# Skills, Practices, and Aspirations of Small-scale Entrepreneurs in Low-income Settings

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#### Lecture Overview

#### 1 PART I: Lecture

Business Practices and Training

- Business Practices and Productivity
- Classical MSME Training
- Extensions of the Classical Approach
- Measuring Firm Performance
- Mechanisms
- Alternative Approaches
- 2 PART II: Paper

Curating Local Knowledge

PART I: Lecture Business Practices and Training

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Extensions of the Classical Approach

Measuring Firm

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## Business Practices and Productivity

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Curating Local Knowledge

#### Stylized facts about firms

Large country-level	Large country-level
heterogeneity	heterogeneity
in productivity	in mgmt quality
Large firm-level	Large firm-level
heterogeneity	heterogeneity
in productivity	in mgmt quality

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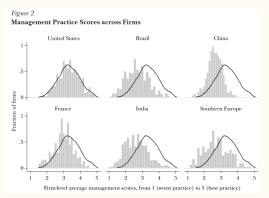
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## Mid-sized and large companies



 Heterogeneity in mgmt practices across mid-sized and large firms (Bloom and Van Reenen, 2007; Bloom and van Reenen, 2010; Syverson, 2011) PART I: Lecture Business Practices and Training

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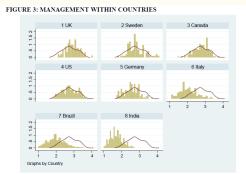
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#### Public-sector companies



Notes: Data from 1,851 schools showing the distribution of the firm level school scores. A smoothed kernel density plot of the US data is shown on each panel for easy comparison to the US management distribution.

 Heterogeneity in mgmt practices across schools (Bloom et al., 2015) and hospitals (Bloom et al., 2020) PART I: Lecture Business Practices and Training

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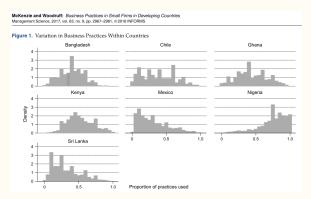
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#### Small firms



 Heterogeneity in business practices across micro and small enterprises (McKenzie and Woodruff, 2017) PART I: Lecture
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## Characterization of Business Practices

#### Set of general best practices for small firms

- McKenzie and Woodruff (2017) identify set of 26 business practices most closely associated with business performance
  - Validated in 7 countries in Asia, Africa, and South America
  - 4 major domains of business practices
    - 1 Book-keeping and accounting
    - 2 Financial planning
    - 3 Inventory management and stock control
      - 4 Marketing
    - $\rightarrow$  Strong persistent component at one-year endline (r = 0.59)
  - $\rightarrow$  How exactly should we think about business practices translating into performance gains?

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## Business Practices in the Production Decision

#### Standard Production Decision

• Owner maximizes output Y = f(A, L, M, K) at given wealth W:

$$\max_{K,M,L} \{ pf(A,L,M,K) - wL - sM - rK \}$$

s.t. 
$$wL + sM + rK \le \lambda W$$

- .. where L is labor, M is materials, and K is capital.
- .. where w the cost of labor, s the cost of raw materials, r cost of capital, and p is the output price
- .. where A represents a productivity factor and  $\lambda$  parameterizes borrowing constraints

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- .. where A represents a productivity factor and  $\lambda$  parameterizes borrowing constraints
- 2 general conceptualizations of business practices
  - 1 As factor of production B chosen by owner at market price  $p_B$
  - 2 As technology affecting productivity factor *A* (See, e.g., Bloom et al., 2016; McKenzie and Woodruff, 2017)

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## Business Practices in the Production Decision

#### Further specific channels of potential impact

- 1 Better negotiation practices may affect raw material prices s
- 2 Record-keeping and financial planning practices may affect borrowing constraints λ through banks' willingness to lend (see, e.g. Bruhn and Zia, 2013)
- 3 Marketing practices may affect output price p by changing demand
  - $\rightarrow$  Plausible association between business practices and revenues, profits, and business growth
  - $\rightarrow$  Prices (p, s, and p<sub>B</sub>) and inputs (K, L, and M) likely endogenous to business practices B

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## **Business Practices and Performance**

Using panel data and a model that treats managerial capital as technology, Bloom et al. (2016) find differences in management practices account for about 30% of cross-country TFP differences

- Robust correlation with productivity in mid-sized and large firms, and in the public sector (Bloom et al., 2015, 2020)
- Robust correlation with performance and firm survival across industries and contexts in small firms (McKenzie and Woodruff, 2017)

#### Open questions

- Does adoption of best practices *cause* performance to increase?
- How can adoption of practices best be encouraged?

