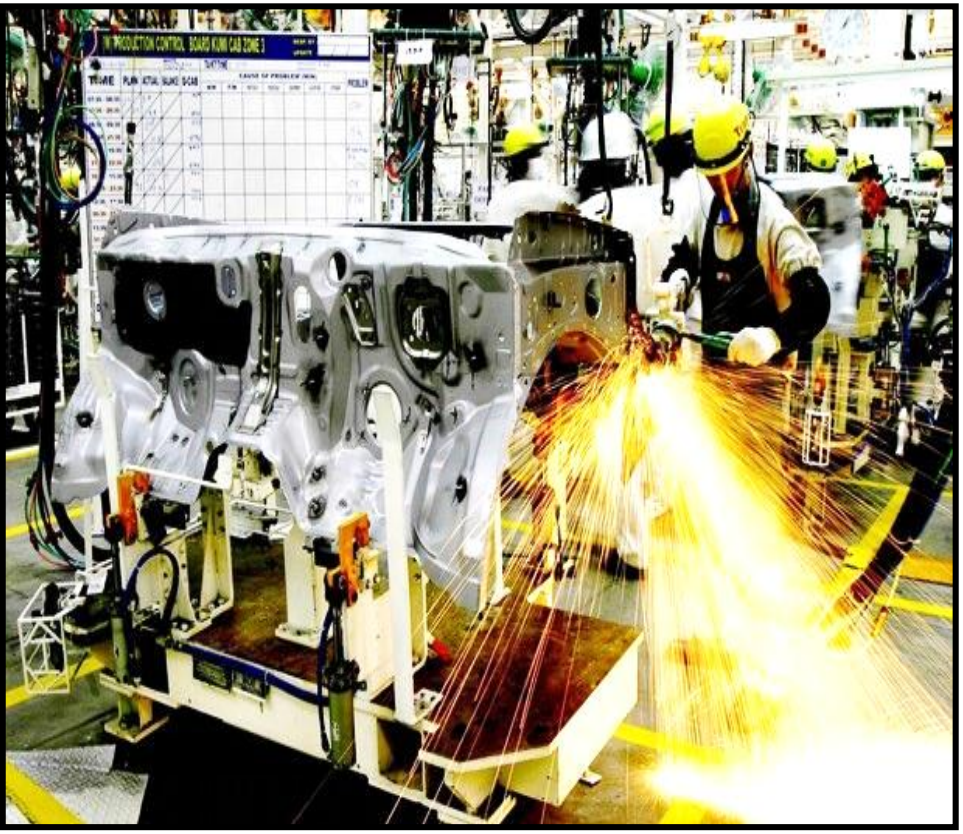
Management and Productivity

Nick Bloom (Stanford)

ABFER Masterclass 24th 2018



Ohio, USA

Maharashtra, India

Francis Walker (1840-1897), the founding President of the AEA

Walker ran the 1870 and 1880 Censuses

Based on this Walker wrote his 1887 paper "*On the Source of Business Profits*" published in the first volume of the QJE.

It claimed management was the major source of performance differences across US firms.

But the evidence on management is limited

"*No potential driving factor of productivity has seen a higher ratio of speculation to empirical study*".

Chad Syversson (2011, JEL)

Part of a research group looking scientifically at management, and summarize 15+ years research

accenture

McKinsey&Company

Summary key findings

1) Massive variation in productivity across firms

2) About ¼ to ½ variation appears to be due to management

3) Management driven by regulation, ownership, competition, education and knowledge spillovers

4) Managers matter – large fixed effects and variations in style

Great opportunities – huge areas almost nothing is know about. Strategy, diversity, work-life balance, manager RCTs etc.

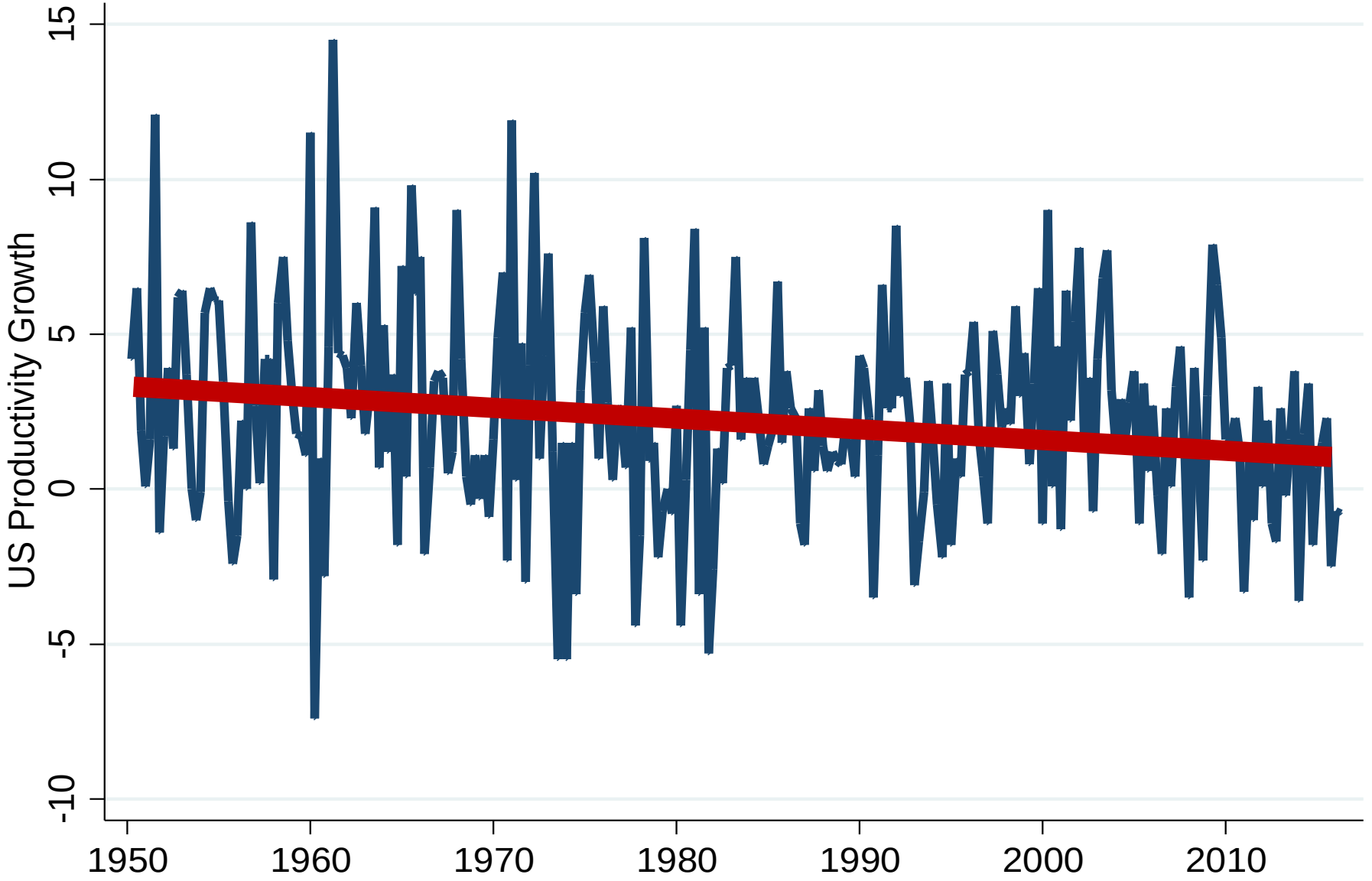
(1) Productivity – “A Tale of Two Facts”

(2) Management Practices

(3) Management field experiments

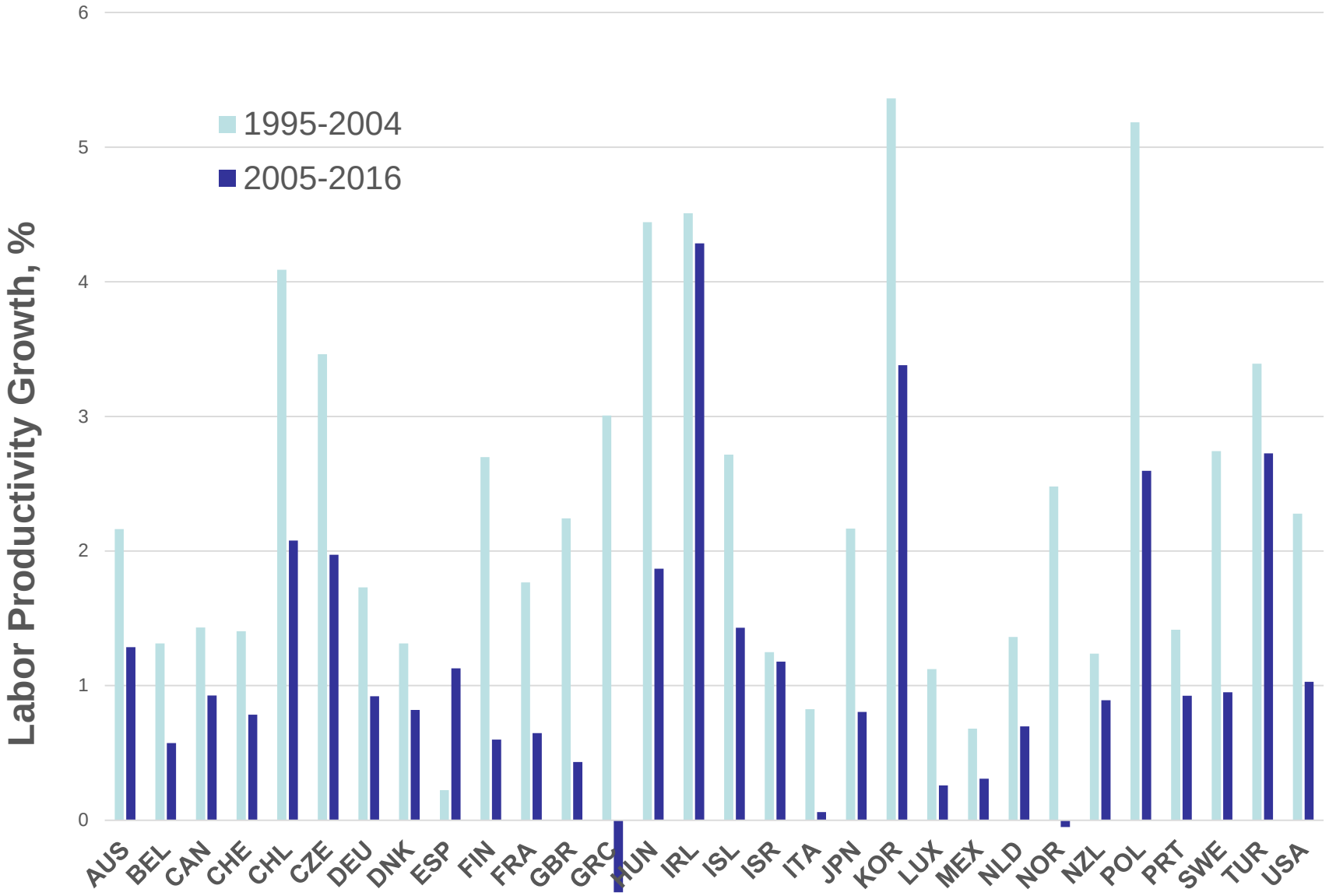
(4) Managers (the people at the top)

Macro Fact: US productivity growth has been slowing (where is the IT revolution)?



Source: US Bureau of Labor Statistics, growth of real output per hour (labor productivity), series PRS84006092

Macro Fact: Productivity growth is slowing across almost all countries (including Singapore)



Source: OECD, Syverson (2018)

But what exactly is productivity?

Labor Productivity (basically GDP per hour worked):

$$LP_{i,t} = va_{i,t} - l_{i,t}$$

Three factor TFP (control for capital):

$$TFP^{3}_{i,t} = y_{i,t} - \alpha_l l_{i,t} - \alpha_k k_{i,t} - \alpha_m m_{i,t}$$

Five factor TFP (e.g. control for capital, energy and computers):

$$TFP^{5}_{i,t} = y_{i,t} - \alpha_l l_{i,t} - \alpha_k k_{i,t} - \alpha_m m_{i,t} - \alpha_e e_{i,t} - \alpha_c c_{i,t}$$

Note: va=log(value added), l=log(labor force), k=log(tangible capital), m=log(materials, e=log(energy), c=log(IT). If IT included need to remove from tangible capital.

Micro Fact: Economists also noticed massive productivity spreads across firms

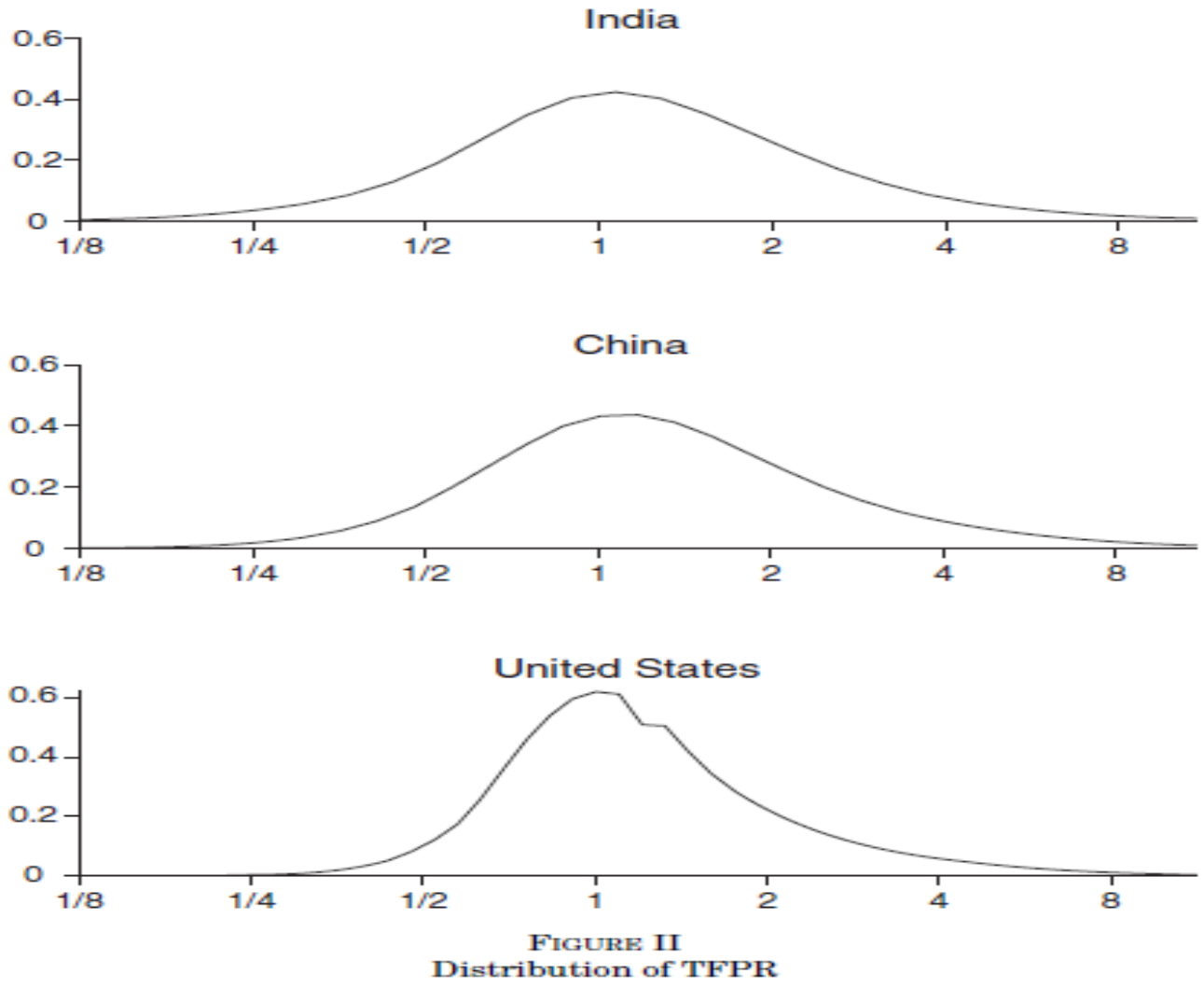


FIGURE II
Distribution of TFPR

90:10 TFP 6:1

90:10 TFP 4:1

90:10 TFP 2:1

Source: Hsieh and Klenow (2008); mean=1

Is this productivity spread just bad data (all measurement error) - unlikely

1. Productivity is strongly linked with exit and growth

2. In very homogeneous industries (e.g. boxes, white pan bread, carbon black) still see this spread – e.g. Foster, Haltiwanger and Syverson, 2008 AER

Are low macro productivity growth and micro productivity dispersion related?

Define a macro productivity as P_t

$$P_t = \sum s_{i,t} \omega_{i,t}$$

Where:

$\omega_{i,t}$ is the productivity of establishment *i* in period *t* (i.e. log(labor productivity) or log (TFP))

$s_{i,t}$ is the share of establishment *i* in the economy in period *t* (i.e. the share of employment)

Decomposing productivity

$$P_t - P_{t-1} = \sum s_{i,t}\omega_{i,t} - \sum s_{i,t-1}\omega_{i,t-1}$$

$$= \sum s_{i,t-1}(\omega_{i,t} - \omega_{i,t-1}) \quad \text{Within term}$$

$$+ \sum (s_{i,t} - s_{i,t-1})\omega_{i,t-1} \quad \text{Between term}$$

$$+ \sum (s_{i,t} - s_{i,t-1})(\omega_{i,t} - \omega_{i,t-1}) \quad \text{Cross term}$$

$$+ \sum s_{i,t}^{Entry}(\omega_{i,t}^{Entry} - \omega_{i,t}^{Average}) \quad \text{Entry term}$$

$$- \sum s_{i,t}^{Exit}(\omega_{i,t}^{Exit} - \omega_{i,t}^{Average}) \quad \text{Exit term}$$

This is the Bailey, Hulten and Campbell (1992) decomposition

These two effects are well known to cricket fans

<u>Within</u> batsman
(each batsman improves)

<u>Between</u> batsman (more time for your best batsman, to raise your “batting average”)

In economics this led to a recent explosion of papers on “reallocation” and “misallocation”

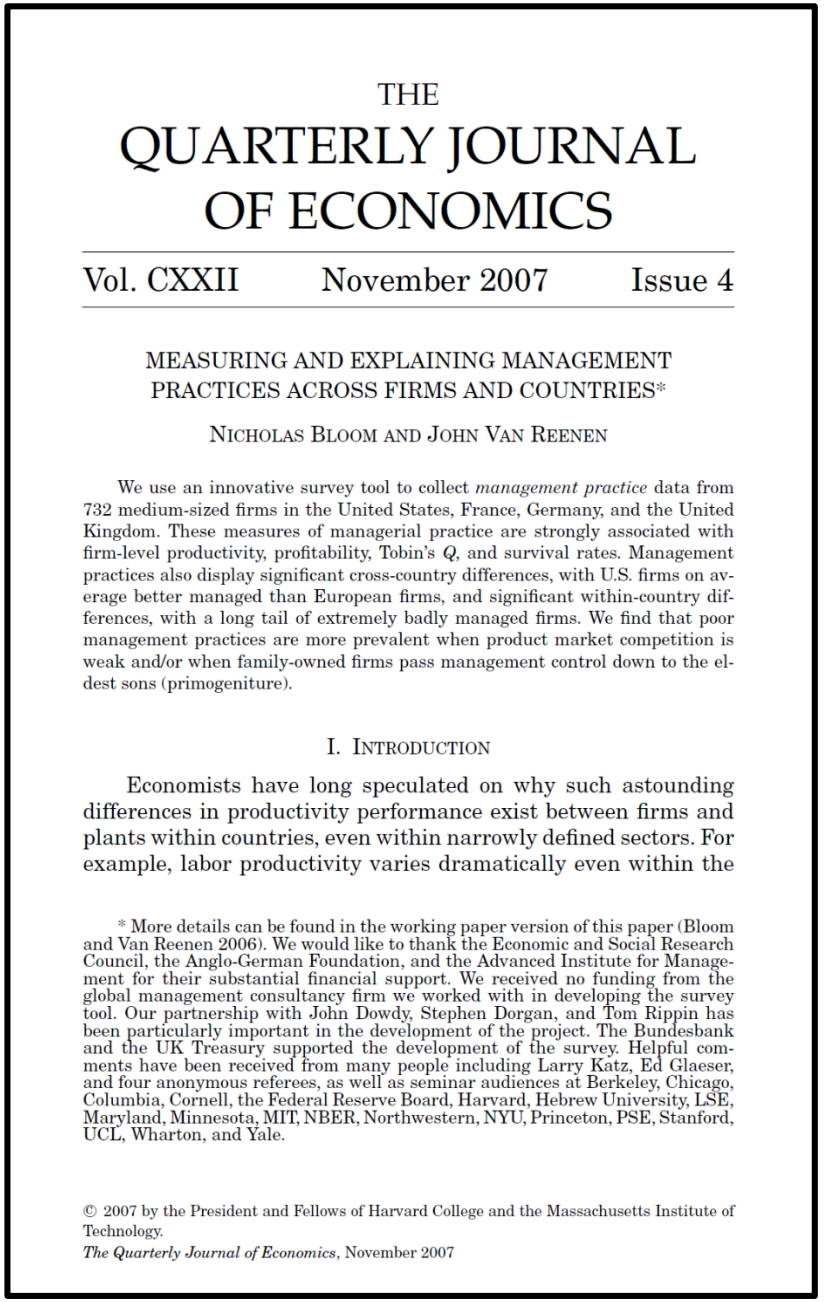
(2) Management Practices – “The Inside Job”

Two ways to collect management data

- Telephone Surveys

- National Statistical Office Surveys

Telephone Surveys



THE
QUARTERLY JOURNAL
OF ECONOMICS

Vol. CXXII November 2007 Issue 4

MEASURING AND EXPLAINING MANAGEMENT PRACTICES ACROSS FIRMS AND COUNTRIES*

NICHOLAS BLOOM AND JOHN VAN REENEN

We use an innovative survey tool to collect *management practice* data from 732 medium-sized firms in the United States, France, Germany, and the United Kingdom. These measures of managerial practice are strongly associated with firm-level productivity, profitability, Tobin's *Q*, and survival rates. Management practices also display significant cross-country differences, with U.S. firms on average better managed than European firms, and significant within-country differences, with a long tail of extremely badly managed firms. We find that poor management practices are more prevalent when product market competition is weak and/or when family-owned firms pass management control down to the eldest sons (primogeniture).

I. INTRODUCTION

Economists have long speculated on why such astounding differences in productivity performance exist between firms and plants within countries, even within narrowly defined sectors. For example, labor productivity varies dramatically even within the

* More details can be found in the working paper version of this paper (Bloom and Van Reenen 2006). We would like to thank the Economic and Social Research Council, the Anglo-German Foundation, and the Advanced Institute for Management for their substantial financial support. We received no funding from the global management consultancy firm we worked with in developing the survey tool. Our partnership with John Dowdy, Stephen Dorgan, and Tom Rippin has been particularly important in the development of the project. The Bundesbank and the UK Treasury supported the development of the survey. Helpful comments have been received from many people including Larry Katz, Ed Glaeser, and four anonymous referees, as well as seminar audiences at Berkeley, Chicago, Columbia, Cornell, the Federal Reserve Board, Harvard, Hebrew University, LSE, Maryland, Minnesota, MIT, NBER, Northwestern, NYU, Princeton, PSE, Stanford, UCL, Wharton, and Yale.

Survey methodology (Bloom & Van Reenen, 2007, QJE)

1) Developing management questions

- Scorecard for 18 monitoring, targets & people management practices ≈45 minute phone interview of plant managers

2) Getting firms to participate in the interview

- Introduced as "Lean-manufacturing" interview, no financials
- Official Endorsement: Bundesbank, RBI, World Bank, BOJ etc.

