016) and
  - toward one's friend.
- Finding: An employer's perceived quality affects both
  I. the rate at which employees make referrals and
  II. the optimal size of the referral bonus that an employer uses.

Setup

- How does employer quality affect:
  - frequency of referrals
  - efficacy of employee referral bonuses
  - firm optimal level employee referral bonus

- One firm, one employee
  1. Firm sets bonus, m
  2. employee chooses whether make referral, R

- Non-monetary costs & benefits of referral
  - cost c, drawn from F(c)
  - social preference/reputation toward worker: σW
  - social preference/reputation toward firm: σ F

- Employee, E, at firm decides whether make referral

$$U^E(R = 1) = m - c + \sigma^W U^W(R = 1) + \sigma^F U^F(R = 1)$$
$$U^E(R = 0) = \sigma^W U^W(R = 0) + \sigma^F U^F(R = 0)$$

Model Results

- All else equal, firms with higher quality get more referrals
- Suppose that employee has social preferences toward worker and density of referral cost is increasing. Then impact of referral bonuses on referrals is increasing in firm quality
- Suppose distribution of referral costs is normal. Then there is come constellation of parameters for which the firm's optimal referral bonus is increasing in firm quality

Setup, continued

- Worker utility
  - U^W (R=1) = q^F
  - normalize outside option: U^W(R=1) = 0

- Firm utility
  - U^F (R=1) = q^W
  - assume position empty: U^F (R=0) = 0

- U^E (R=1) = m – c + $\sigma^W q^F + \sigma^F q^W$

$$r = Pr(R = 1) = F(m + \sigma^W q^F + \sigma^F q^W)$$

Worker Problem

- All else equal, firms with higher quality get more referrals
- Responsiveness of referrals to bonuses depends on firm quality

$$\frac{\partial r}{\partial m} = f\left(m + \sigma^W q^F + \sigma^F q^W\right)$$

$$\frac{\partial^2 r}{\partial m \partial q^F} = \sigma^W f'\left(m + \sigma^W q^F + \sigma^F q^W\right)$$

- Suppose distribution of referral costs is normal. Then there is come constellation of parameters for which the firm's optimal referral bonus is increasing in firm quality

Firm Problem

- $\pi^F = r\,(U^F (R=1) - m) = F\,(m + \sigma^W q^F + \sigma^F q^W) * (q^W - m)$

$$\frac{\partial \pi^F}{\partial m} = f * \left(q^W - m \right) - F = 0$$

$$\frac{\partial m^*}{\partial q^F} \quad \propto \quad -\frac{f' * \left(q^W - m \right) - f}{f' * \left(q^W - m \right) - 2f}$$

For case where c is normally distributed with mean μ and SD 1: $\frac{\partial m^*}{\partial q^F}$ is positive when:

$$-2 < (m + \sigma^W q^F + \sigma^F q^W - \mu) * (q^W - m) < -1$$

Management and Having a Referral Program

Sample:	(1) All	(2) Supermarkets
Management	0.17***	0.11
	(0.04)	(0.08)
Observations	504	195
R-squared	0.10	0.16

Notes: All columns include controls for 2-digit SIC; country dummies; dummy for multinational; dummies for private or family firm; and controls for firm size, firm age, store size, storage square footage, the firm's number of stores, and the number of levels to the CEO. Standard errors clustered by firm in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%