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## Classical MSME Training

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## History and Prevalence

- At least USD 1 billion per year (for ~ 4-5 million entrepreneurs; McKenzie, 2020)
- Classical training programs precede evidence that business practices vary and are predictive for productivity
- Examples:
  - Start and Improve Your Business (ILO)
  - Business Edge (IFC)
  - EMPRETEC Entrepreneurship Training Workshop (UNCTAD)

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## Typical Training Program

#### Stylized facts on MSME trainings

- Group of 15 to 40 entrepreneurs per trainer
- In-class (may incl elements of active and interactive learning)
- Period of up to two weeks
- Foci of typical syllabi
  - Encourage start-up: Business ideas and business plans, permits, costing, pricing, and budgeting
  - Grow existing businesses: Record-keeping, accounting, and financial planning, marketing, human resources and hiring, stock and inventory management
- Average training program not inexpensive (USD 177 per person for ILO training; van Lieshout and Mehta, 2017)
  - → Typical training program highly subsidized (Median contribution 10% of full price)

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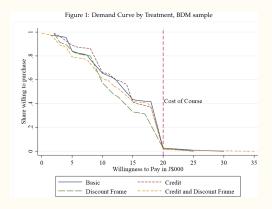
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## Typical Training Program

#### Demand for business training



■ Demand curve for business training in Jamaica:  $\sim$ 10% willing to pay full price,  $\sim$ 60-70% half (Maffioli et al., 2020)

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#### First wave of evaluations

- Headline result: No impact on business performance
  - Modest short-term adoption of practices (long-term fade-out)
  - Null-effect on business sales and profits
  - Early examples: Field et al. (2010); Karlan and Valdivia (2011); Bruhn and Zia (2013); also Giné and Mansuri (2021, WP in 2014)

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## Econometric and implementation issues (McKenzie and Woodruff, 2014)

- Lack of statistical power with MDEs often substantially above policy-relevant levels
  - Small samples (typically N = 200 400 per treatment cell)
  - Typical attendance between 40 and 70%
  - Often substantial rates of survey attrition (up to 24 28%)
  - Large heterogeneity in age, education, training delivery and costs, etc.

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  - Typical attendance between 40 and 70%
  - Often substantial rates of survey attrition (up to 24 28%)
  - Large heterogeneity in age, education, training delivery and costs, etc.
- Endline follow-ups typically short-term (typically 1-2 years out)
- Sources of selection bias by treatment status
  - Firm survival can be endogenous on treatment
  - Record-keeping likely to increase reporting accuracy
  - Clear potential for differential experimenter demand effects
- Most trainings offered at no private costs
  - Potentially lower valuation, utilization (see, Maffioli et al., 2020)

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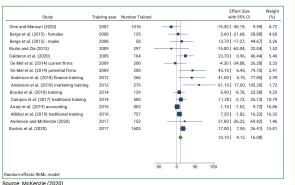
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#### Recent meta-study (McKenzie, 2020)





Small positive impact on practice adoption and performance

 $\rightarrow$  Estimated 10.1% plus in profits, and 4.7% plus in  $\bigcirc$  sales

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#### Refinements of the classical model

- Targeting specific subgroups of the population
  - Alleviating particularly severe constraints
    - → Marginalized or disadvantaged groups (e.g., women, youth)
  - Maximizing treatment impact or cost-effectiveness
    - → Promising entrepreneurs (e.g., high-growth firms)
  - Plus: Maximizing statistical power through homogeneity
- Training of specific clusters of business practices
  - Alleviating specific constraints
  - Investigating mechanisms of treatment impact

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#### Female entrepreneurs

- Examples:
  - Gender and Enterprise Together (GET Ahead, ILO; Bulte et al., 2017; McKenzie and Puerto, 2021)
  - Start and Improve Your Business (SIYB, IFC; de Mel et al., 2014)
- Most common type of targeted training (complementary to classical microfinance model)
- Structural reasons
  - Women overrepresented in mere subsistence entrepreneurship
  - Female entrepreneurs often subject to more severe constraints (e.g., due to household-level reallocation; see Bernhardt et al., 2019; de Mel et al., 2009a)

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Approaches

Takeaways

#### Young entrepreneurs

- Typically embedded as entrepreneurship courses in school or university (business concepts and soft skills)
- Example: Final year university course in Tunisia (Alaref et al., 2020)
  - Initial positive impact on business entry
    - → Effects taper off after 4 years (no evidence for lasting effects)

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Mechanisms

Approaches

Takeaways

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#### High-growth businesses ("gazelles")