3) Obtaining unbiased comparable responses, "Double-blind"

- Interviewers do not know the company's performance
- Managers are not informed (in advance) they are scored

Some typical endorsement letters

भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
www.rbi.org.in

RECEIVED
21 APR 2006

मुख्य महाप्रबंधक
Chief General Manager

HRDD.No. 5843 / 02.20.01 /2005-06 April 18, 2006

Dear Prof. Bloom

I would like to confirm the official support of Reserve Bank of India in your joint London School of Economics and Stanford project talking to managers across India. Continually improving our productivity and management practices is important for ensuring economic growth and employment, and we believe this project would be very helpful in pursuing this.

With regards

Yours sincerely

SC Lose
(Sandip Ghose)

Prof. Nick Bloom
PI Program Director
Centre for Economic Performance
London School of Economics
Houghton Street
London WC2A 2AE

MINISTERSTWO SKARBU PAŃSTWA

Warszawa, dnia 17 maja 2006r.

Sekretarz Stanu
Paweł Szalamacha
MSP/000279/06

Prof. Nick Bloom
Director of the Productivity
And Innovation Program
Centre for Economic Performance
London School of Economics

Szanowny Panie Profesorze,

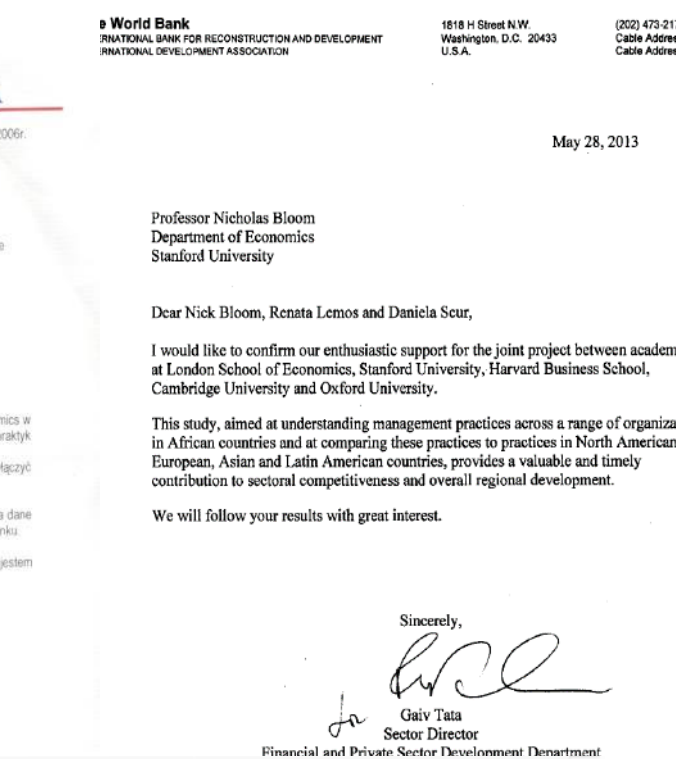
Chciałbym wyrazić poparcie dla badań naukowych prowadzonych przez London School of Economics w porozumieniu z Uniwersytetem w Cambridge i Uniwersytetem Stanforda dotyczących praktyk zarządzania i badania produktywności w małych i średnich firmach.
Cieszę się również, że do badań prowadzonych w wielu krajach świata planujecie państwo włączyć około 200 polskich firm.

Uważam, że taki projekt obok oczywistych walorów naukowych, ma olbrzymi walor praktyczny, a dane uzyskane dotyczące Polskich firm przyczynia się do lepszej ich konkurencyjności na globalnym rynku.

Życzę Panu i Pana zespołowi wielu sukcesów w realizacji tego ambitnego projektu i jestem zainteresowany jego rezultatami.

Z wyrazami szacunku,

Paweł Szalamacha



e World Bank
IRNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
IRNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street N.W.
Washington, D.C. 20433
U.S.A.

(202) 473-21
Cable Addres
Cable Addres

May 28, 2013

Professor Nicholas Bloom
Department of Economics
Stanford University

Dear Nick Bloom, Renata Lemos and Daniela Scur,

I would like to confirm our enthusiastic support for the joint project between academ at London School of Economics, Stanford University, Harvard Business School, Cambridge University and Oxford University.

This study, aimed at understanding management practices across a range of organiza in African countries and at comparing these practices to practices in North American European, Asian and Latin American countries, provides a valuable and timely contribution to sectoral competitiveness and overall regional development.

We will follow your results with great interest.

Sincerely,

Gaiv Tata
Sector Director
Financial and Private Sector Development Department

Human Resources Development De
Tel.: 191-

Toshihiko Fukui
GOVERNOR

Bank of Japan

MAILING ADDRESS:
CPO BOX 203
TOKYO 100-8630
JAPAN
TEL. 3-3279-1111

July 4, 2006

Sir Howard Davies
Director
The London School of Economics and
Political Science
Houghton Street
London WC2A 2AE
United Kingdom

Dear Howard,

Thank you for your letter regarding your international project on comparative productivity in manufacturing companies around the world.

Given the deepening global linkage of economic activities, your initiative to expand the

FROM : FAX NO. : 2007.09.18 09:08 P1

中国人民银行
THE PEOPLE'S BANK OF CHINA
32 Chengfang Street, West District, Beijing, China 100800

Professor Nicholas Stern
Director of the Asia Research Centre
London School of Economics

September 12, 2007

Dear Professor Nicholas Stern,

Thank you for your email of August 20 addressed to Governor Zhou. On his behalf, I would like to congratulate you on your appointment as the first holder of the IG Patel Chair at the London School of Economics and the Director of the Asia Research Centre.

Governor Zhou thanks you for informing him of the joint London School of Economics and Stanford research project led by Professor John Van Reenen. He agrees with you that improving productivity and management practices is important for ensuring economic growth and employment, and believes that this project would be valuable in understanding managerial strengths and weaknesses. Personally he welcomes this project. He suggests that Professor Van Reenen approach the concerned

Survey methodology (Bloom & Van Reenen, 2007, QJE)

1) Developing management questions

- Scorecard for 18 monitoring, targets & people management practices ≈45 minute phone interview of plant managers

2) Getting firms to participate in the interview

- Introduced as “Lean-manufacturing” interview, no financials
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3) Obtaining unbiased comparable responses, “Double-blind”

- Interviewers do not know the company’s performance
- Managers are not informed (in advance) they are scored

Example monitoring question, scored based on a number of questions starting with "*How is performance tracked?*"

Score	(1): Measures tracked do not indicate directly if overall business objectives are being met. Many processes aren't tracked at all	(3): Most key performance indicators are tracked formally. Tracking is overseen by senior management	(5): Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools

Note: All 18 questions & 50+ examples in http://worldmanagementsurvey.org/

Examples of performance metrics – Heathrow

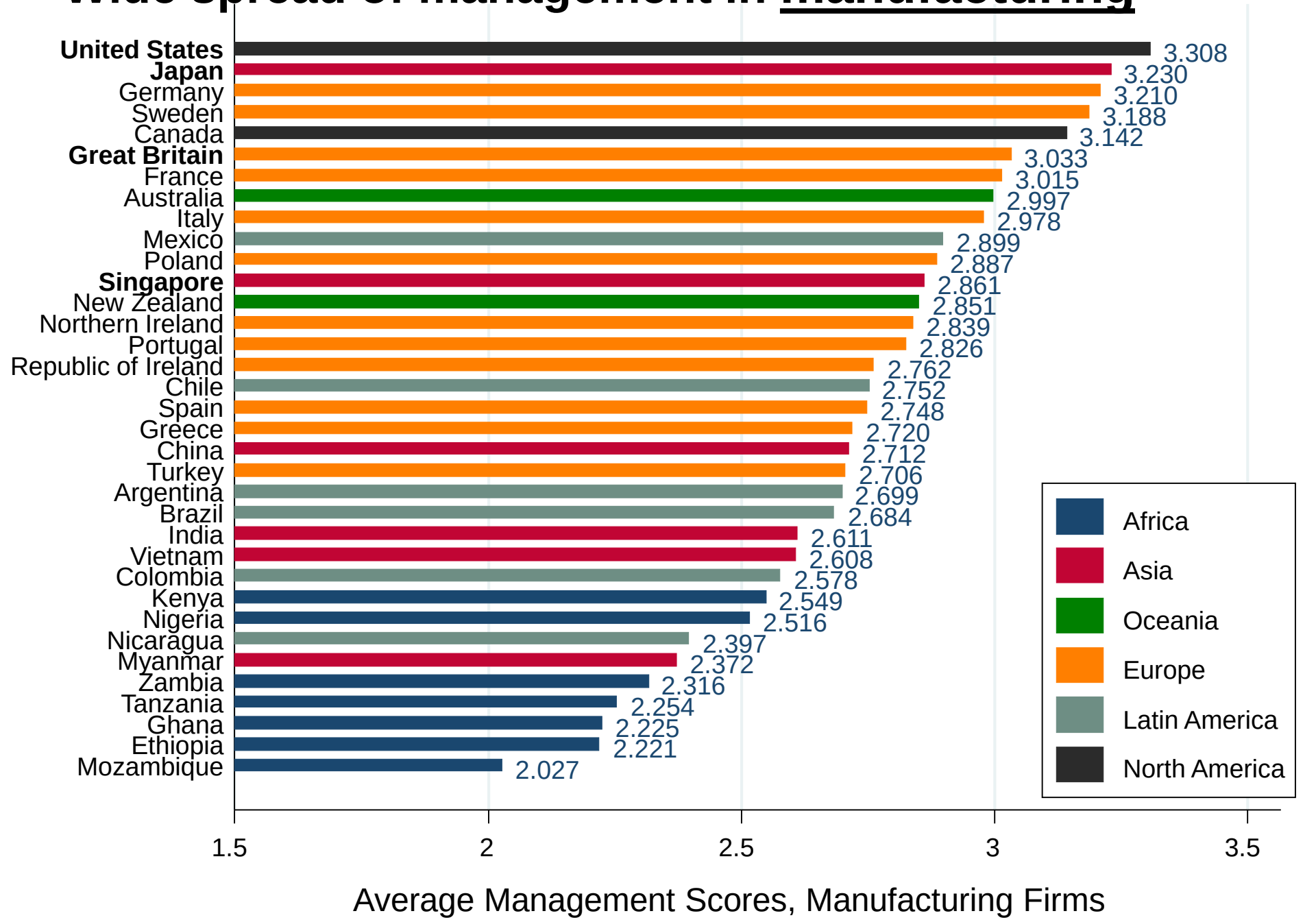
Example of *no* performance metrics: Textile Plant

Example incentives question, scored based on questions starting with "*How does the promotion system work?*"

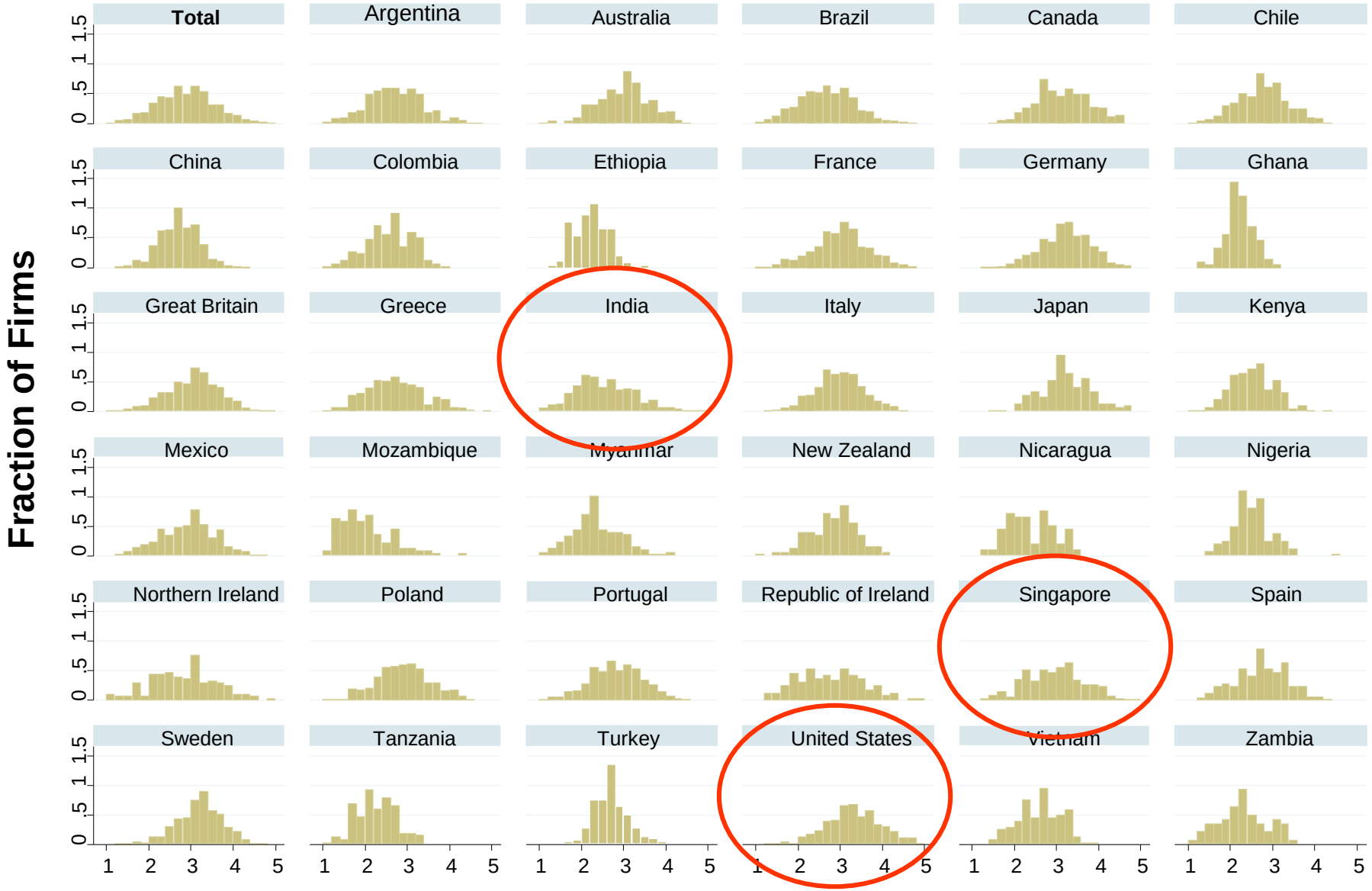
Score	(1) People are promoted primarily upon the basis of tenure, irrespective of performance (ability & effort)	(3) People are promoted primarily upon the basis of performance	(5) We actively identify, develop and promote our top performers

Note: All 18 questions & 50+ examples in http://worldmanagementsurvey.org/

Wide spread of management in manufacturing



Management also varies heavily within countries



These management scores are positively *correlated* with firm performance – even with many controls

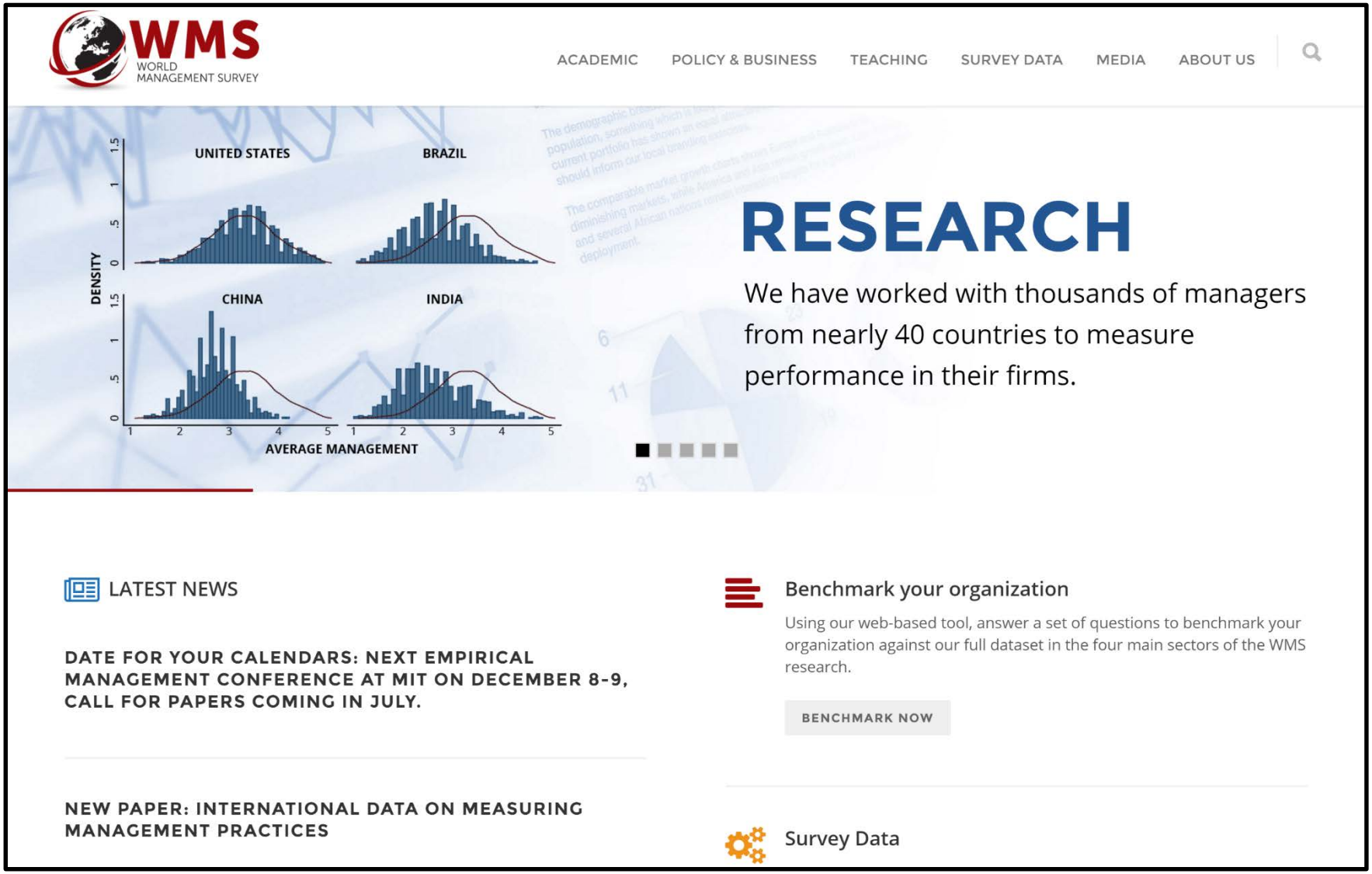
Dependent variable	Productivity	Profits (ROCE)	5yr Sales growth	Share Price (Tobin Q)	Exit
Estimation	OLS	OLS	OLS	OLS	Probit
Firm sample	All	All	All	Quoted	All
Management	**28.7*** **	**2.018*** **	**0.047*** **	**0.250*** **	**-0.262** **
Firms	3469	1994	1883	374	3161

Includes controls for country, industry, year, firm-size, firm-age, skills etc. All firms (public and private) for which accounts data is available

Significance levels: *** 1%, ** 5%, * 10% (clustered by firm)

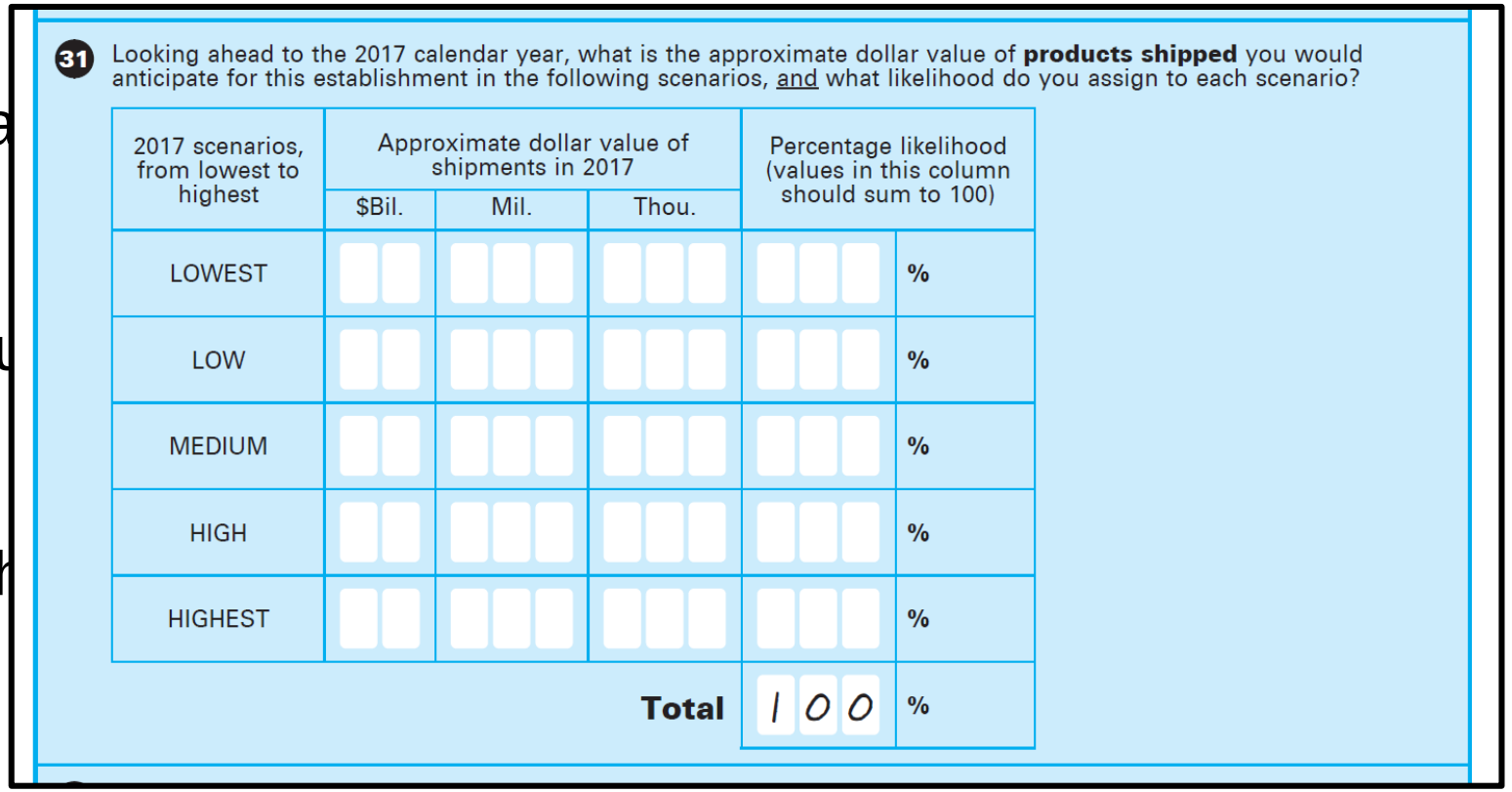
Now run surveys in 35+ countries and counting

www.worldmanagementsurvey.com



Four things this experience taught me:

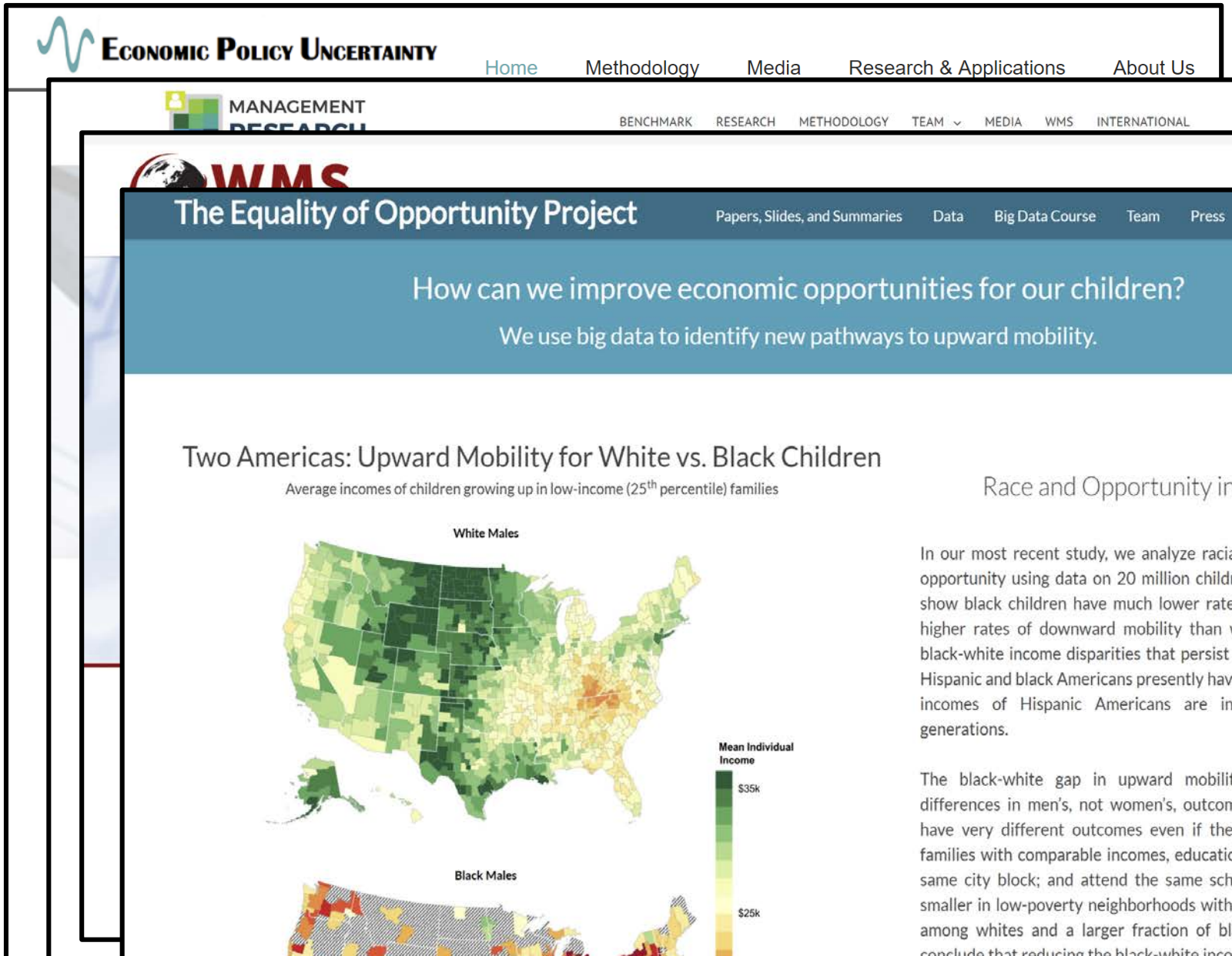
1. Focus on topics if you feel they matter
2. Ta
3. Su
4. Sh



31 Looking ahead to the 2017 calendar year, what is the approximate dollar value of **products shipped** you would anticipate for this establishment in the following scenarios, and what likelihood do you assign to each scenario?