- Extensive-margin prediction of future MSE growth is hard (Fafchamps and Woodruff, 2017)
  - Survey, ability measure, expert panel all explain unique variation
  - But: Business training for predicted gazelles shows no impact
- McKenzie (2017) finds more encouraging results with a large-scale, high-stakes business plan competition in Nigeria
- Small literature on business accelerators and incubators
  - See, e.g., Cusolito et al. (2021); Gonzalez-Uribe and Leatherbee (2018); González-Uribe and Reyes (2021)

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## Training of specific clusters of practices

- Anderson et al. (2018) assign 852 South African micro-entrepreneurs to distinct types of training:
  - 1 Marketing/sales skills

2 Finance/accounting skills

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Approaches

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#### Training of specific clusters of practices

- Anderson et al. (2018) vary training focus among 852 South African micro-entrepreneurs
  - 1 Marketing/sales skills
    - "Growth focus" on higher sales, stock investments, and hiring
    - 61% increase in profits
      - → Benefits new businesses (= less market exposure)
  - 2 Finance/accounting skills

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  - 1 Marketing/sales skills
    - "Growth focus" on higher sales, stock investments, and hiring
    - 61% increase in profits
      - → Benefits new businesses (= less market exposure)
  - 2 Finance/accounting skills
    - "Efficiency focus" on lower costs
    - 41% increase in profits
      - → Benefits established businesses
  - → Different "pathways to profits"

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## Extensions of the Classical Approach

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Takeaways

## On-site Consulting

## Stylized facts on business consulting

- Three-step procedure
  - Diagnosing practices
  - 2 Identifying areas of improvement
  - 3 Joint and interactive problem solving

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## On-site Consulting

#### Stylized facts on business consulting

- Three-step procedure
  - Diagnosing practices
  - 2 Identifying areas of improvement
  - 3 Joint and interactive problem solving
- Typically one-on-one (also group-based; see, ?)
- Sustained and intensive
  - Total of 88 to 200 hours and more (Anderson and McKenzie, 2020; Bruhn and Schoar, 2018)
    - $\rightarrow$  Typically several months
    - $\rightarrow$  Meetings monthly to twice weekly, 2-4 hours
  - Total cost between USD 4,000 and 12,000 per firm (Anderson and McKenzie, 2020; Bruhn and Schoar, 2018)
- Often gov't-subsidized (private contributions typically ~10%)
  - → Matching-grant programs

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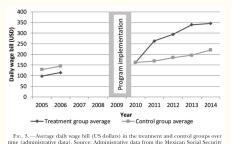
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## On-site Consulting

# Example: Matching grant program for MSMEs in Mexico (Bruhn and Schoar, 2018)

- Weekly 4-hour visits over one year
- USD 12,000 per person (subsidized at 70 90%)
- Small positive impacts on profits and ROA after 1 year
- Using admin data, 57% higher employment after 5 years
  - Limited availability of admin data may introduce selection bias
  - Not clear if effects concentrated among few businesses



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Performance

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Approaches

Takeaways

## Multimedia delivery

#### TV shows

- Examples: Reality show competitions in Tanzania (Bjorvatn et al., 2020) and Egypt (Barsoum et al., 2018)
- Differential random incentivization schemes
  - → No impact on business knowledge and business entry
  - $\rightarrow$  But: High viewership (conventional MDEs substantially above policy-relevant levels)

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Mechanisms

Approaches

Takeaways

## Multimedia delivery

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  - → But: High viewership (conventional MDEs substantially above policy-relevant levels)

#### Text messages

- Examples:
  - Heuristics-based business advice (Cole et al., 2018)
  - Personalized inventory recommendations (Acimovic et al., 2020)
  - ightarrow Small literature with generally mixed results or null effects
  - → But: Extremely cheap (MDEs above policy-relevant levels)
  - $\rightarrow$  But: Potential complementarities with in-person training

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Takeaways

Takeaways

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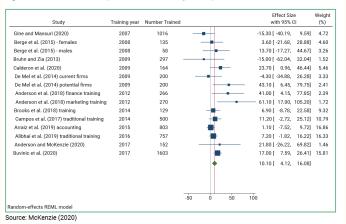
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## Variation in Outcome Measures

Figure 2 Estimates of the impact of business training on firm profits



Extremely wide confidence intervals on impact estimates

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Mechanism

Approache

Takeaways

#### Variation in Outcome Measures

#### Alternative measures of business profits (de Mel et al., 2009b)

- 15-16 unannounced visits during one month
- Random assignment of profit measure, accounting diaries, and recall span