2017 scenarios, from lowest to highest	Approximate dollar value of shipments in 2017			Percentage likelihood (values in this column should sum to 100)	
	$Bil.	Mil.	Thou.		
LOWEST					%
LOW					%
MEDIUM					%
HIGH					%
HIGHEST					%
			Total	100	%

Data sharing website – four examples



MY FAVOURITE QUOTES:

The difficulties of defining ownership in Europe

Production Manager: "We're owned by the Mafia"

Interviewer: "I think that's the "*Other*" category…….although I guess I could put you down as an "*Italian multinational*" ?"

Americans on geography

Interviewer: "How many production sites do you have abroad?

Manager in Indiana, US: "Well…we have one in Texas…"

Two ways to collect management data

- Telephone Surveys

- National Statistical Office Surveys

National

Statistical

Office

Surveys

What Drives Differences in Management Practices?

Nicholas Bloom[1], Erik Brynjolfsson[2], Lucia Foster[3], Ron Jarmin[3], Megha Patnaik[4], Itay Saporta-Eksten[5] and John Van Reenen[6]

This version: April 25th, 2018

Abstract: Partnering with the US Census Bureau, we implement a new survey of "structured" management practices in two waves of about 35,000 manufacturing plants each in 2010 and 2015. We find enormous dispersion of management practices across plants, with 40% of this variation across plants *within* the same firm. This variation in management practices accounts for about a fifth of the spread of productivity, a similar fraction as that accounted for by R&D, and larger than the fraction explained by ICT and human capital. Management practices are more predictive of long-term survival than productivity. We find causal evidence that two drivers are very important in improving management. Regulation of the business environment (as measured by the Right-to-Work laws) boosts management practices associated with incentives. Learning spillovers as measured by the arrival of large new entrants in the county ("Million Dollar Plants") increases the management scores of incumbents.

Keywords: Management, productivity, competition, learning

JEL Classification: L2, M2, O32, O33.

Disclaimer: Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information was disclosed.

Acknowledgements: Financial support was provided in part by the National Science Foundation, Kauffman Foundation, the MIT Initiative on the Digital Economy, and the Sloan Foundation and administered by the National Bureau of Economic Research. We thank Hyunseob Kim for sharing data on large plant openings. We are indebted to numerous Census Bureau staff for their help in developing, conducting and analyzing the survey; we especially thank Julius Smith, Cathy Buffington, Scott Ohlmacher and William Wisniewski. This paper is an updated version of a working paper previously titled "Management in America" and we thank Stefano DellaVigna and Marianne Bertrand, our anonymous referees, our formal discussants Philippe Aghion, Namrata Kala and Andrea Pratt as well as numerous participants at seminars and conferences for many helpful comments.

[1] Stanford and NBER, [2] MIT and NBER, [3] U.S. Census Bureau, [4] Stanford, [5] Tel-Aviv and UCL, [6] MIT, CEP and NBER

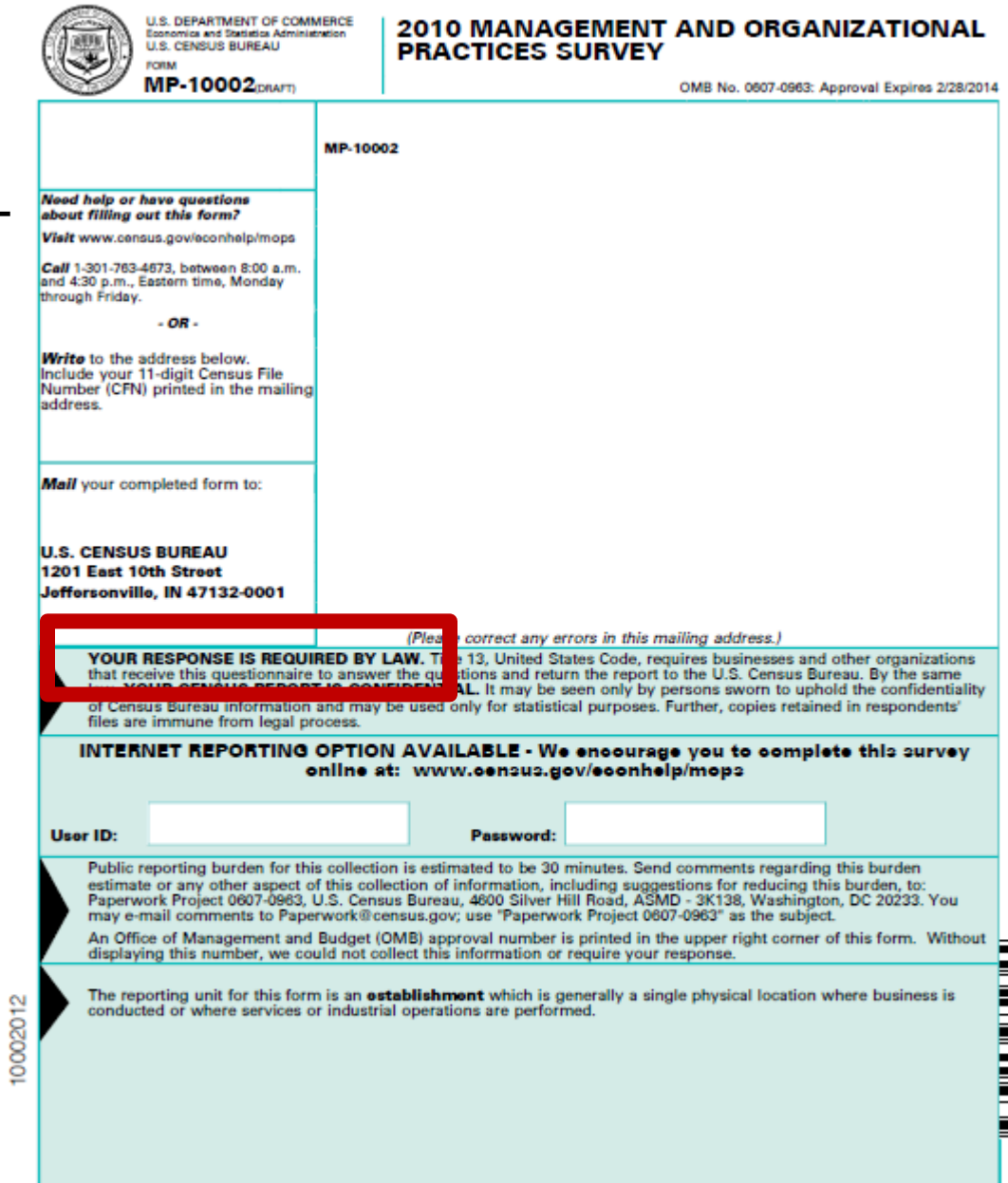
In 2010 raised funding to run a big management survey with the US Census

Management and Organizational Practices Survey 2010

It was delivered to ~50,000 manufacturing plants in 2011 (asking about 2010) and 2016 (asking about 2015)

This was quick and easy to fill out - and mandatory - so 74% of plants responded.

In 2010: covering 5.6m employees (>50% of US manufacturing employment)



U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
MP-10002(DRAFT)

2010 MANAGEMENT AND ORGANIZATIONAL PRACTICES SURVEY

OMB No. 0607-0963: Approval Expires 2/28/2014

MP-10002

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Visit www.census.gov/econhelp/mops

Call 1-301-763-4673, between 8:00 a.m. and 4:30 p.m., Eastern time, Monday through Friday.

- OR -

Write to the address below. Include your 11-digit Census File Number (CFN) printed in the mailing address.

Mail your completed form to:

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1201 East 10th Street
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(Please correct any errors in this mailing address.)

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

INTERNET REPORTING OPTION AVAILABLE - We encourage you to complete this survey online at: www.census.gov/econhelp/mops

User ID: **Password:**

Public reporting burden for this collection is estimated to be 30 minutes. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Paperwork Project 0607-0963, U.S. Census Bureau, 4600 Silver Hill Road, ASMD - 3K138, Washington, DC 20233. You may e-mail comments to Paperwork@census.gov; use "Paperwork Project 0607-0963" as the subject.

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The reporting unit for this form is an **establishment** which is generally a single physical location where business is conducted or where services or industrial operations are performed.

10002012

The Management and Organizational Practices survey asked about two basic types of management practices

Monitoring: data collection and analysis

Incentives: rewarding high performers, “fixing” low performers

We call intensive use of these practices “Structured management”

The Management and Organizational Practices survey asks about performance monitoring e.g.

2 In 2005 and 2010, how many key performance indicators were monitored at this establishment?

Examples: Metrics on production, cost, waste, quality, inventory, energy, absenteeism and deliveries on time.

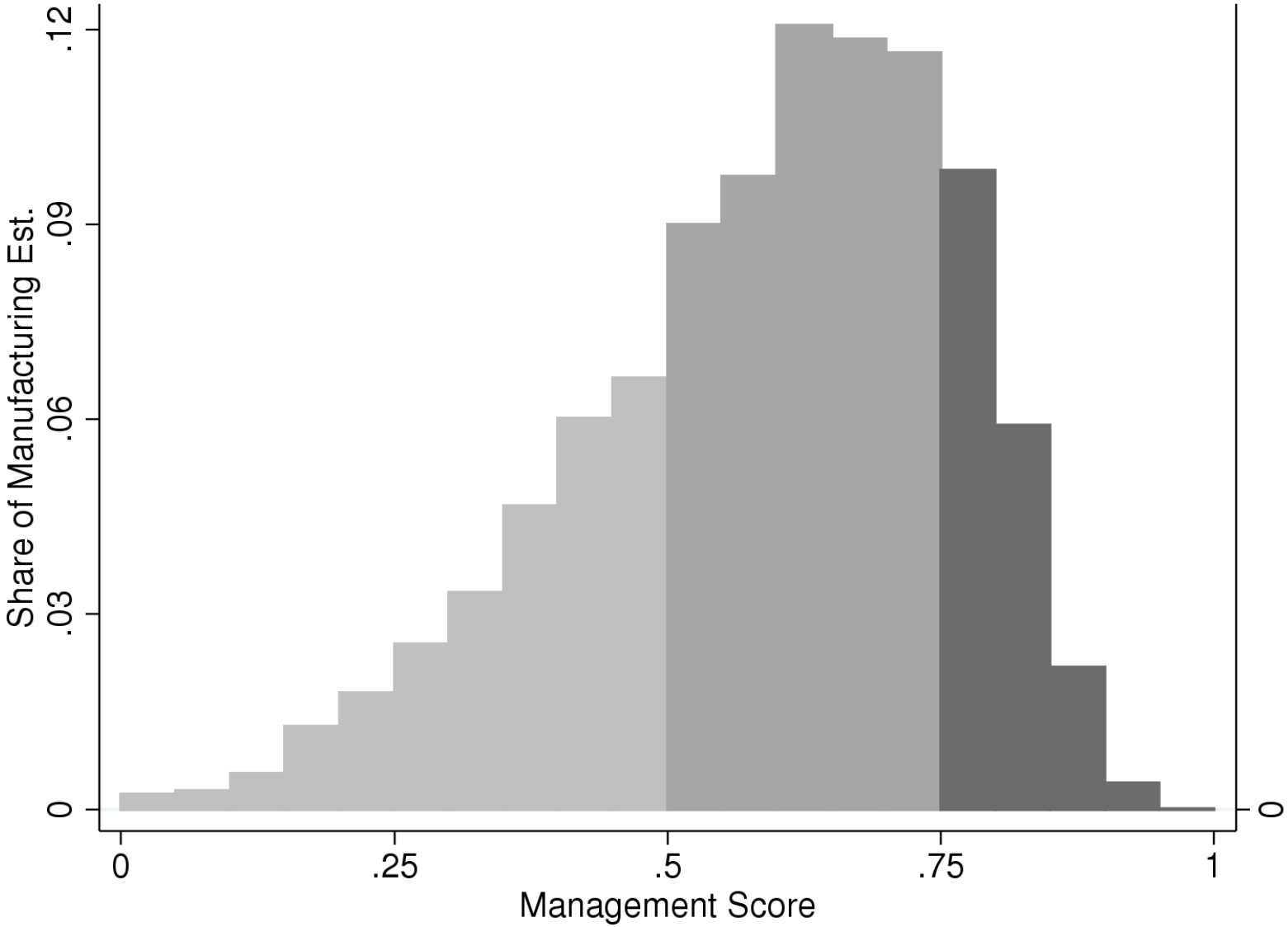
Check one box for each year	2005	2010
1-2 key performance indicators	☐	☐
3-9 key performance indicators	☐	☐
10 or more key performance indicators	☐	☐
No key performance indicators (If no key performance indicators in both years, SKIP to **6**)	☐	☐

The Management and Organizational Practices survey asks about <u>incentives</u> e.g.

14 In 2005 and 2010, what was the primary way **managers** were promoted at this establishment?

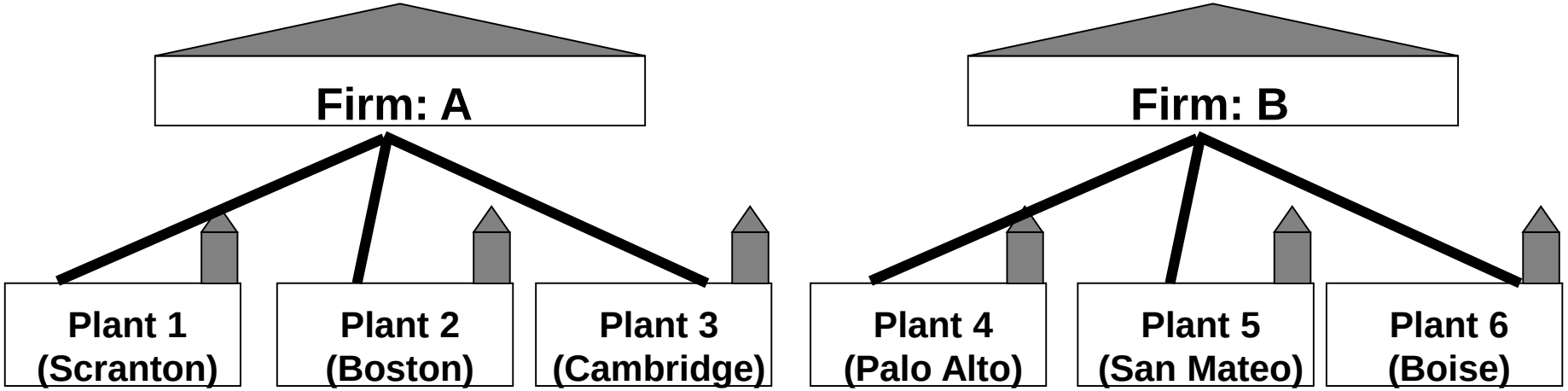
Check one box for each year	2005	2010
Promotions were based solely on performance and ability	☐	☐
Promotions were based partly on performance and ability, and partly on other factors (for example, tenure or family connections)	☐	☐
Promotions were based mainly on factors other than performance and ability (for example, tenure or family connections)	☐	☐
Managers are normally not promoted	☐	☐

Found a big spread of management (even in the US!)



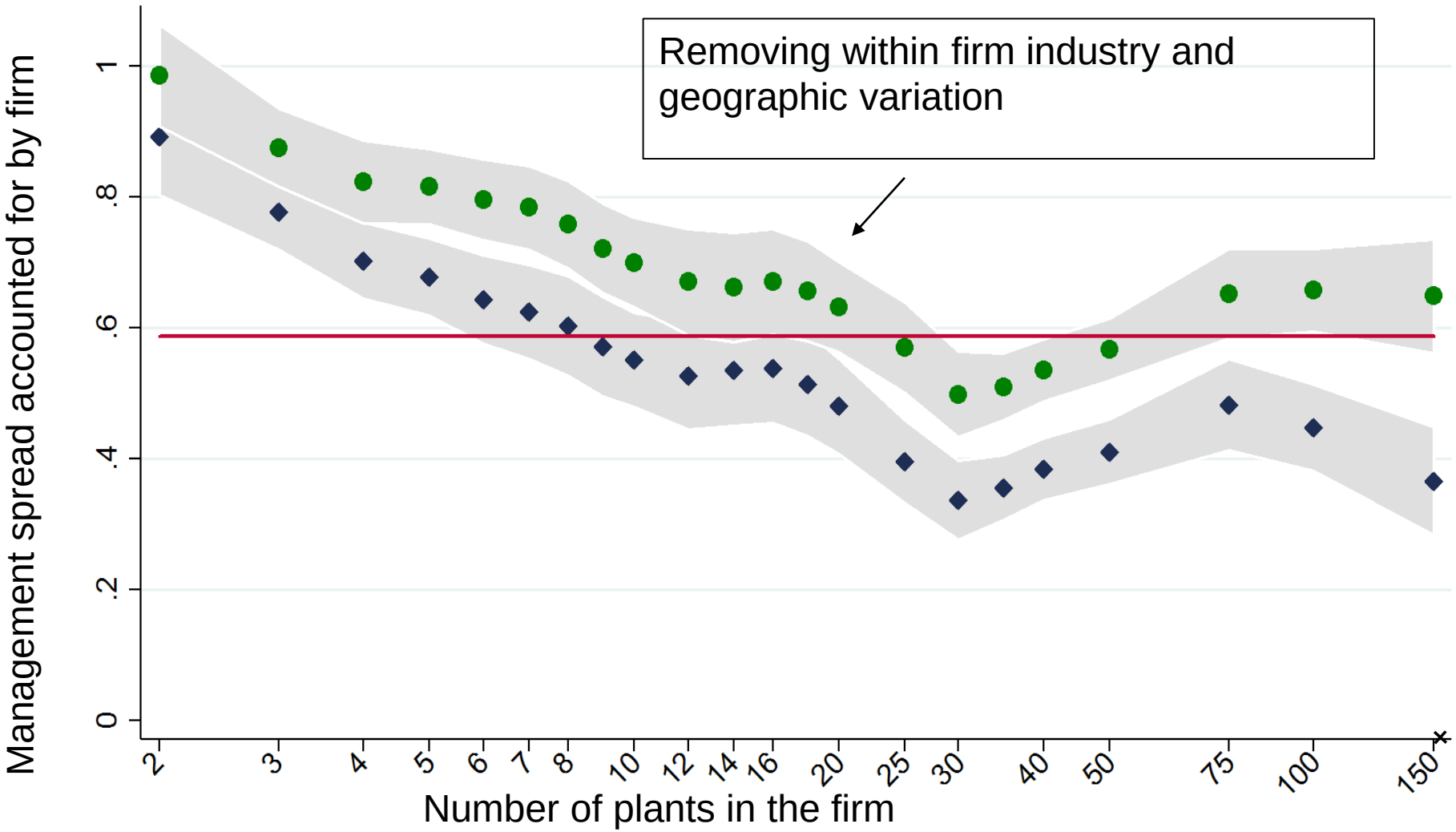
Note: The management score is the average of the scores for each of the 16 questions, where each question is normalized on a 0-1 scale (from least to most structured).

Old question: how much is within vs between firms?



- Need to strip out measurement error - pervasive (in all data) and for variance decompositions generates bias
- MOPS 2010 fortunate to have ≈500 plants in which two *different people* responded to the same survey – find ≈45%

Found about 60% between firms (so 40% within firms)



Note: Dots show the share of management score variation accounted for by the firm with different numbers of manufacturing establishments ranging from that number to the next value – so for example, 50 plants refers to 50 to 74 plants. After removing the 45.4% accounted for by measurement error. The bootstrap sampled 95% confidence interview shown in grey shading. Sample of 16,500 establishments across the 3100 firms with 2+ establishments in the 2010 MOPS survey. Industry variation captured by 6-digit NAICS code and geographic variation by MSA dummies (State is the MSA if missing).

Management score strongly predictive for firm performance, including long-run growth & survival

Time Window	2010 to 2015 (5)	2014 to 2015 (6)	2010 to 2015 (7)	2010 to 2015 (8)
Panel A: Dependent variable: Exit Rate				
Management	-0.180***	-0.035***	-0.286***	-0.153***
	(0.014)	(0.007)	(0.033)	(0.014)
Log(Value Added/Emp)				-0.025***
				(0.003)
Marginal R^2 for Management (*100)				0.506
Marginal R^2 for Log worker prod (*100)				0.308
Panel B: Dependent variable: Employment Growth				
Management	0.412***	0.088***	0.629***	0.326***
	(0.033)	(0.018)	(0.075)	(0.035)
Log(Value Added/Emp)				0.078***
				(0.007)
Marginal R^2 for Management (*100)				0.394
Marginal R^2 for Log worker prod (*100)				0.525
Firm Fixed Effects	No	No	Yes	No
Observations	~32,000	~29,000	~17,000	~32,000

So what drives differences in management?