# Alternative measures of business profits (de Mel et al., 2009b)

- 15-16 unannounced visits during one month
- Random assignment of profit measure, accounting diaries, and recall span
- 1 Self-reported profits most accurate measure
  - $\rightarrow$  Correlation with sales-minus-expenditures only r = 0.3
- 2 Accounting diaries have no effect on profits (but on sales)
- 3 With recall over 4 months vs. 1 month, entrepreneurs understate revenues by 10-15% due to memory loss
- 4 Entrepreneurs estimate average rival business to underreport sales by 30%

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Measuring Firm Performance

Mechanisms

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Takeaways

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### Survey media and frequencies (Garlick et al., 2019)

- 12-week panel with detailed measurements of employees, assets, profits, sales, transfers, etc.
- Random assignment to different survey modes and frequencies
  - Monthly in-person
  - Weekly in-person
  - Weekly phone

### Survey media and frequencies (Garlick et al., 2019)

- 12-week panel with detailed measurements of employees, assets, profits, sales, transfers, etc.
- Random assignment to different survey modes and frequencies
  - 1 Monthly in-person
  - 2 Weekly in-person
  - 3 Weekly phone
- Survey medium
  - All survey modes generally result in similar statistical moments
  - Phone surveys yield higher within-firm variation (And may be more vulnerable to social desirability bias.)
- Survey frequency
  - Higher frequency generally does not alter statistical moments
  - No evidence for higher attrition

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Mechanism

Approaches

Takeaways

### Technological aids (Fafchamps et al., 2012)

- Random assignment to Personalized Digital Assistants (PDAs)
- Potential channels of impact
  - 1 More timely data entry
  - 2 Greater accuracy (especially by correct use of skip patterns)
  - 3 More and more complex consistency checks
- Key result: Vast majority of large changes in sales and profits genuine income volatility
  - Positive, but limited, effect of consistency checks in reducing variation in firm performance

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Measuring Firm

Performance

Mechanisms

Approaches

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### Mechanisms

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Training

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#### Mechanisms

Alternative Approaches

Takeaways

# Heterogeneity of Impact

Heterogeneity of treatment effects poorly understood across different approaches

- Potential constraints are manifold, and likely context-dependent
- Some more obvious constraints:
  - Credit constraints (e.g., Berge et al., 2015; Giné and Mansuri, 2021)
  - Education and literacy constraints
  - Gender norms and constraints

→ More recent literature highlights additional behavioral constraints

PART II: Paper

# Education and literacy

### Most MSE entrepreneurs have limited education

McKenzie and Woodruff: Business Practices in Small Firms in Developing Countries

Management Science, 2017, vol. 63, no. 9, pp. 2967–2981, © 2016 INFORMS

Table 1. Summary Statistics

	Full sample		Means by country						
	Mean	SD	Bangladesh	Chile	Ghana	Kenya	Mexico	Nigeria	Sri Lanka
Male	0.23	0.42	0.99	0.09	0.78	0.00	0.00	0.85	0.47
Owner's age	41.0	12.6	41.9	36.6	39.3	35.7	45.3	30.9	37.3
Years of education	9.7	4.1	9.7	10.0	14.0	9.0	8.6	14.8	10.8
Digitspan recall	4.5	2.1	5.4	n.a.	6.5	5.0	3.3	7.5	6.4
Raven test score	5.0	2.9	n.a.	n.a.	n.a.	6.9	4.9	4.4	3.2
***									
Number of observations	20,400		1,724	158	335	3,532	10,265	1,725	2,661

Notes. "n.a." denotes not asked in this data set. Business practice score is the proportion of 26 business practices used by the firm. Marketing (seven practices), buying and stock (three practices), record-keeping (eight practices), and financial planning (eight practices) are subcomponents.

- Typical micro-entrepreneur is a high-school dropout
- Test scores on digitspan and Raven's matrices about % of Western university samples (comp.)

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Performance

Mechanisms

Approaches

Takeaways

# Education and literacy

### Potential for heuristics and rules of thumb

- Example: Heuristics-based business training program by Drexler et al. (2014)
  - → Discussed under alternative approaches
- See also, Cole et al. (2018) and Arráiz et al. (2019)

# Family and neighborhood

### Family commitments

- Unequal responsibilities for child care (Delecourt and Fitzpatrick, 2021)
  - Audit study with mystery shoppers among drug stores in Uganda
  - Average gender profit gap of 60%
  - Close to all women have  $\geq 1$  child, breastfeed for median 19.8 months
    - $\rightarrow$  Among female entrepreneurs, those with child at work ...
      - .. are out of stock more often, and stock up less.
      - ... have 48% lower profits.