Main focus (policy relevant, good identification):

1) Regulation (via “right-to-work” laws in states)
2) Spillovers (Multinationals)

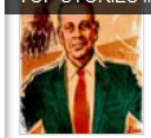
Other drivers (frankly, hard to get good identification):

1) Education (via land grant colleges)
2) Competition (via trade and ex. rate variations)

Regulation – particularly "Right to work" - is a topical issue, with seven states (IN, WI, MI, OH, WV, KY and MO) voting on this since 2012

THE WALL STREET JOURNAL. ≡ OPINION Nicholas's Journal Live Help

TOP STORIES IN



OPINION

Unions

Collective ba

Email Print

By ROBERT BAR

Updated Feb. 28, 20

How ironic that and public- em bargaining for to introduce a form of individ

SEARCH

The New York Times

The Opinion Pages

ROOM *for* DEBATE

FACEBOOK TWITTER PINTEREST EMAIL

What Happens as More States Curtail Labor's Rights?

Are "right to work" laws worthwhile?

Read More »

DEBATERS

Income Rises When These Laws Are Passed

RICHARD VEDDER, ECONOMICS PROFESSOR

Wages Are Lower in States With These Laws

ELISE GOULD, ECONOMIC POLICY INSTITUTE

A Key to Economic Growth

SCOTT MANLEY, WISCONSIN MANUFACTURERS AND COMMERCE

Call It 'Right-to-Work-for-Less'

GEORGE GRESHAM, 1199SEIU UNITED HEALTHCARE WORKERS EAST

Both Sides Exaggerate Its Effects

BARRY HIRSCH, ECONOMICS PROFESSOR

Call It 'Right-to-Work-for-Less,' Not Right-to-Work

George Gresham is the president of 1199SEIU United Healthcare Workers East.

UPDATED MARCH 12, 2015, 12:07 PM

What are called right-to-work laws would more accurately be termed "right-to-work-for-less," for their aim is to deprive unions of dues and money essential to their ability to represent workers and enforce contracts.

A signal achievement of the New Deal was the Wagner Act of 1935, guaranteeing labor's rights to organize and bargain collectively. It established that when the majority of workers in a facility votes for union representation, all the members of the bargaining unit are union members and pay membership dues. Unions saw enormous growth, and their strength helped create conditions and legislation that benefited all of society — including the weekend, the 8-hour day, Social Security, unemployment compensation and the elimination of child labor.

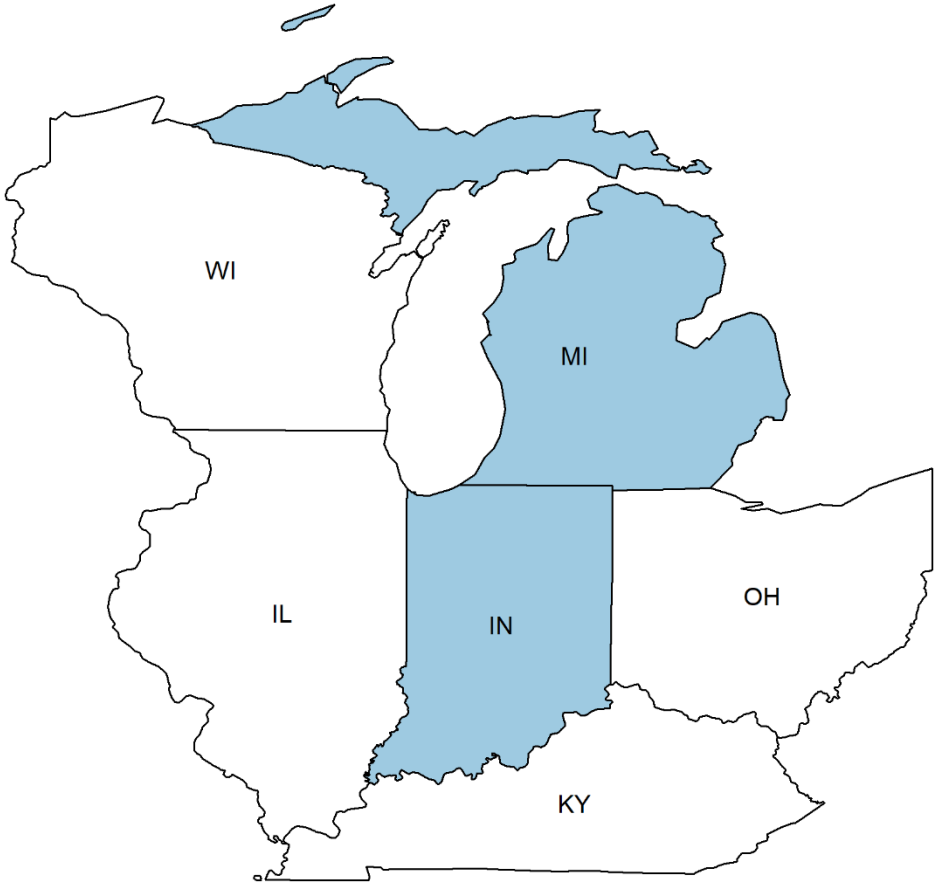
But since World War II, we have witnessed a war by corporate America to weaken workers and their unions. The first blow came with the 1947 Taft-

Its aim is to deprive unions of dues money

How to Tease Out the Causal Effect of RTW?

First approach:

Diff-in-diff comparing Michigan and Indiana (switched 2012) to neighboring states



2012

RTW Switch Increases Use of Incentives Practices

	Management outcomes		
Dependent variable:	Management score	Incentives	Non-incentives
	(1)	(2)	(3)
Panel A: DID estimates for the effect of RTW			
PostXTreat	0.009*	0.017***	0.003
	(0.005)	(0.007)	(0.006)
Obs	~15,000	~15,000	~15,000
Panel C: DID estimates controlling for 6-digit NAICS			
PostXTreat	0.007	0.014**	0.002
	(0.005)	(0.006)	(0.005)
Obs	~15,000	~15,000	~15,000

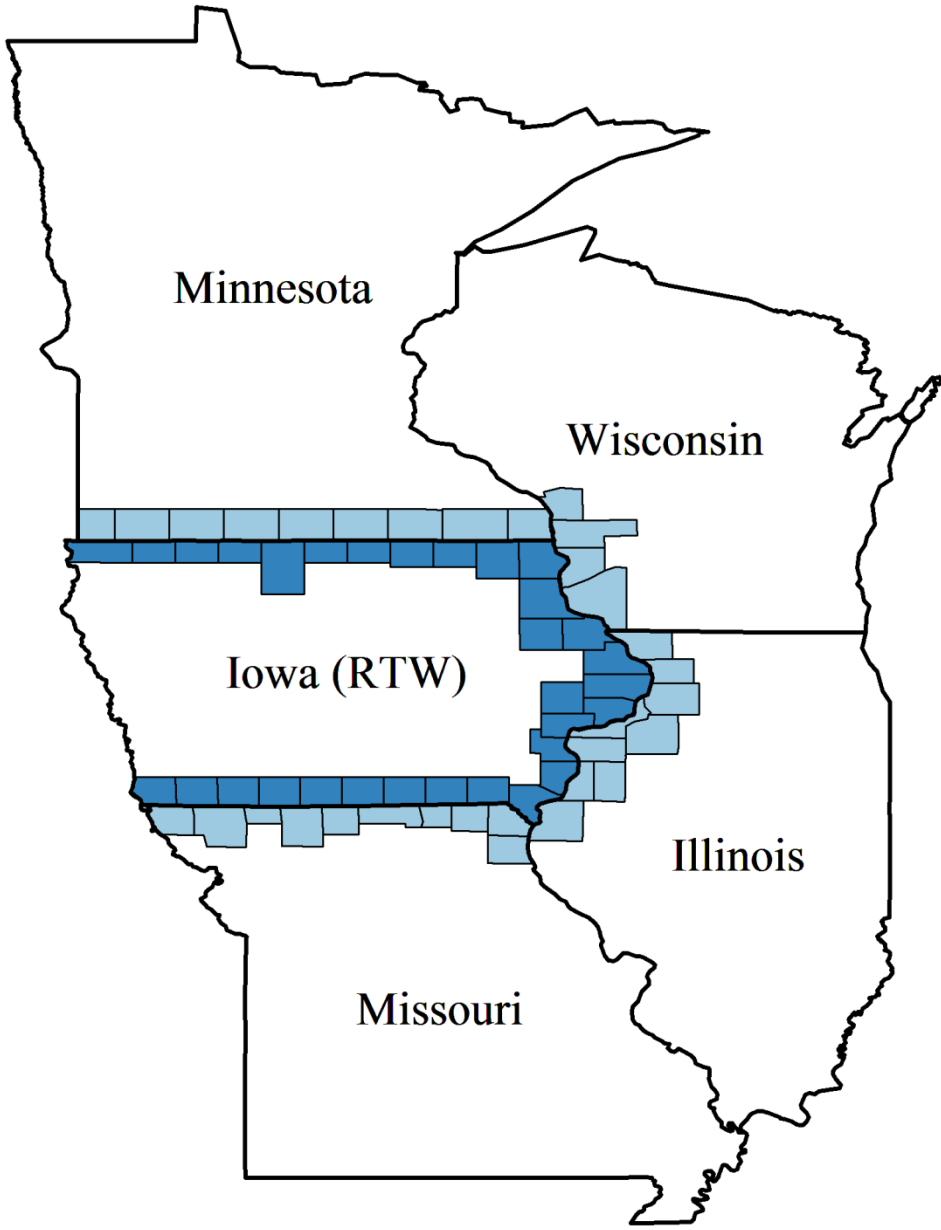
How to Tease Out the Causal Effect of RTW?

First approach:

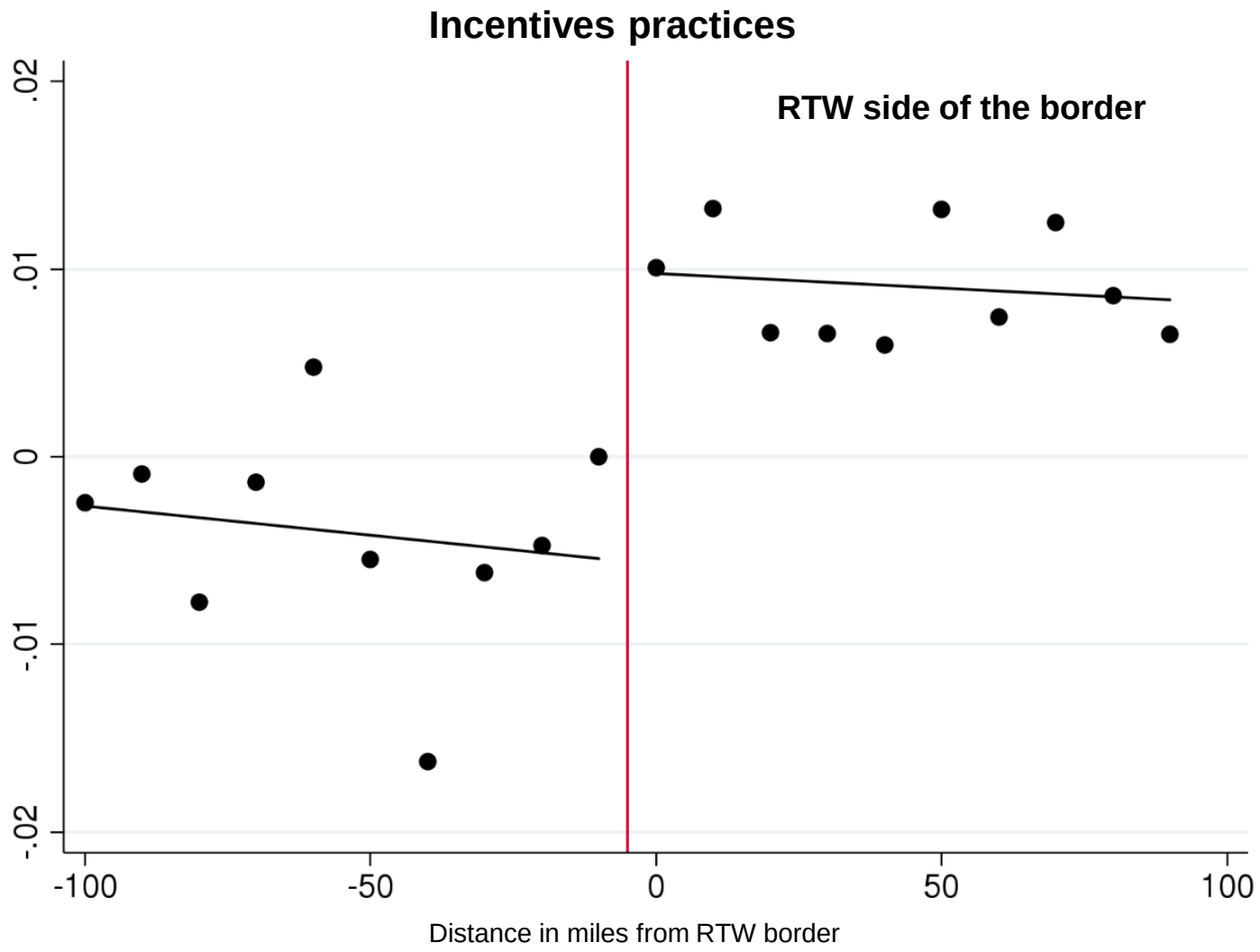
Diff-in-diff comparing Michigan and Indiana (switched 2012) to neighboring states

Second approach:

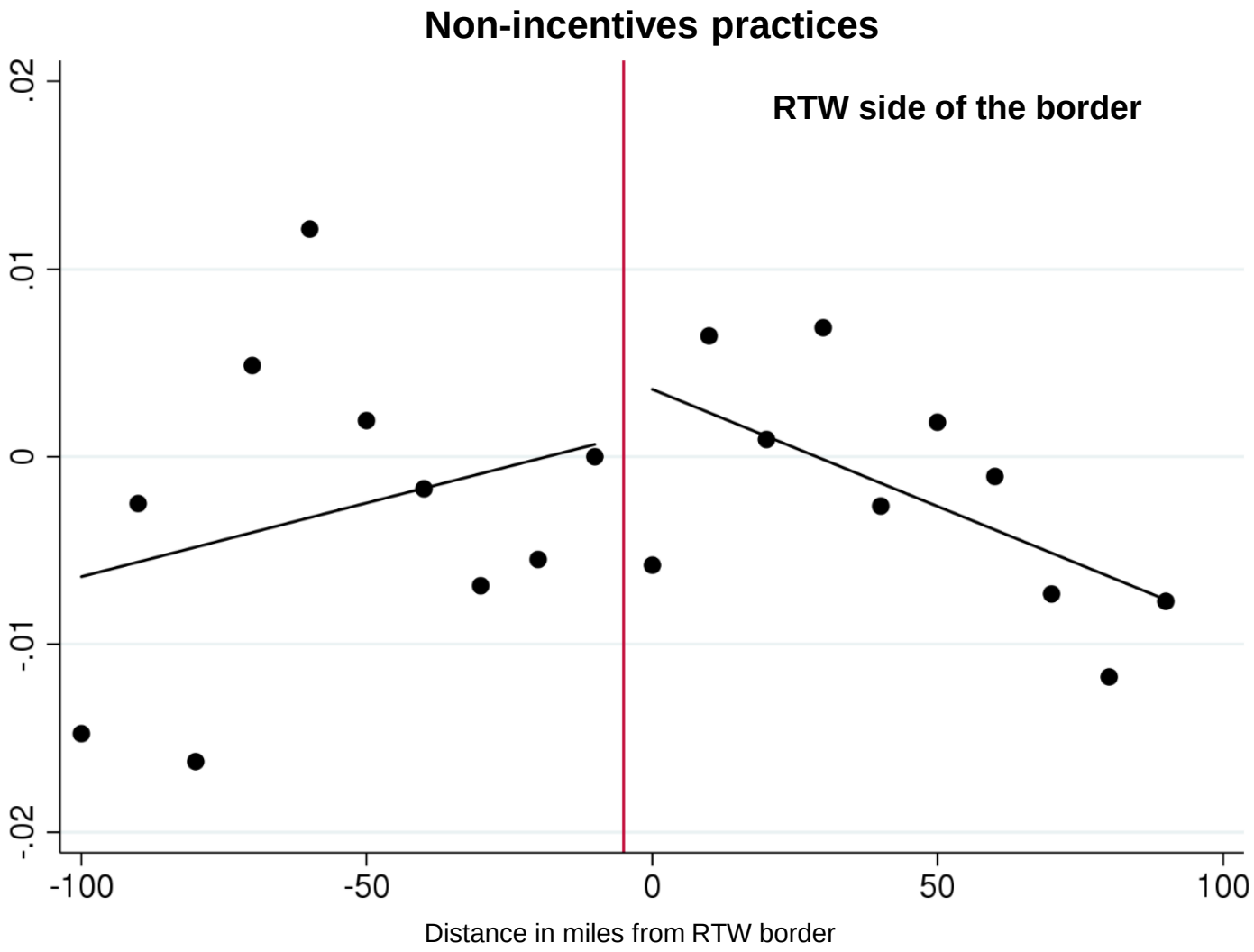
Regression discontinuity over RTW borders (inspired by Holmes 1998)



Clear Discontinuity in Incentives Practices



No Discontinuity in non-Incentives Practices



Spillovers - Look at impact of winning a "Million Dollar Plant" versus being the runner up

Toyota Motor Corp. – Huntsville, Ala. $220 million; 350 jobs

Senator Jef
Gov. Don Sieg
the future p

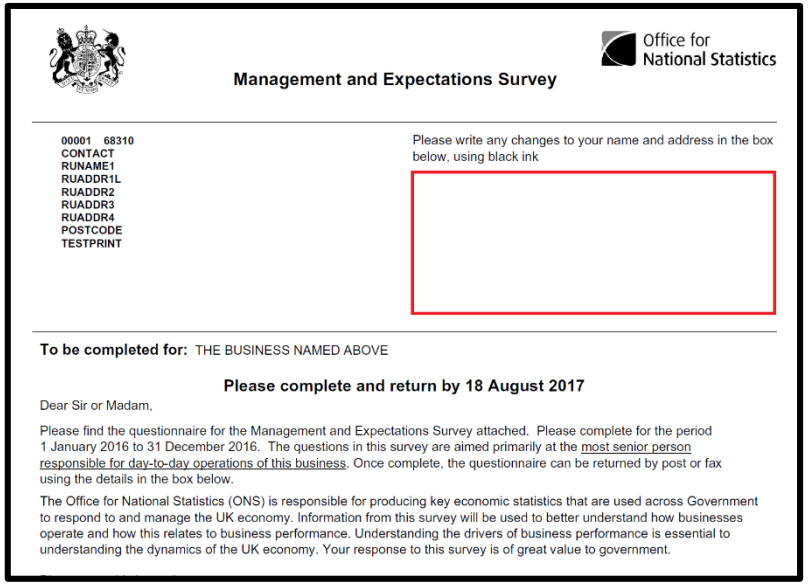
One of the Southeast's most prized catches of the year landed in Huntsville, Ala., where Japanese automaker Toyota Motor Corp. announced that it would locate a $220 million, 350-job manufacturing plant for V-8 engines for the Toyota Tundra pickup.

Huntsville beat out Clarksville, Tenn., and Buffalo, W.Va.,

Major new plants lead to localized increases (spillovers) in management, TFP and employment

Dependent variable:	Change in Management		Change in Log(TFP)		Employment Growth	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All industries pooled						
MDP Opens	0.012**	0.018***	0.022	0.024	0.011**	0.014***
	(0.005)	(0.007)	(0.016)	(0.017)	(0.004)	(0.005)
Panel B: Split high/low manager flow						
MDP Opens×High	0.023***	0.031***	0.074***	0.069***	0.013**	0.017***
	(0.008)	(0.008)	(0.027)	(0.019)	(0.006)	(0.006)
MDP Opens×Low	-0.005	-0.005	-0.059	-0.050	0.007	0.009
	(0.010)	(0.011)	(0.040)	(0.034)	(0.009)	(0.01)
P-value for equal	0.056	0.007	0.026	0.004	0.606	0.495

Running MOPS style surveys in other countries



Office for National Statistics

Management and Expectations Survey

00001 68310
CONTACT
RUNAME1
RUADDR1L
RUADDR2
RUADDR3
RUADDR4
POSTCODE
TESTPRINT

Please write any changes to your name and address in the box below, using black ink

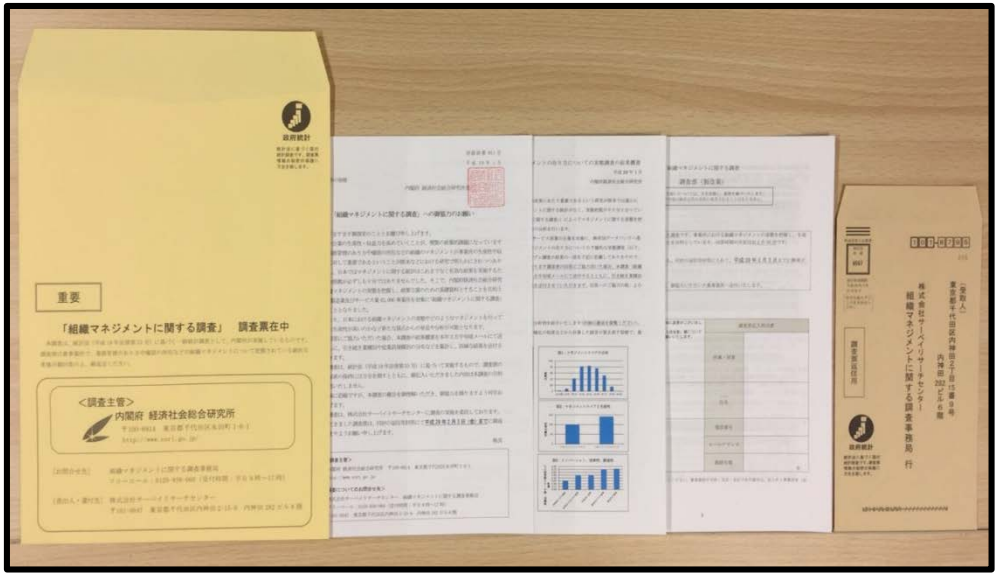
To be completed for: THE BUSINESS NAMED ABOVE

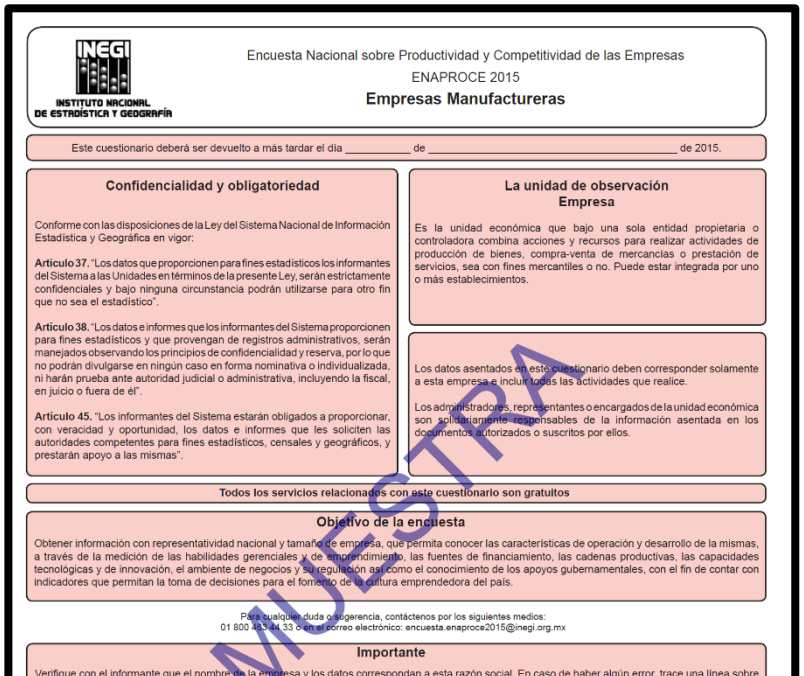
Please complete and return by 18 August 2017

Dear Sir or Madam,

Please find the questionnaire for the Management and Expectations Survey attached. Please complete for the period 1 January 2016 to 31 December 2016. The questions in this survey are aimed primarily at the most senior person responsible for day-to-day operations of this business. Once complete, the questionnaire can be returned by post or fax using the details in the box below.

The Office for National Statistics (ONS) is responsible for producing key economic statistics that are used across Government to respond to and manage the UK economy. Information from this survey will be used to better understand how businesses operate and how this relates to business performance. Understanding the drivers of business performance is essential to understanding the dynamics of the UK economy. Your response to this survey is of great value to government.





INEGI
INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA

Encuesta Nacional sobre Productividad y Competitividad de las Empresas
ENAPROCE 2015
Empresas Manufactureras

Este cuestionario deberá ser devuelto a más tardar el día _____ de _____ de 2015.

Confidencialidad y obligatoriedad

Conforme con las disposiciones de la Ley del Sistema Nacional de Información Estadística y Geográfica en vigor:

Artículo 37. "Los datos que proporcionen para fines estadísticos los informantes del Sistema a las Unidades en términos de la presente Ley, serán estrictamente confidenciales y bajo ninguna circunstancia podrán utilizarse para otro fin que no sea el estadístico".

Artículo 38. "Los datos e informes que los informantes del Sistema proporcionen para fines estadísticos y que provengan de registros administrativos, serán manejados observando los principios de confidencialidad y reserva, por lo que no podrán divulgarse en ningún caso en forma nominativa o individualizada, ni harán prueba ante autoridad judicial o administrativa, incluyendo la fiscal, en juicio o fuera de él".

Artículo 45. "Los informantes del Sistema estarán obligados a proporcionar, con veracidad y oportunidad, los datos e informes que les soliciten las autoridades competentes para fines estadísticos, censales y geográficos, y prestarán apoyo a las mismas".

La unidad de observación
Empresa

Es la unidad económica que bajo una sola entidad propietaria o controladora combina acciones y recursos para realizar actividades de producción de bienes, compra-venta de mercancías o prestación de servicios, sea con fines mercantiles o no. Puede estar integrada por uno o más establecimientos.

Los datos asentados en este cuestionario deben corresponder solamente a esta empresa e incluir todas las actividades que realice.

Los administradores, representantes o encargados de la unidad económica son solidariamente responsables de la información asentada en los documentos autorizados o suscritos por ellos.

Todos los servicios relacionados con este cuestionario son gratuitos

Objetivo de la encuesta

Obtener información con representatividad nacional y tamaño de empresa, que permita conocer las características de operación y desarrollo de la mismas, a través de la medición de las habilidades gerenciales y de emprendimiento, las fuentes de financiamiento, las cadenas productivas, las capacidades tecnológicas y de innovación, el ambiente de negocios y su regulación así como el conocimiento de los apoyos gubernamentales, con el fin de contar con indicadores que permitan la toma de decisiones para el fomento de la cultura emprendedora del país.

Para cualquier duda o sugerencia, contáctenos por los siguientes medios:
01 800 483 44 33 o en el correo electrónico: encuesta.enaproce2015@inegi.org.mx

Importante

Verifique con el informante que el nombre de la empresa y los datos correspondan a esta razón social. En caso de haber algún error, trace una línea sobre

PAKISTAN BUREAU OF STATISTICS
Government of Pakistan

Management and Organizational Practices Survey
Jointly Conducted
by
State Bank of Pakistan *and* **Pakistan Bureau of Statistics**

Brief objective

Management practices change over time and those practices are directly linked to the performance of establishments / firms. This survey is a joint initiative of State Bank of Pakistan (SBP) and Pakistan Bureau of Statistics (PBS) that explores how management practices of establishments in the manufacturing sector industries have changed between fiscal year July-June 2005-06 (FY 2005-06) and July-June 2010-2011 (FY 2010-11). Moreover, this survey is expected to help policy-makers analyze whether more structured management practices have any relationship with the efficiency of establishments.

انتظامی امور (مینجمنٹ پریکٹس) وقت کے ساتھ ساتھ بدلتے رہتے ہیں اور کسی بھی اسٹیبلشمنٹ یا کمپنی کی کارکردگی کا دارومدار ان انتظامی امور پر ہوتا ہے۔ یہ سروے اسٹیٹ بینک آف پاکستان اور پاکستان بیورو آف اسٹیٹس کی مشترکہ کاوش ہے جس کا مقصد یہ جاننا ہے کہ پیداواری صنعت کے اداروں میں انتظامی امور (مینجمنٹ پریکٹس) مالی سال جولائی جون 06-2005 اور مالی سال جولائی جون 11-2010 کے درمیان کس طرح تبدیل ہوئے۔ اس کے علاوہ اس سروے کی مدد سے پالیسی سازیہ جان سکیں گے کہ اسٹیبلشمنٹ کی کارکردگی کا بہتر انتظامی امور سے کیا تعلق ہے۔

R

Survey Code																			

Section A - Particulars of Establishment حصہ الف

A-1 Name and mailing address of establishment.

1	Name	
2	Registered Address	
3	Mailing Address	
4	Date when the establishment became operative. Date (dd-mm-yyyy)	

A-2 Ownership of the establishment.

What this experience taught me:

1. Statistical Offices can be open to new survey ideas

2. Look for semi-random variation – e.g. Right to Work in US

3. There is a lot we don’t know in management!

(3) Management Field Experiments

- India

- China

Almost all management field experiments are on micro enterprises

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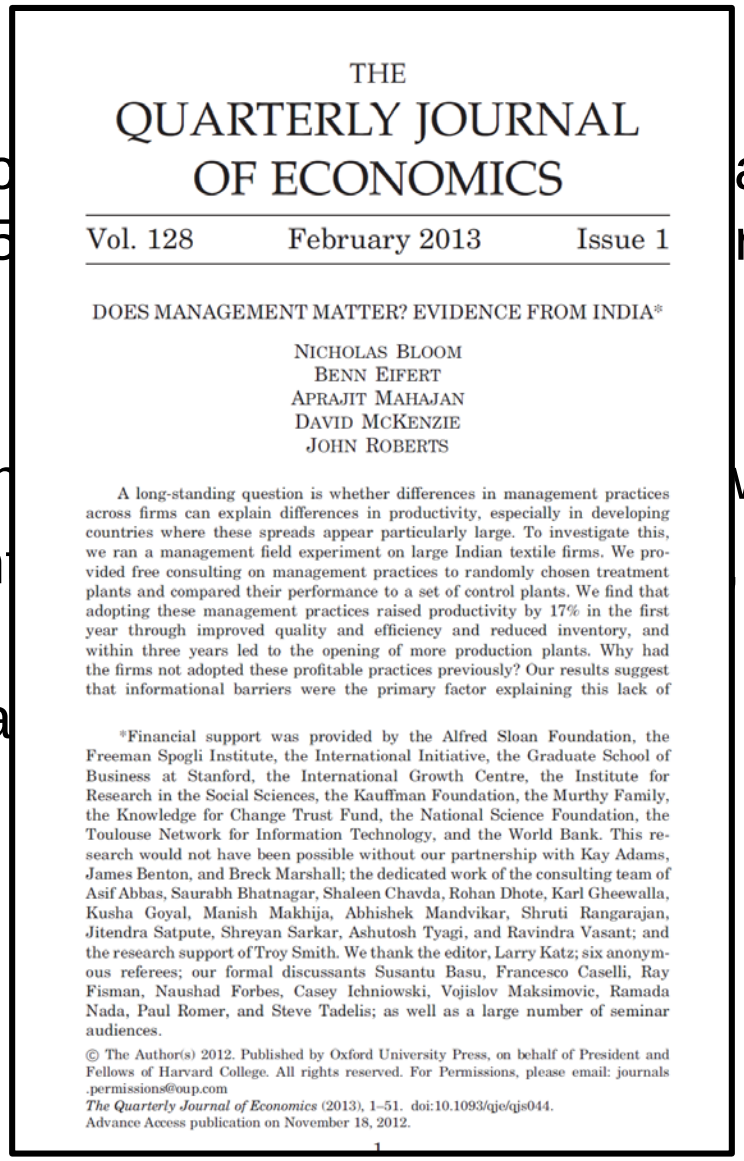
In 2008-2010 I ran a large-firm management Randomized Control Trial (RCT)

- Worked with Ac agement consulting to 17 large (≈25 rms running 28 plants
- From these firm vere randomized into
  - 14 treatmen 4 months consulting)
  - 6 control pla
- Then collected



THE
QUARTERLY JOURNAL
OF ECONOMICS

Vol. 128 February 2013 Issue 1

DOES MANAGEMENT MATTER? EVIDENCE FROM INDIA*

NICHOLAS BLOOM
BENN EIFERT
APRAJIT MAHAJAN
DAVID MCKENZIE
JOHN ROBERTS

A long-standing question is whether differences in management practices across firms can explain differences in productivity, especially in developing countries where these spreads appear particularly large. To investigate this, we ran a management field experiment on large Indian textile firms. We provided free consulting on management practices to randomly chosen treatment plants and compared their performance to a set of control plants. We find that adopting these management practices raised productivity by 17% in the first year through improved quality and efficiency and reduced inventory, and within three years led to the opening of more production plants. Why had the firms not adopted these profitable practices previously? Our results suggest that informational barriers were the primary factor explaining this lack of

*Financial support was provided by the Alfred Sloan Foundation, the Freeman Spogli Institute, the International Initiative, the Graduate School of Business at Stanford, the International Growth Centre, the Institute for Research in the Social Sciences, the Kauffman Foundation, the Murthy Family, the Knowledge for Change Trust Fund, the National Science Foundation, the Toulouse Network for Information Technology, and the World Bank. This research would not have been possible without our partnership with Kay Adams, James Benton, and Breck Marshall; the dedicated work of the consulting team of Asif Abbas, Saurabh Bhatnagar, Shaleen Chavda, Rohan Dhote, Karl Gheewalla, Kusha Goyal, Manish Makhija, Abhishek Mandvikar, Shruti Rangarajan, Jitendra Satpute, Shreyan Sarkar, Ashutosh Tyagi, and Ravindra Vasant; and the research support of Troy Smith. We thank the editor, Larry Katz; six anonymous referees; our formal discussants Susantu Basu, Francesco Caselli, Ray Fisman, Naushad Forbes, Casey Ichniowski, Vojislov Maksimovic, Ramada Nada, Paul Romer, and Steve Tadelis; as well as a large number of seminar audiences.

The Quarterly Journal of Economics (2013), 1–51. doi:10.1093/qje/qjs044.
Advance Access publication on November 18, 2012.

Large multi-plant firms operating 24 hours a day

Large multi-plant firms operating 24 hours a day

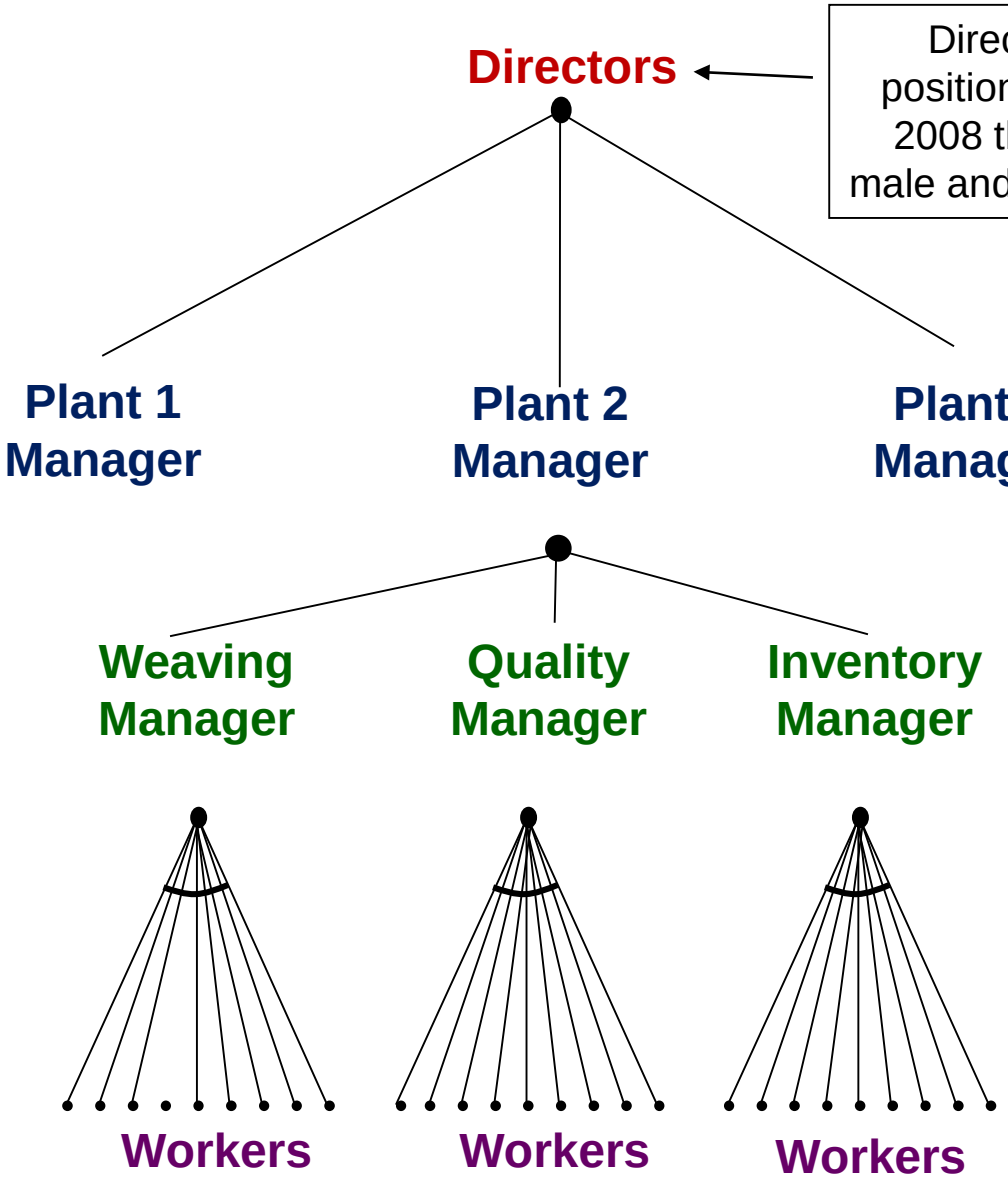
Intervention aimed at 38 core textile management practices in 6 areas

Area	Specific practice
Factory Operations	Preventive maintenance is carried out for the machines
	Preventive maintenance is carried out per manufacturer's recommendations
	The shop floor is marked clearly for where each machine should be
	The shop floor is clear of waste and obstacles
	Machine downtime is recorded
	Machine downtime reasons are monitored daily
	Machine downtime is analyzed at least fortnightly & action plans created and implemented to try to reduce this
	Daily meetings take place that discuss efficiency with the production team
	Written procedures for warping, drawing, weaving & beam gaiting are displayed
	Visual aids display daily efficiency loomwise and weaverwise
	These visual aids are updated on a daily basis
	Spares stored in a systematic basis (labeling and demarked locations)
	Spares purchases and consumption are recorded and monitored
	Scientific methods are used to define inventory norms for spares
Quality Control	Quality defects are recorded
	Quality defects are recorded defect wise
	Quality defects are monitored on a daily basis
	There is an analysis and action plan based on defects data
	There is a fabric gradation system
	The gradation system is well defined
	Daily meetings take place that discuss defects and gradation
	Standard operating procedures are displayed for quality supervisors & checkers

Intervention aimed at 38 core textile management practices in 6 areas

Inventory Control	Yarn transactions (receipt, issues, returns) are recorded daily
	The closing stock is monitored at least weekly
	Scientific methods are used to define inventory norms for yarn
	There is a process for monitoring the aging of yarn stock
	There is a system for using and disposing of old stock
	There is location wise entry maintained for yarn storage
Loom Planning	Advance loom planning is undertaken
	There is a regular meeting between sales and operational management
Human Resources	There is a reward system for non-managerial staff based on performance
	There is a reward system for managerial staff based on performance
	There is a reward system for non-managerial staff based on attendance
	Top performers among factory staff are publicly identified each month
	Roles & responsibilities are displayed for managers and supervisors
Sales and Orders	Customers are segmented for order prioritization
	Orderwise production planning is undertaken
	Historical efficiency data is analyzed for business decisions regarding designs

Typical organization of one of the textile firms



Directors own all equity and occupy the top positions (CEO, CFO etc). Across the 17 firms in 2008 there were 37 directors, of which 36 were male and all close family (brothers, sons and 1 wife)

In charge of individual plants. Mostly outsiders but some family members (e.g. a cousin)

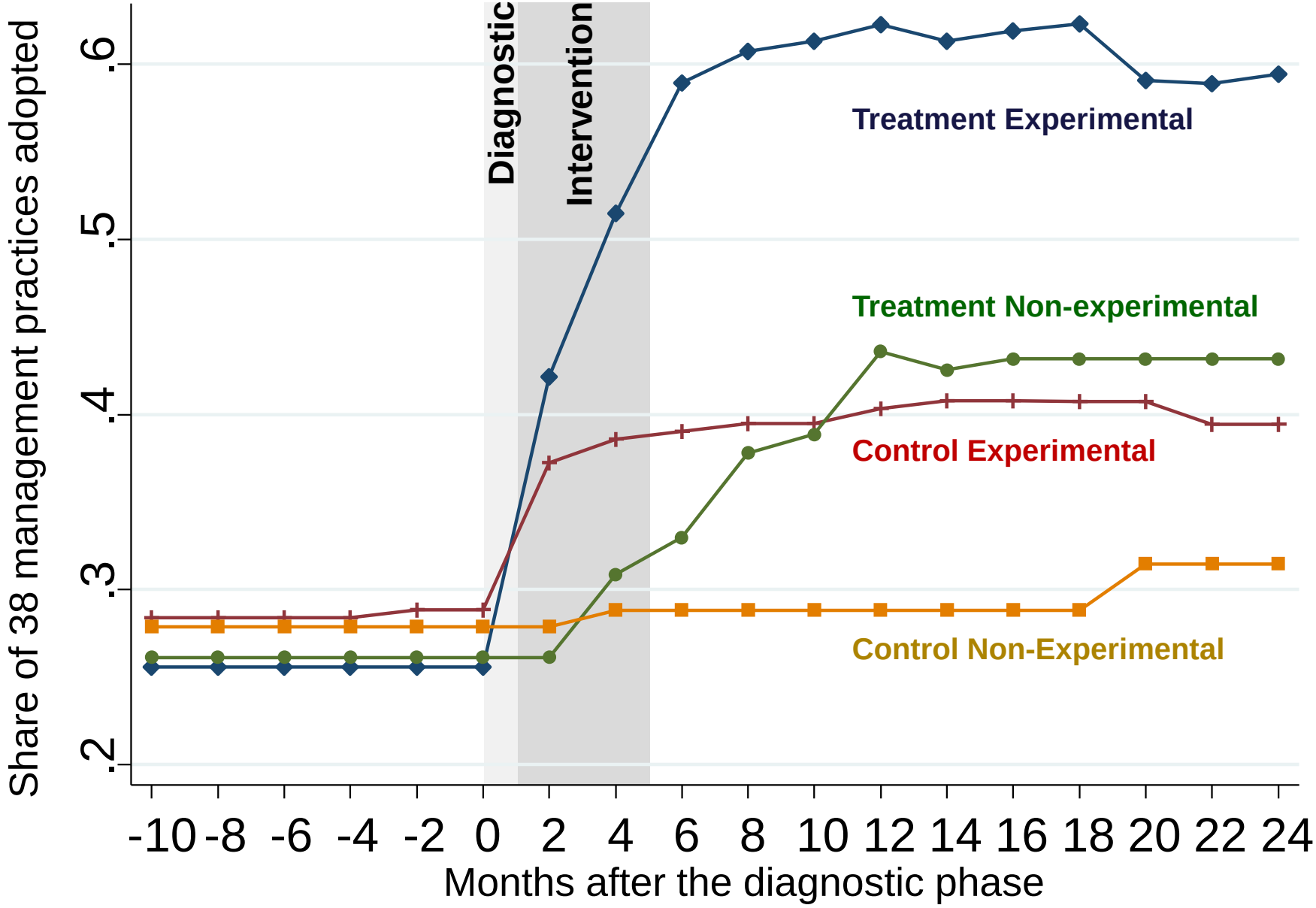
Lower-managers covering various areas – typically 4 or 5 per plant

Workers are contract employees, who are migrants from poorer states (Bihar, Orissa etc). Typically about 100 per plant across all areas (warping, weaving, mending)

Experimental design has four types of plants

	Experimental	Non-Experimental
Treatment	• 1 month diagnostic • 4 months intervention, • Performance and management measurement	• Management measurement
Control	• 1 month diagnostic • Performance and management measurement	• Management measurement

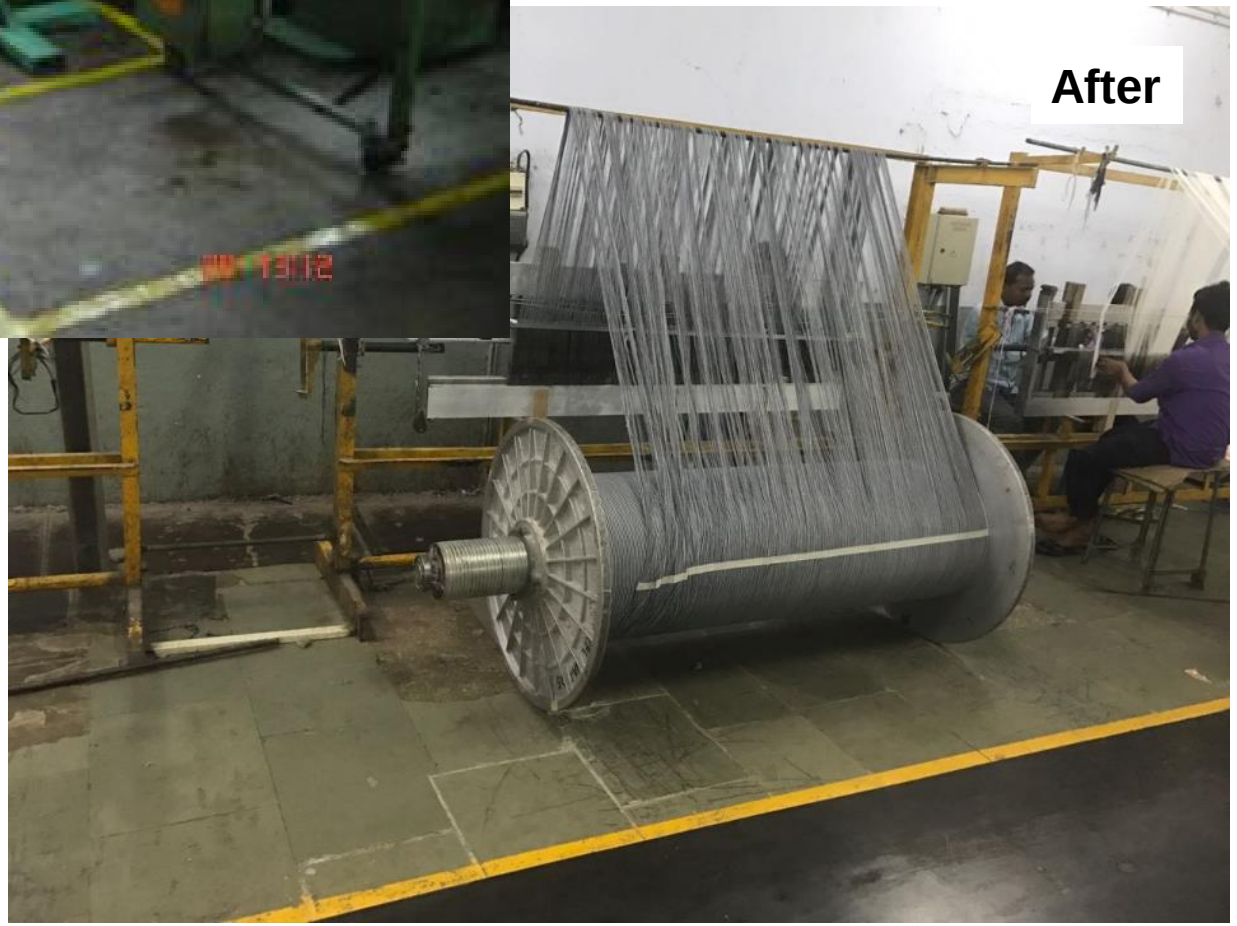
Observed a large increase in the 38 management practices



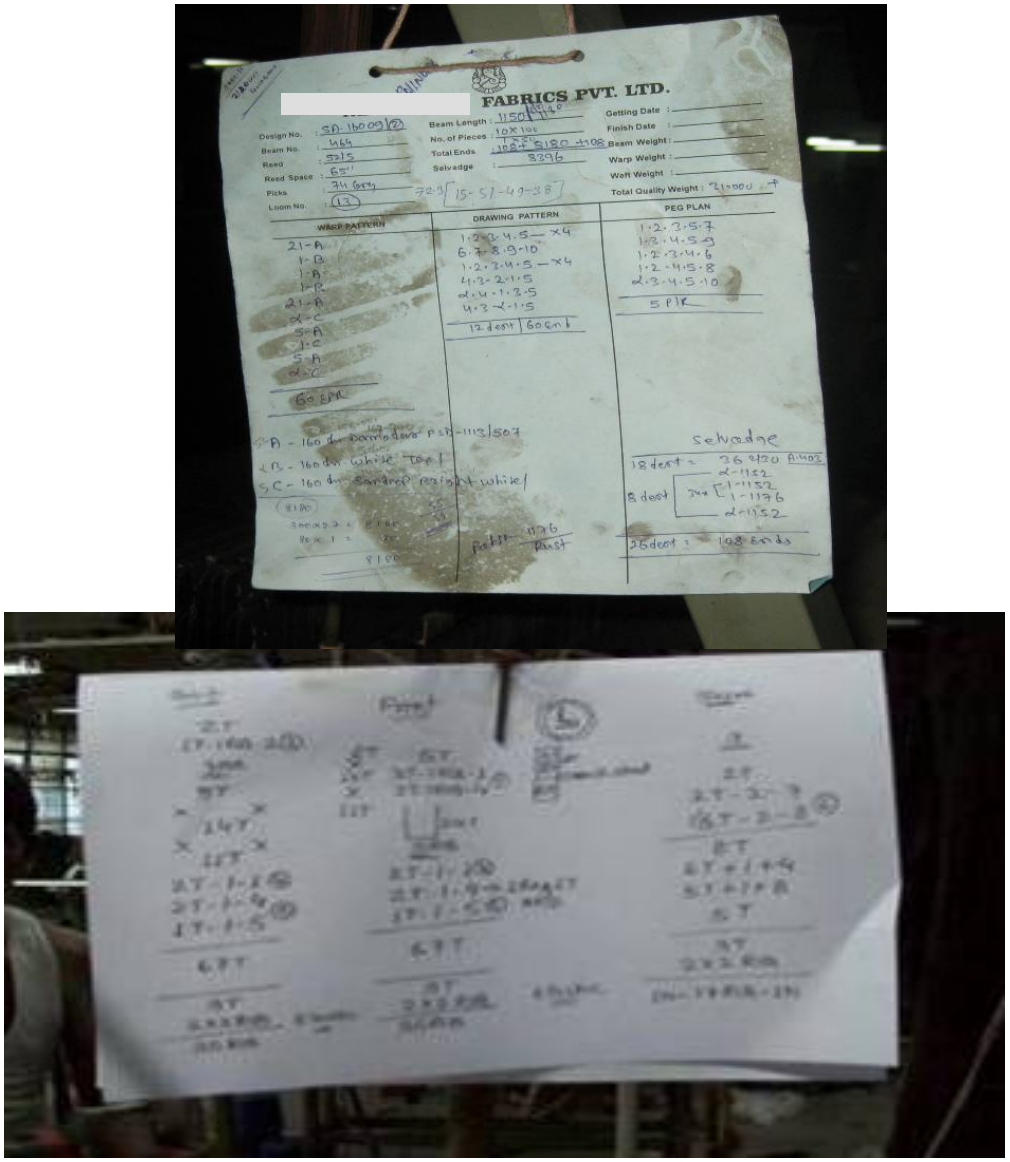
Production floor was often cluttered

Production floor was often cluttered

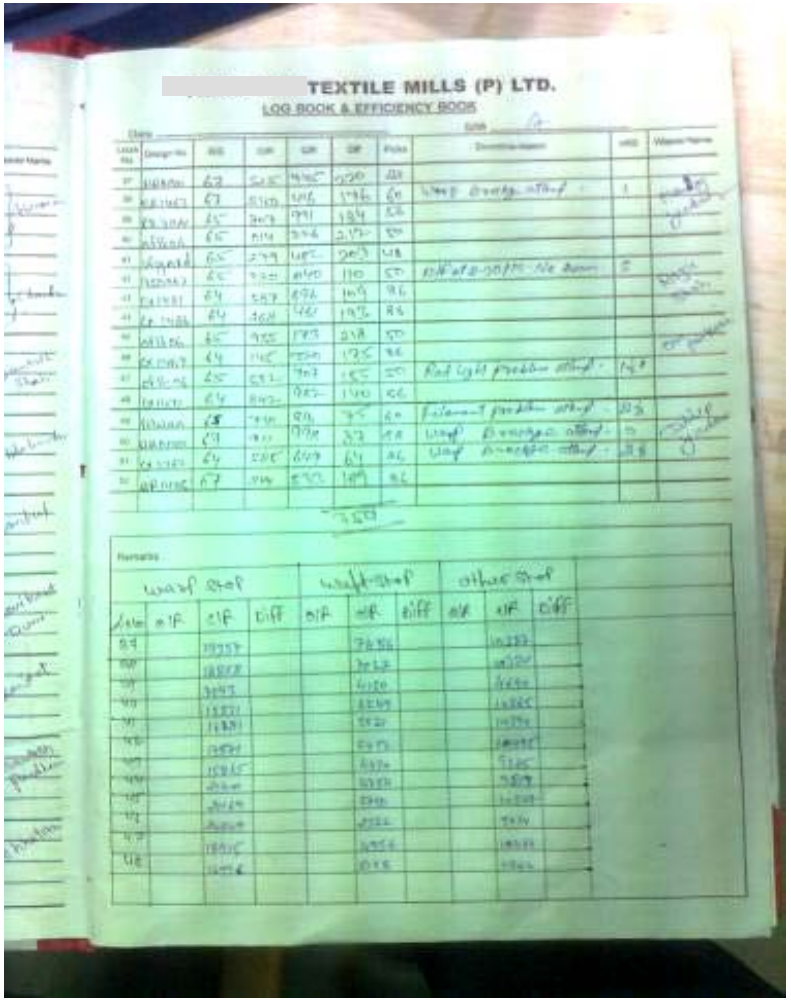
Clean up the production floor



Intervention also focused on data analysis



Before
(not standardized, on loose paper)



After
(standardized, so easy to enter into a computer)

The organization of inventory

Yarn without labeling, order or damp protection

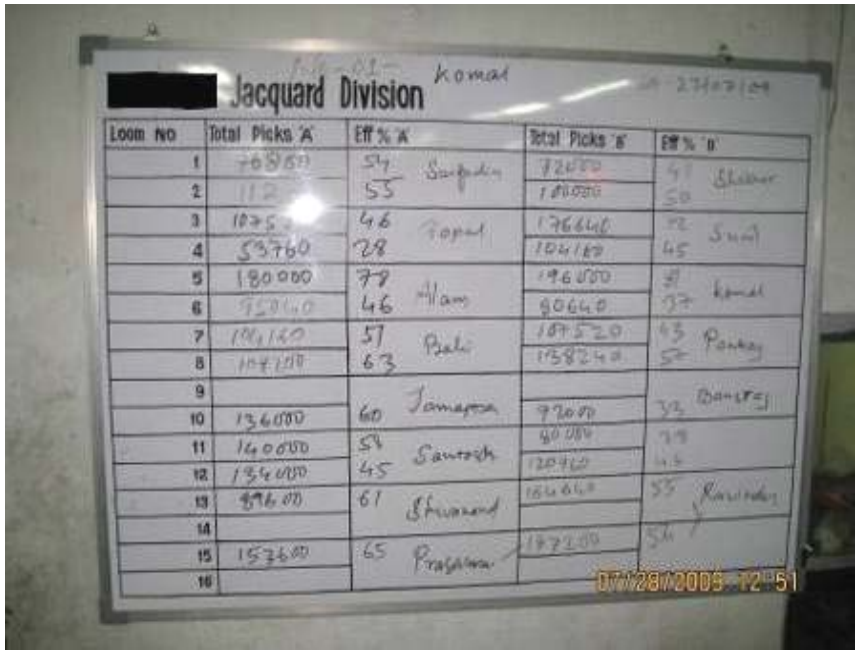
Yarn piled up so high and deep that access to back sacks is almost impossible

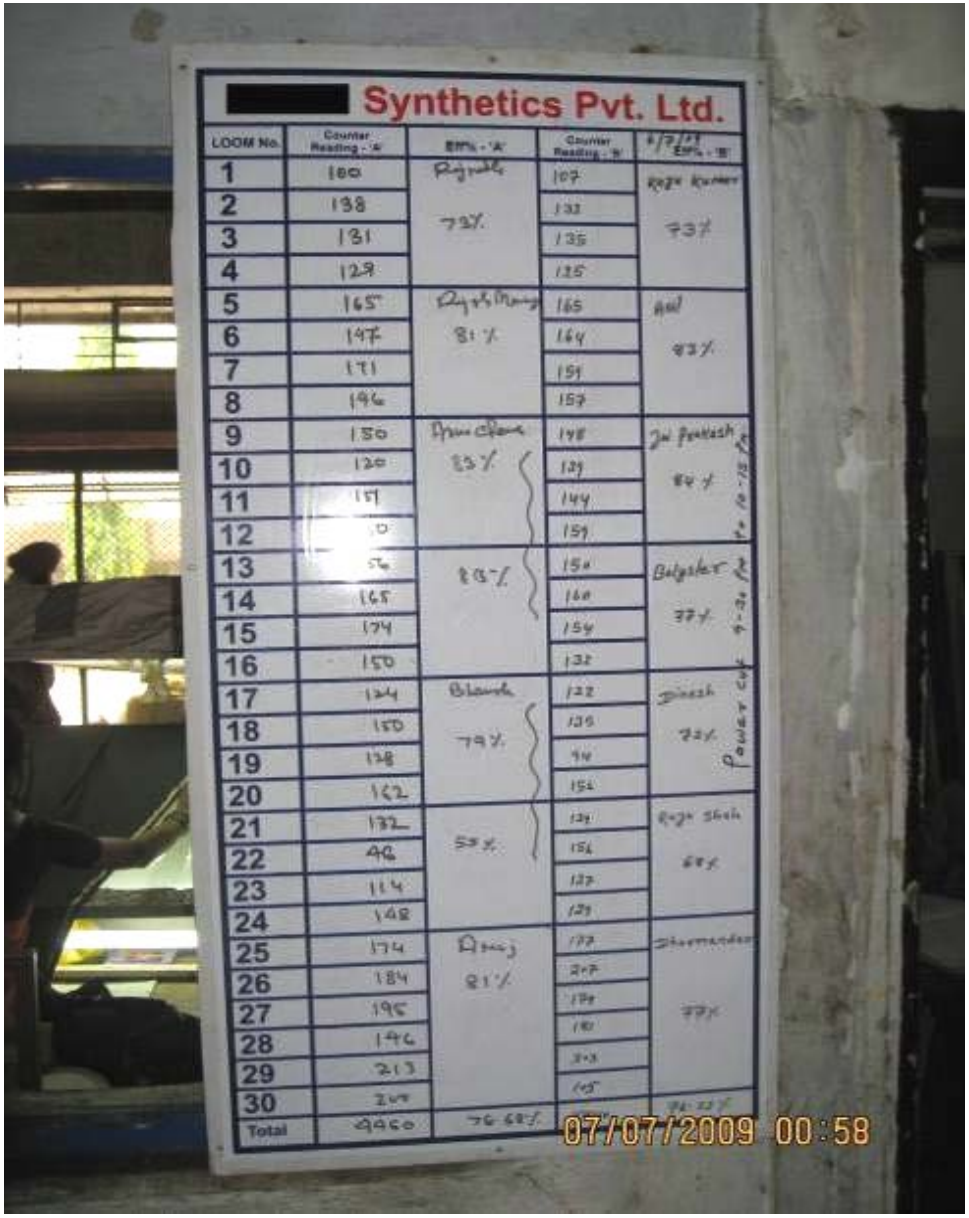
Different types and colors of yarn lying mixed

A crushed yarn cone, which is unusable as it leads to irregular yarn tension

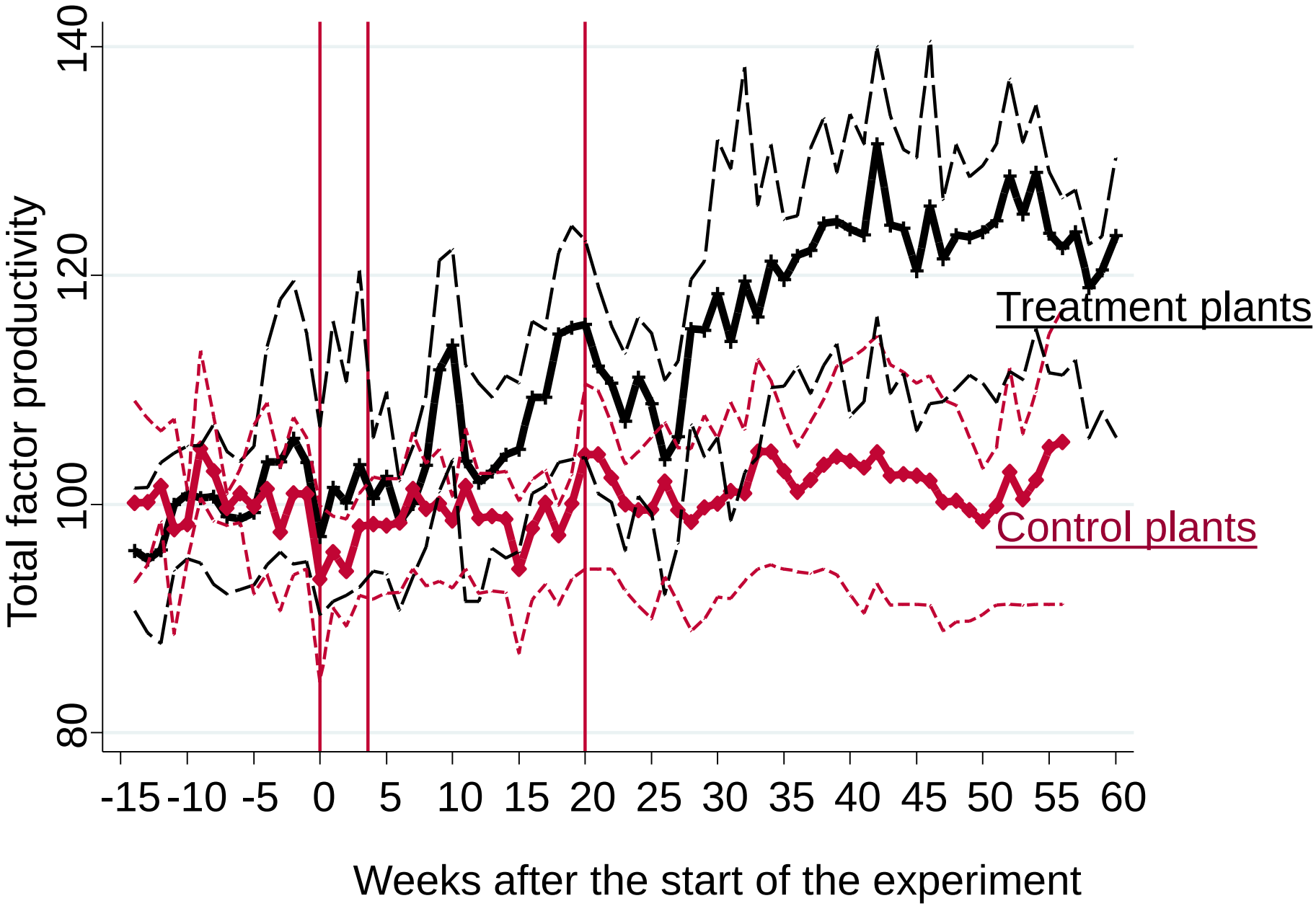
The organization of inventory

Introduced worker and manager incentives





TFP rose about 20% in treatment plants vs controls



Recently went back to these firms – 8 years later – to ask what happened next?

BGC and McKinsey claim about 2/3 of all management interventions fail in 3 years (e.g. Sirkin et al. 2005)

In January 2017 re-contacted all the firms to collect follow-up management and performance data

All treatment & control firms agreed to work with us again, aided by:

1) The initial intervention has been beneficial to the firms

2) These are large firms, so had same address and contact details

3) The same Accenture manager and partners worked with us again

In January 2017 re-contacted all the firms to collect follow-up management and performance data

But two caveats:

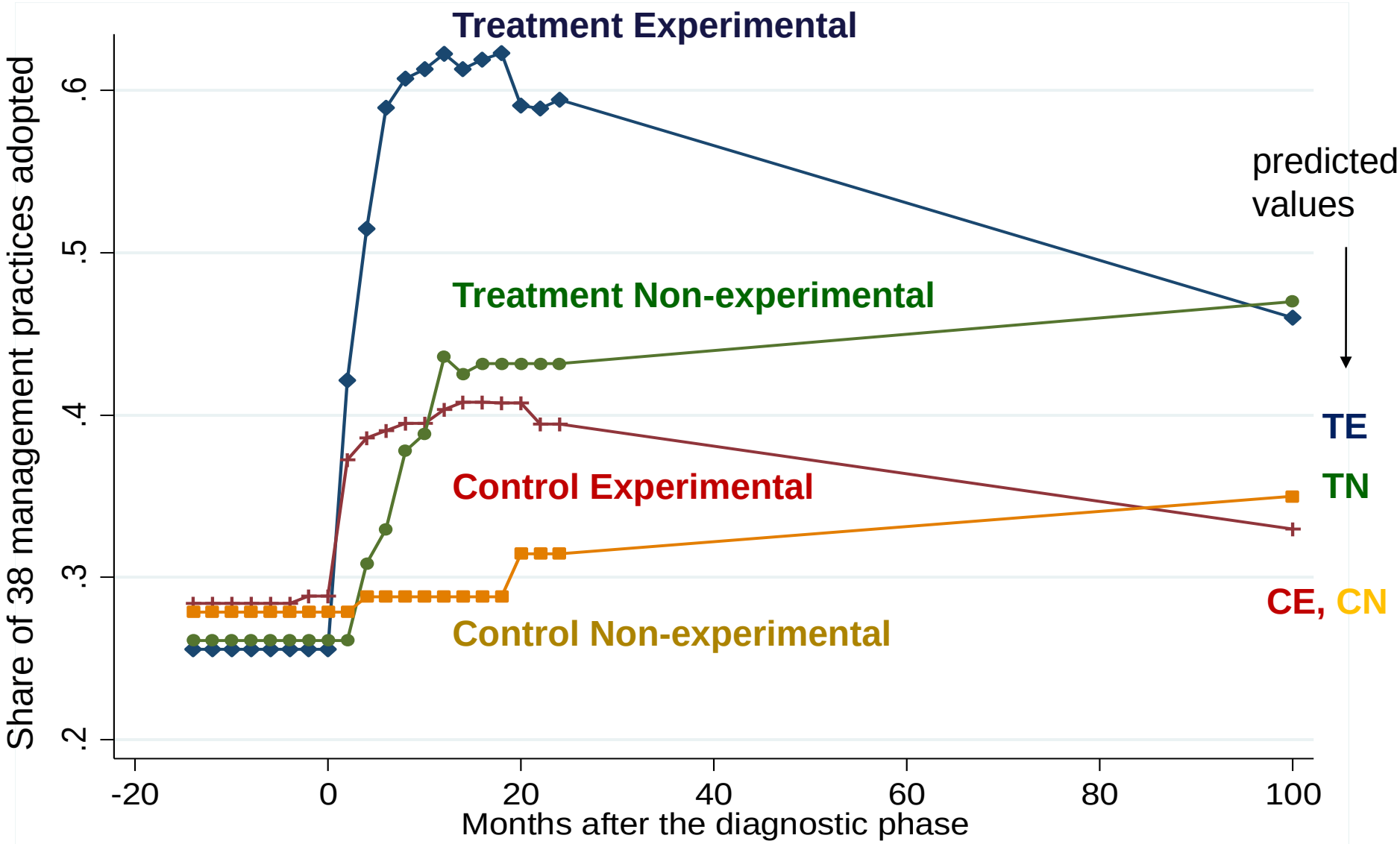
1) We spent only 2 months with the firms because of a limited budget. So we collected only basic management and performance data

2) One treatment firm with one plant was closing down after the death of the owner (with no sons), so provided limited data

Two extreme views on the long-run persistence

TOYOTA

The management intervention was surprisingly persistent



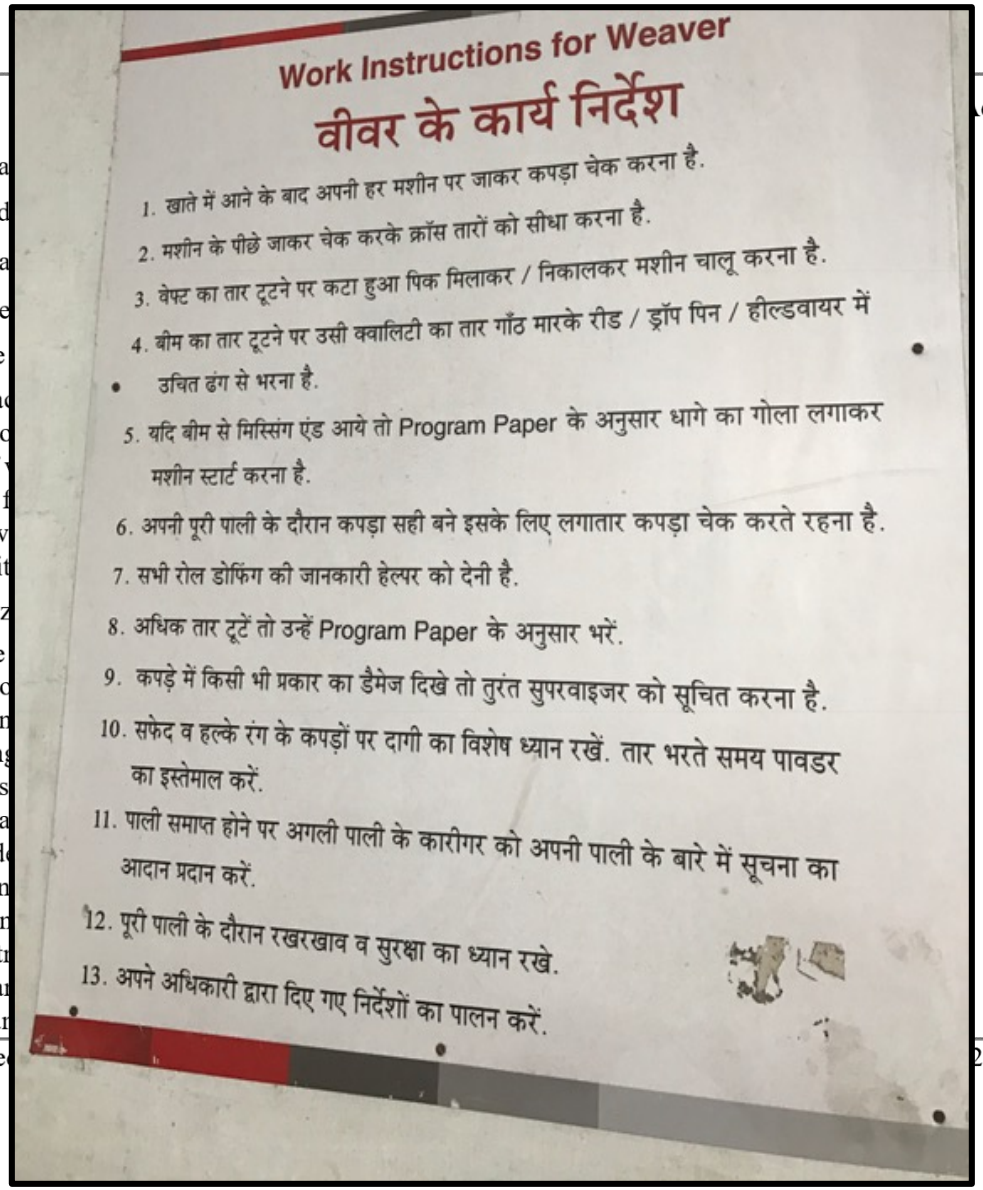
Notes: Sample comprised of the balanced panel of plants from 2008 to 2017 (11 treatment experimental, 6 treatment non-experimental, 6 control experimental and 2 control non-experimental. The letters on the right are the average predicted values from the 3-person Accenture team and 4 co-authors made before re-contacting the firms for the Treatment Experimental (TE) at 0.4, Treatment Non-Experimental (TN) at 0.36, Control Experimental and Control Non-Experimental (CE and CN) both at 0.29 respectively.

Procedure display practices were the least persistent, quality and operations monitoring/feedback were the most

Table A3: Practice stickiness

		Adopted	Dropped	Share Dropped
9	Written procedures for wa	7	7	1.00
22	Standard operating proced	11	10	0.91
11	These visual aids are upda	11	7	0.64
10	Visual aids display daily e	11	6	0.55
21	Daily meetings take place	13	7	0.54
18	There is an analysis and ac	14	7	0.50
17	Quality defects are monito	16	6	0.38
4	The shop floor is clear of v	6	2	0.33
33	There is a reward system f	9	3	0.33
20	The gradation system is w	8	2	0.25
24	The closing stock is monit	13	3	0.23
7	Machine downtime analyz	15	3	0.20
8	Daily meetings take place	19	3	0.16
5	Machine downtime is reco	9	1	0.11
6	Machine downtime reason	13	1	0.08
27	There is a system for using	15	1	0.07
1	Preventive maintenance is	10	0	0.00
12	Spares stored in a systema	6	0	0.00
16	Quality defects are record	20	0	0.00
19	There is a fabric gradation	9	0	0.00
26	There is a process for mon	11	0	0.00
28	There is location wise entr	7	0	0.00
35	Roles & responsibilities ar	9	0	0.00
37	Orderwise production plar	6	0	0.00

Notes: Lists the practices ordere 2017.

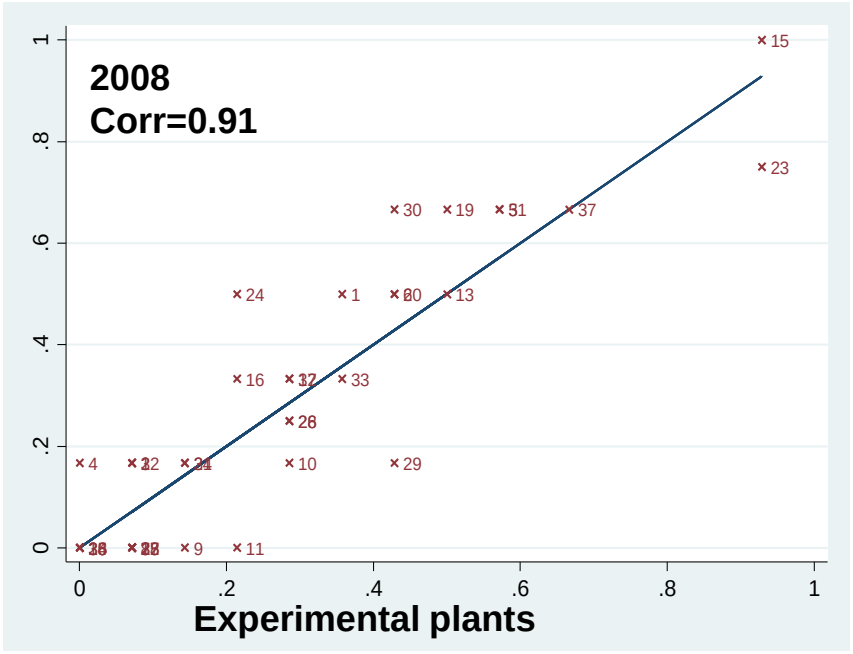


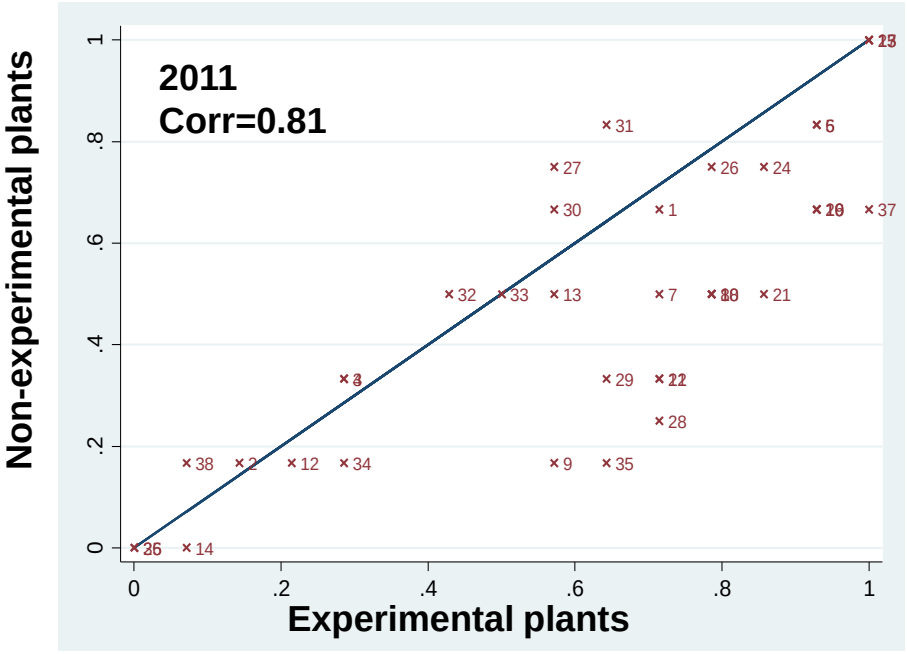
Performance improvements also persisted, with firms actively increasing consulting & marketing practices

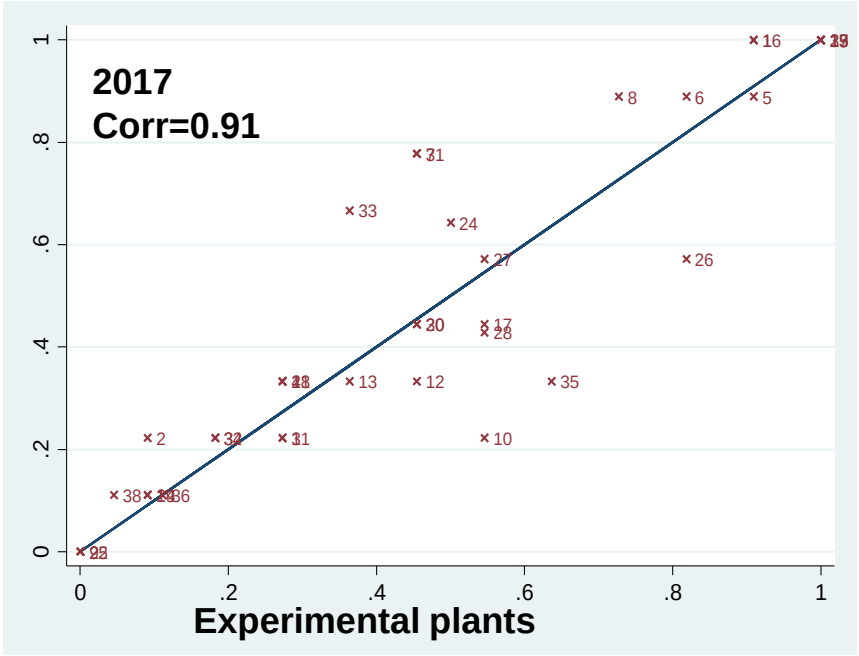
Table 5: Longer-run Plant performance and management changes

Dep Var	Looms (in logs) (1)	Looms per employee (in logs) (2)	Consulting days (in logs) (3)	Marketing practices (4)
Panel A: Long-run performance				
$Treatment_i*(Year>=2011)_t$	0.296**	0.088**	1.414*	1.405**
	(0.120)	(0.038)	(0.666)	(0.514)
Permutation Test (p-value)	0.010	0.068	0.149	0.044
Panel B: Experimental and non-Experimental plants				
$Experimental*Treatment_i*(Year>=2011)_t$	0.171*	0.300**	1.21**	1.31**
	(0.074)	(0.139)	(0.53)	(0.55)
Permutation Test (p-value)	0.127	0.128	0.167	0.063
$Non\text{-}Experimental*Treatment_i*(Year>=2011)_t$	0.511***	0.300*	2.08	1.70***
	(0.067)	(0.137)	(1.39)	(0.52)
Permutation Test (p-value)	0.008	0.084	0.278	0.058
Panel C: Treatment impact by period				
$Treatment_i*(Year==2011)_t$	0.123	0.163	-0.073	1.149**
	(0.076)	(0.101)	(0.080)	(0.450)
Permutation Test (p-value)	0.238	0.237	0.643	0.109
$Treatment_i*(Year==2014)_t$	0.100	0.289*	1.859*	-1.494**
	(0.082)	(0.147)	(0.943)	(0.518)
Permutation Test (p-value)	0.397	0.377	0.234	0.072
$Treatment_i*(Year==2017)_t$	0.296*	0.451**	2.77**	2.294**
	(0.138)	(0.168)	(1.120)	(0.884)
Permutation Test (p-value)	0.059	0.047	0.109	0.023
F-test $Treatment_i*(Year==2014)_t$ & $Treatment_i*(Year==2017)_t$	0.123	0.047	0.073	0.015
Control group mean (all in levels)	57.6	0.509	0.114	0.486
Years	2008, 11, 14, 17	2008, 11, 14, 17	2008, 11, 14, 17	2008, 11, 14, 17
Firms	17	17	17	17
Plants	31	31	31	31
Observations	109	109	109	109

Practices appear to spread out fully in treatment firms







Note: The three graphs plot the average scores for each of the 38 questions for the 14 (11 in 2017) treatment experimental plants (on the x-axis) and the 6 treatment non-experimental plants (on the y-axis) in 2008 (top-left), 2011 (top-right) and 2017 (bottom-left). The correlations between these scores for the 38 practices are reported as well on the graphs.

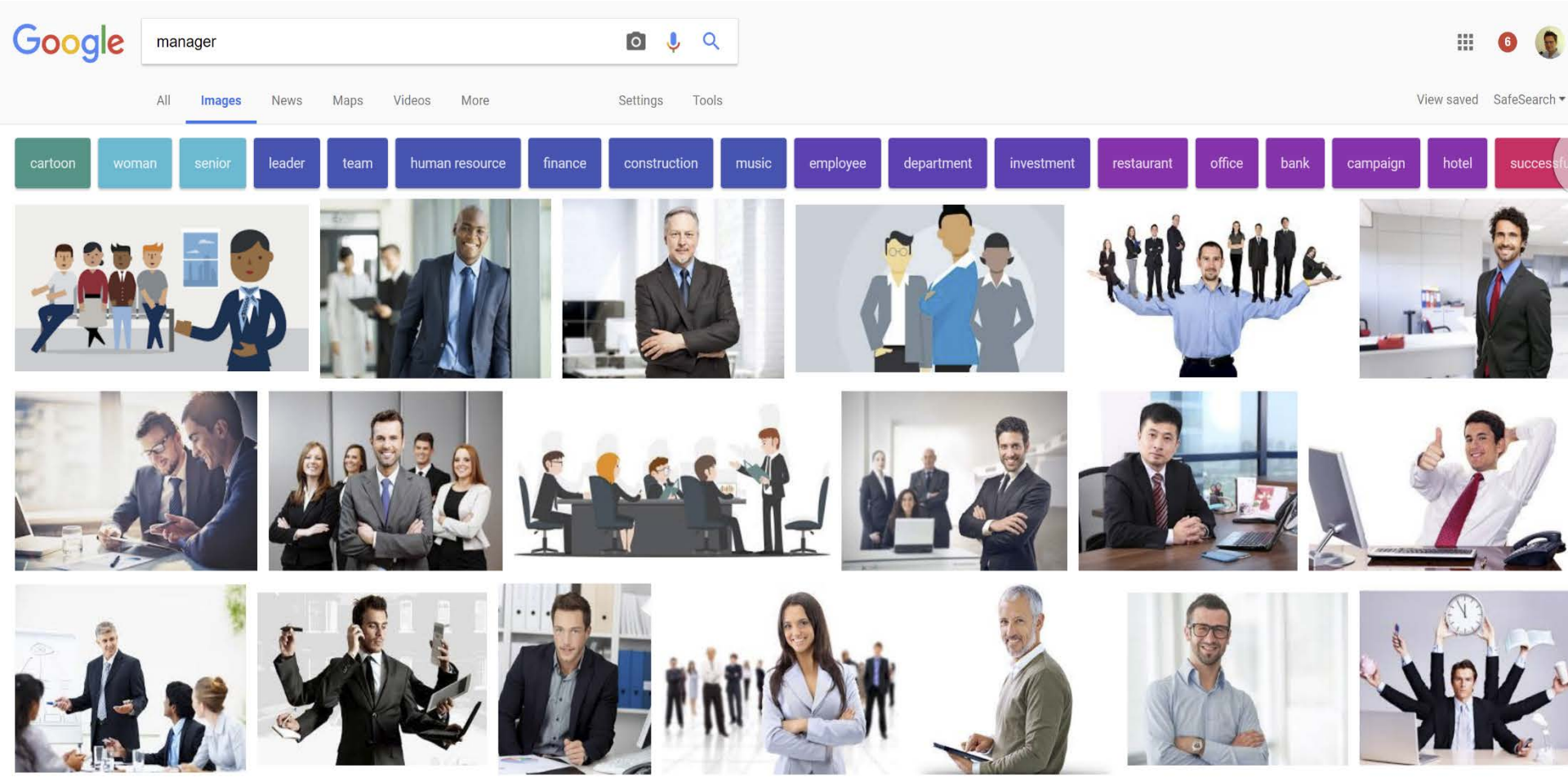
What this experience taught me:

1. Working with firms on the ground is great for ideas generation (and photos for presentations….)

2. You can be creative – e.g. work with a government agency to randomize their management interventions

3. There are massive gaps in the management RCT literature
   - Almost nothing on large firms
   - Almost nothing beyond simple incentive interventions
   - Almost nothing on joint interventions (e.g. HR & operations)
   - Whole fields appear to be missed (e.g. strategy, CSR)

Or the role of diversity in firm performance?



MY FAVOURITE QUOTES:

Don’t get sick in Britain

Interviewer : “Do staff sometimes end up doing the wrong sort of work for their skills?”

NHS Manager: “You mean like doctors doing nurses jobs, and nurses doing porter jobs? Yeah, all the time. Last week, we had to get the healthier patients to push around the beds for the sicker patients”

Don’t do Business in Indian hospitals

Interviewer: “Is this hospital for profit or not for profit”

Hospital Manager: “Oh no, this hospital is only for loss making”

MY FAVOURITE QUOTES:

Don’t get sick in India

Interviewer : “Do you offer acute care?”

Switchboard: “Yes ma’am we do”

Interviewer : “Do you have an orthopaedic department?”

Switchboard: “Yes ma’am we do”

Interviewer : “What about a cardiology department?”

Switchboard: “Yes ma’am”

Interviewer : “Great – can you connect me to the ortho department”

Switchboard?: “Sorry ma’am – I’m a patient here”

China working from home field experiment

DOES WORKING FROM HOME WORK? EVIDENCE FROM A CHINESE EXPERIMENT*

NICHOLAS BLOOM
JAMES LIANG
JOHN ROBERTS
ZHICHUN JENNY YING

A rising share of employees now regularly engage in working from home (WFH), but there are concerns this can lead to "shirking from home." We report the results of a WFH experiment at Ctrip, a 16,000-employee, NASDAQ-listed Chinese travel agency. Call center employees who volunteered to WFH were randomly assigned either to work from home or in the office for nine months. Home working led to a 13% performance increase, of which 9% was from working more minutes per shift (fewer breaks and sick days) and 4% from more calls per minute (attributed to a quieter and more convenient working environment). Home workers also reported improved work satisfaction, and their attrition rate halved, but their promotion rate conditional on performance fell. Due to the success of the experiment, Ctrip rolled out the option to WFH to the whole firm and allowed the experimental employees to reselect between the home and office. Interestingly, over half of them switched, which led to the gains from WFH almost doubling to 22%. This highlights the benefits of learning and selection effects when adopting modern management practices like WFH. *JEL* Codes: D24, L23, L84, M11, M54, O31.

I. INTRODUCTION

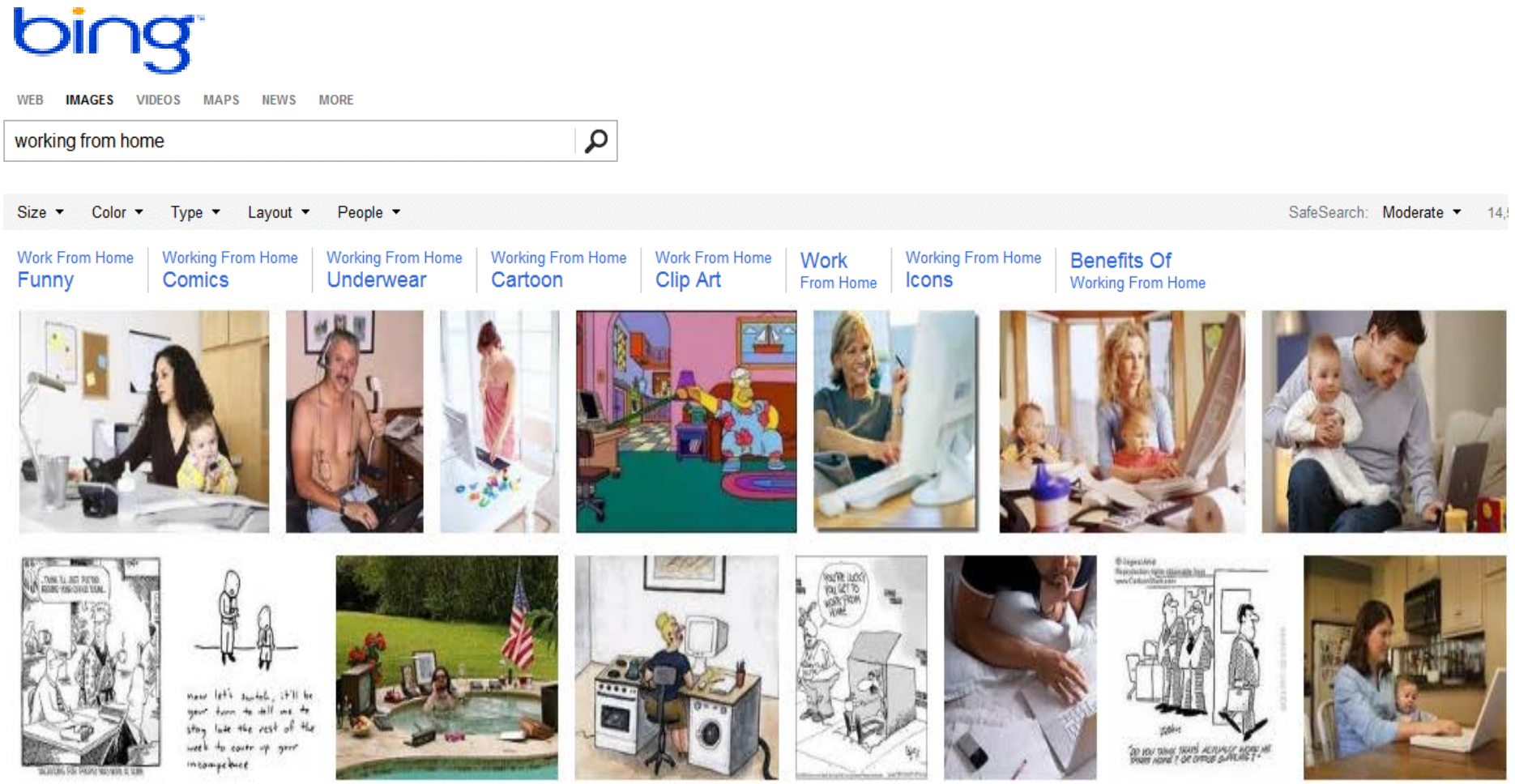
Working from home (WFH; also called telecommuting or telework) is becoming an increasingly common practice. In the United States, the proportion of employees who primarily work

*We thank Jennifer Cao, Mimi Qi, and Maria Sun from Ctrip for data, advice, and logistical support. We thank Chris Palauni, David Butler, Jared Fletcher, and Michelle Rowan for their time discussing home working and the call center industries. We thank our formal discussants, Mushfiq Mobarak, Rachael Heath, Sabrina Pabilonia, Shing-Yi Wang, our editors (Larry Katz and Andrei Shleifer) and our four anonymous referees, and numerous seminar audiences for many helpful comments. We thank the National Science Foundation and Toulouse Network for Information Technology (which is supported by Microsoft) for co-funding for this project. No funding was received from Ctrip. James Liang is the co-founder of Ctrip. During the experiment we report here he was nonexecutive chairman of Ctrip. Since the end of the experiment he has returned to Ctrip as CEO. No other coauthor has any financial relationship with Ctrip. Neither the results nor the article were prescreened by anyone. The experiment received Stanford University IRB approval. The IRB did not require changes in our experimental design.

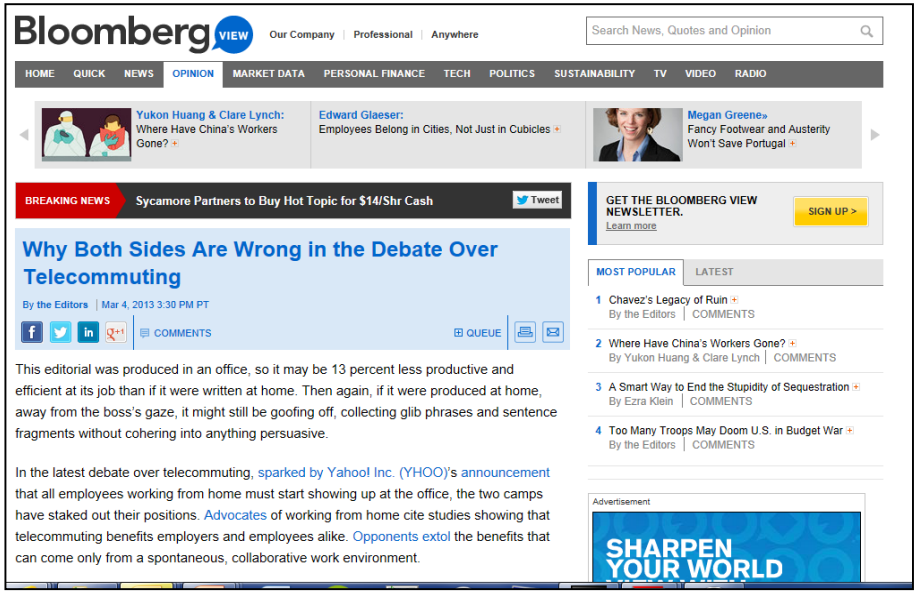
The Quarterly Journal of Economics (2015), 165–218. doi:10.1093/qje/qju032.
Advance Access publication on November 20, 2014.

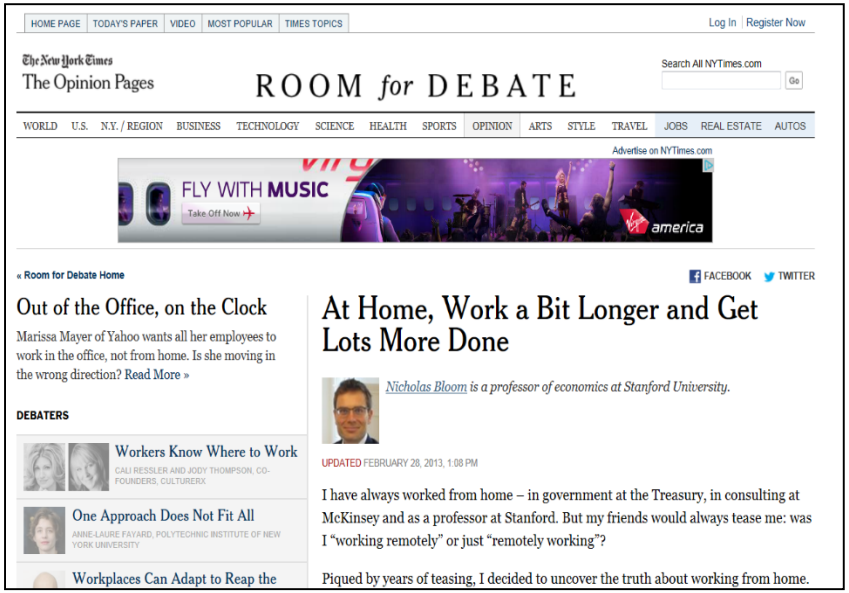
'WORK FROM HOME!!!! EARN THOUSANDS OF DOLLARS MONTHLY!'

Online the image is also negative



And suspicion over WFH was clear in the media after Yahoo's 2013 decision (to ban WFH)

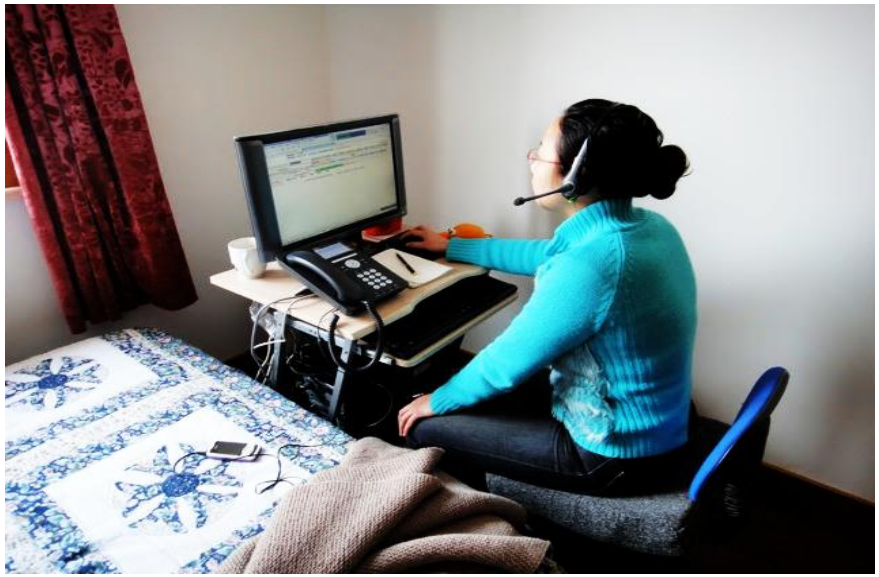




Ran a working from home RCT

Individuals randomized home (even birthdays)

Working at home

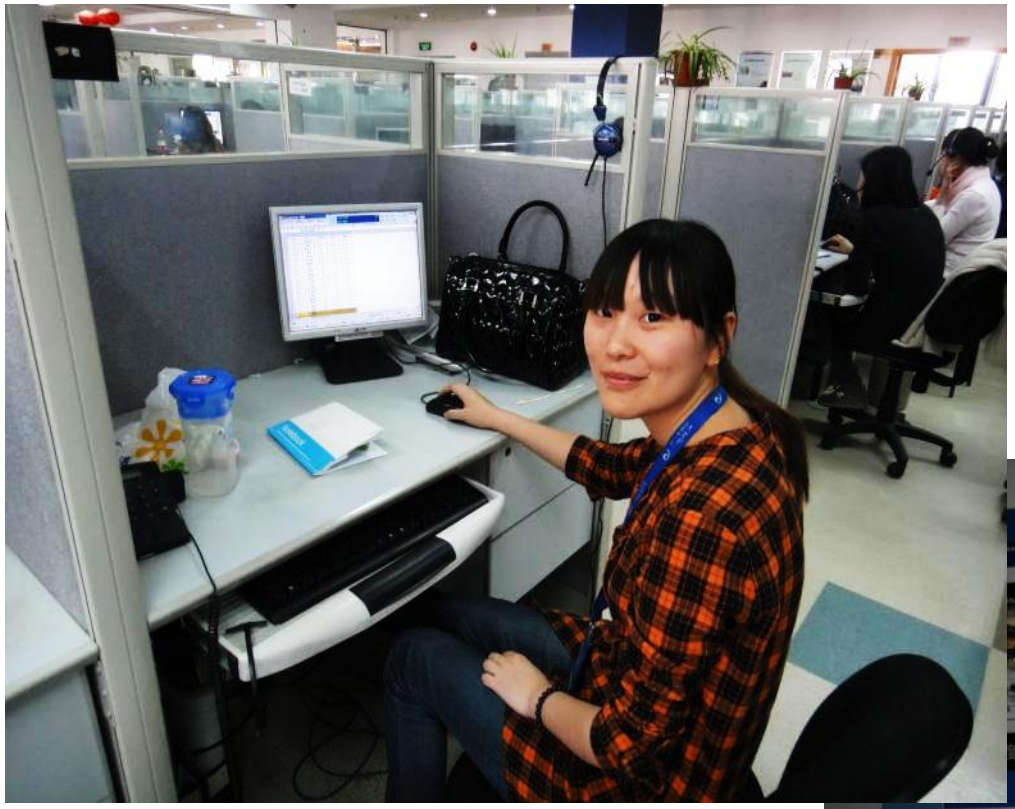


Working at home

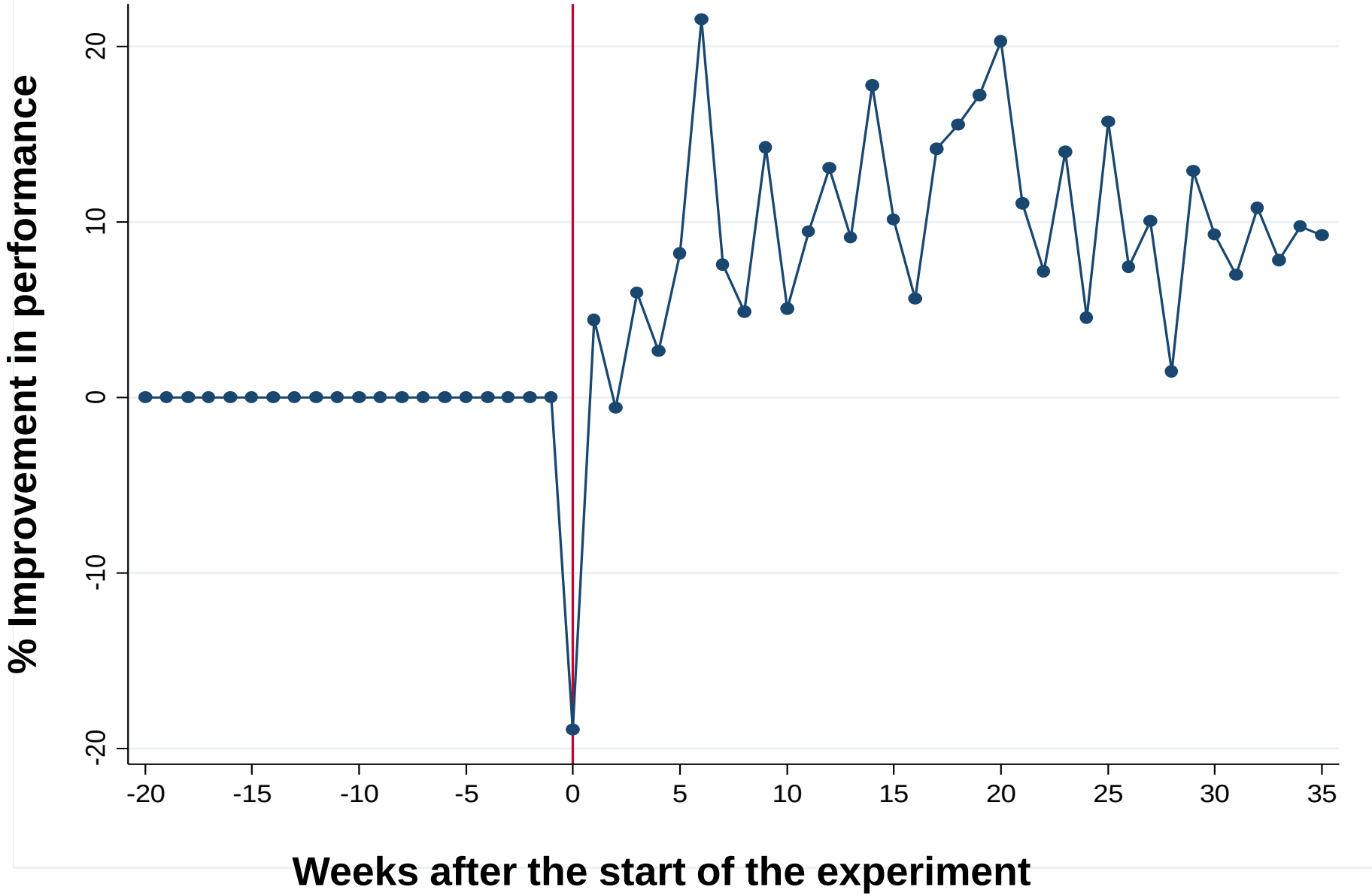
Working at home

Working at home

Home based employees were still actively managed



First, found a massive improvement in performance – 13% more output



Of this 13% found 3.5% from more calls taken per minute and 9.5% from more minutes on the phone

	(3)	(4)	(5)
Dependent Variable	Phonecalls	Phonecalls Per Minute	Minutes on the Phone
Dependent Normalization	log	log	log
Period: 11 months pre-experimen			
Experiment*Treatment	0.122***	0.033**	0.089***
	(0.026)	(0.013)	(0.028)
Number of Employees	137	137	137
Number of Weeks	85	85	85
Observations	9503	9503	9503

Note: All regressions include a full set of individual and week fixed effects, with standard errors clustered by individual. Treatment=even birthday. Hours worked from log-in data.

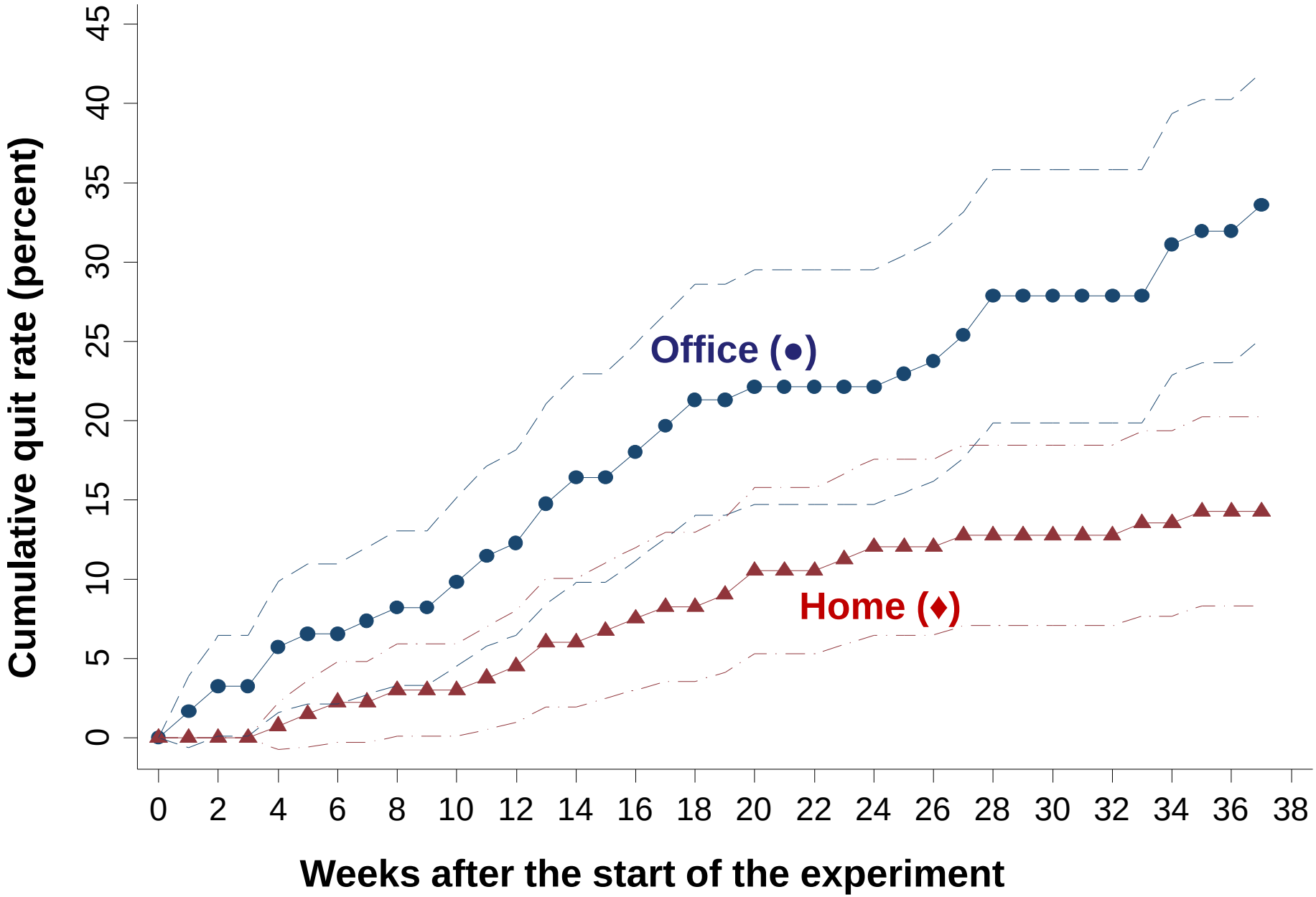
Time on the phone rose 9.5%, 2/3 due from more hours per day (better punctuality and less breaks) and 1/3 from more days worked (less "sick" days)

Table 3: Decomposition of the change in labor supply

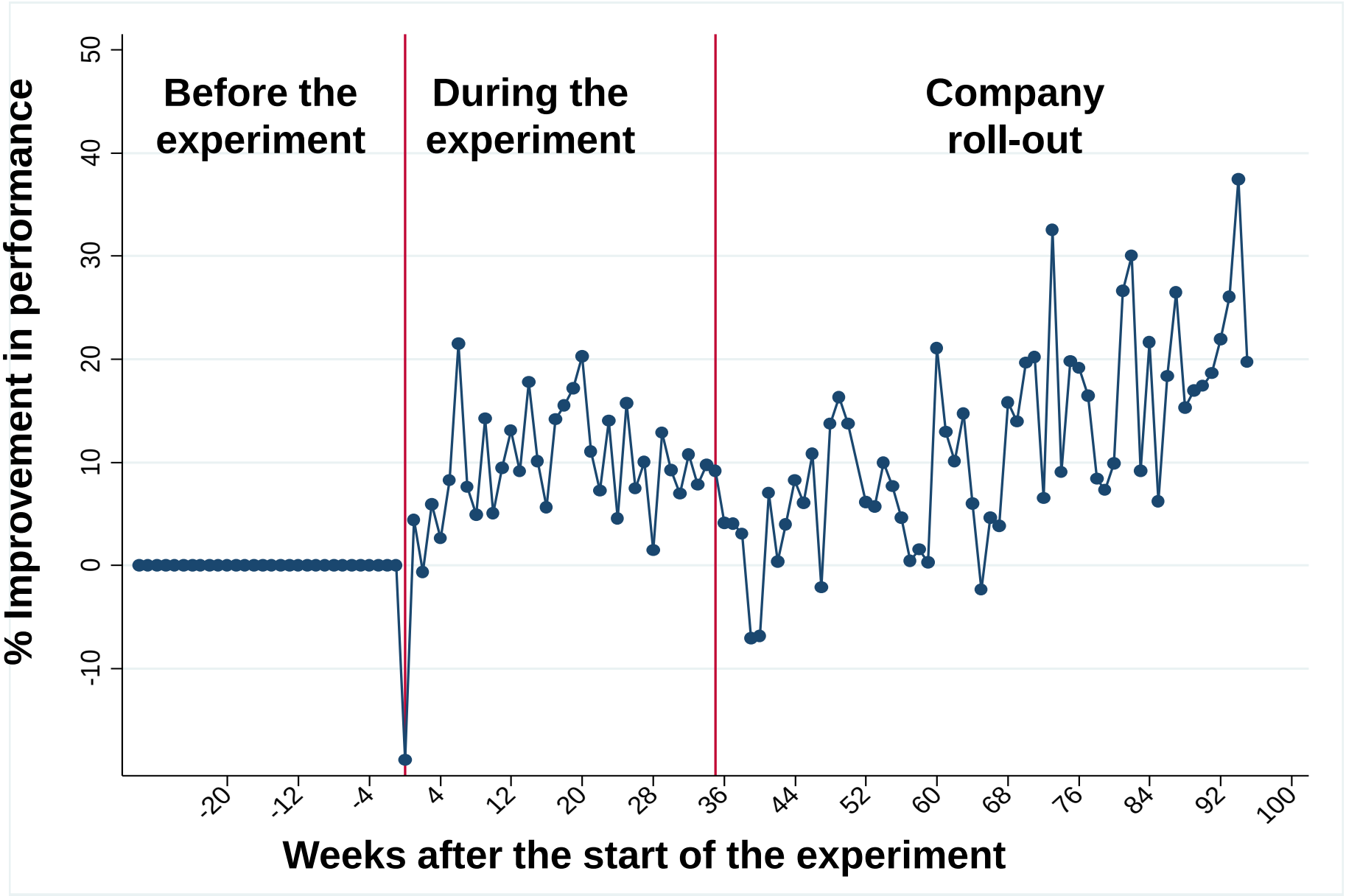
VARIABLES	(1) Minutes on the Phone	(2) Minutes on the Phone	(3) Minutes on the Phone/ Hours Worked	(4) Hours Worked/ Days Worked	(5) Days Worked
Sample	All	Airfare	Airfare	Airfare	Airfare
Period: 11 months pre-experiment and 9 months of experiment					
Experiment*Treatment	0.089***	0.090**	-0.017	0.068**	0.039**
	(0.028)	(0.044)	(0.033)	(0.028)	(0.015)
Number of Employees	137	89	89	89	89
Number of Weeks	85	85	85	85	85
Observations	9,503	3531	3531	3531	3531

Note: All regressions include a full set of individual and week fixed effects, with standard errors clustered by individual. Treatment=even birthday. Hours worked from log-in data.

Second, quit rates drop by 50%



Third, choice doubled the impact – after the experiment the firm let all employees choose



WFH raised profits by $1900 by person per year, leading CTrip to roll out WFH

Reduction in costs per employee WFH per year from :

- Rent: $1,200
- Hiring and training: $400
- Wages (per call): $300

So obvious question is why CTrip (or any other firm) did not do this before?

What this experience taught me:

1. Exploit random chance – I met James sitting in my class

2. In management also consider the less obvious topics – maternity and paternity leave, job-sharing, diversity etc

3. Measure everything – we asked Ctrip to record everything!

Limited performance tracking in African firms

Interviewer "What kinds of Key Performance Indicators do you use for performance tracking?"

Manager: "Performance tracking? That is the first I hear of this Performance tracking. Why should we spend money to track our performance?"

Interviewer "How do you identify production problems?"

Production Manager: "With my own eyes. It is very easy"

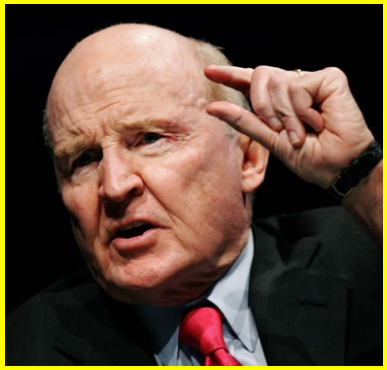
Some rather weird quotes

The bizarre

Interviewer: “[long silence]……hello, hello….are you still there….hello”

Production Manager: “…….I’m sorry, I just got distracted by a submarine surfacing in front of my window”

(4) Managers –



Great managers?

Well management practices

Actually three strand of literature – e.g.

- Management practices: Ichniowski, Shaw and Prenushi (1997), Black and Lynch (2001), Bloom and Van Reenen (2007), McKenzie and Woodruff (2012), Bloom, Eiffert, Mahajan, McKenzie and Roberts (2013), Chandra, Finkelstein, Sacarny & Syverson (2016), Bruhn, Schoar and Karlan (2016), Braguinsky, Ohyama, Okazaki and Syverson (2016), Giorcelli (2016)

- Managers: Bertrand and Schoar (2003), Bennesden et al. (2007), and Lazear, Shaw and Stanton (2014), Bender et al. (2016), Kaplan and Sorenson (2016), Bandiera et al. (2017), Gow et al. (2017)

- Theory: e.g. Lucas (1978), Brynjolfsson and Milgrom (2013) Caselli & Gennaioli (2013), Guner, Parkomenko, & Ventura (2016), Akcigit, Alp & Peters (2016), Halac & Prat (2016),

Bertrand and Schoar (2003, QJE)

Build a panel dataset tracking managers across S&P500 publicly traded US firms, allowing for firm and top manager fixed effects

Average size of firms about 10,000 employees – so impact of strategy by the top managers. They find:

1. Manager fixed effect exist (but R^2 about 2%, but very significant), for M&A, dividend policy, debt ratios & cost-cutting
2. Managers have styles - more/less aggressive, internal/external growth focus. These correlated with CEO birth cohort & MBA
3. Managers are also absolutely "better" or "worse" – performance fixed effects exist, linked to compensation & governance

Perez-Gonzalez (2006, AER)

- Looks at the 335 management transitions in US publicly quoted firms (1980-2001) with concentrated family holdings

- Find the announcement that the founding CEO will step-down leads to:
  - Big stock rise if the next CEO is not a family-member
  - Big drop if the next CEO is a family member, driven by the family members from “non-selective colleges” (defined as outside top 189 US Colleges)

- Related paper (Bennedsden, Mortenson, Perez-Gonzalez and Wolfenson, 2007 QJE) looks at family CEOs in Denmark, using gender of first born as an instrument, finding large negative impact of family CEOs

Lazear, Shaw and Stanton (2014)

- Look at detailed micro data on workers and team managers in a large service firm (i.e. call center type place)

- Find large “boss-effects” – going from top to bottom 10% equivalent to adding 15% more workers to the team

- Good bosses also reduce workers quit rates and worth about 1.75 workers (also about their salary difference)

Other broad types CEO papers

1. CEO performance papers (just discussed)

2. CEO behavior papers (e.g. Kaplan and Sorenson (2016), Malmendier and Tate (2009), Mullins and Schoar (2013))
   - “people” or “technical”
   - “over optimistic” vs “rational”

3. CEO time use (Mintzberg, 1973), Bandiera, Hansen, Pratt and Sadun 2018) – micromanagers vs coordinators

Summary key findings

1) Massive variation in productivity across firms

2) About ¼ to ½ variation appears to be due to management

3) Management driven by regulation, ownership, competition, education and knowledge spillovers

4) Managers matter – large fixed effects and variations in style

Great opportunities – huge areas almost nothing is know about. Strategy, diversity, work-life balance, manager RCTs etc.

More research, policy briefs & media available here

www.worldmanagementsurvey.com