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Takeaways

# Family and neighborhood

### Family commitments

- Unequal responsibilities for child care (Delecourt and Fitzpatrick, 2021)
  - Audit study with mystery shoppers among drug stores in Uganda
  - Average gender profit gap of 60%
  - Close to all women have > 1 child, breastfeed for median 19.8 months
    - $\rightarrow$  Among female entrepreneurs, those with child at work ...
      - .. are out of stock more often, and stock up less.
      - .. have 48% lower profits.

### Market segregation

- Markets can be geographically (and socially) segregated, especially in residential areas
  - Potential demand constraints (in the spirit of Hardy and Kagy, 2020, studying women in Ghana)
  - (Scant work, but seems important.)

#### Mechanisms

PART II: Paper

# Dynamic complementarities in skill acquisition

### Complementarities in skills

- Clusters of skills may be more valuable in combination
  - Record keeping and financial planning complement each other
- Skills may build on each other
  - Profit calculation relies on record keeping
  - Advanced inventory management relies on record keeping (and profit calculation)

### Learning styles

- Psychological research finds interpersonal differences in exploration-exploitation behavior
  - Evidence for trait-like persistence of preference (see, e.g., Waldner et al., 1998, Engler et al., 2010)
  - If technology has initial fixed costs, poverty per se may affect trade-off

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Extensions of the

Measuring Firm

Mechanisms

Approaches

Takeaways

### Aspirations theory (following Dalton et al., 2016)

- Aspirations are desired level of outcome
- In theoretical work, aspirations are modeled as reference-dependent preferences
  - Agent derives utility from relative level wrt aspirations
    - $\rightarrow$  Aspirations motivate effort
  - Behavioral constraint: Agent neglects outcomes → aspirations



### Aspirations theory (following Dalton et al., 2016)

- Aspirations are desired level of outcome
- In theoretical work, aspirations are modeled as reference-dependent preferences
  - Agent derives utility from relative level wrt aspirations
    - $\rightarrow Aspirations \ motivate \ effort$
  - Behavioral constraint: Agent neglects outcomes → aspirations



- Consequence: Sufficiently poor agents with sufficiently low aspirations choose suboptimally low effort
  - → Potential for behavioral poverty trap

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Mechanisms

Approaches

Takeaways

### Evidence on aspirations in entrepreneurship

- Descriptive evidence that micro-entrepreneurs show sizable growth aspirations (Dalton et al., 2018)
  - Both short-term and long-term, for growth in size, labor, and sales
  - Entrepreneurs update dynamically given new information

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and Productivity

raining

Classical Approa

Measuring Firm Performance

#### Mechanisms

Alternative Approache

Takeaways

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- Descriptive evidence that micro-entrepreneurs show sizable growth aspirations (Dalton et al., 2018)
  - Both short-term and long-term, for growth in size, labor, and sales
  - Entrepreneurs update dynamically given new information
- Garlick et al. (in progress) cross-randomize role-model intervention and large UCT to study complementarity
  - Exposure to role models increases aspirations, labor supply, expenditures, and sales

(Cash also increases aspirations, labor supply, expenditures, and sales.)

PART II: Paper

### Evidence on aspirations in entrepreneurship

- Descriptive evidence that micro-entrepreneurs show sizable growth aspirations (Dalton et al., 2018)
  - Both short-term and long-term, for growth in size, labor, and sales
  - Entrepreneurs update dynamically given new information
- Garlick et al. (in progress) cross-randomize role-model intervention and large UCT to study complementarity
  - Exposure to role models increases aspirations, labor supply, expenditures, and sales
    - (Cash also increases aspirations, labor supply, expenditures, and sales.)
- Aspiration interventions can backfire
  - Goal setting intervention resulted in *lower* investment (McKenzie et al., 2021)
    - → Potential of aspiration frustration if external constraints bind (see also, Galiani et al., 2018)

#### Mechanisms

PART II: Paper

# Alternative Approaches

PART I: Lecture
Business Practices
and Training

Business Practices and Productivity

Training

Classical Appro

Performance

Mechanisms

Alternative Approaches

Takeaways

### Rules of Thumb

# Core idea: Provide simplified rules to make training more cognitively accessible

- Example:
  - Instead of detailed accounting practices, ...
    - .. focus on physical separation of household and business finances
    - .. and only transfer money with an explicit "IOU" note
- Classical study: Drexler et al. (2014)
  - Comparison of heuristics-based and standard accounting training with 1,193 micro-entrepreneurs in the Dominican Republic
  - Null effect for full sample
    - → Statistical power limited due to substantial missing sales data
    - $\rightarrow$  Larger gains with heuristics-based training for less educated entrepreneurs

PART 1: Lecture
Business Practices
and Training

Classical MSN

Training

Extensions of the

Measuring Firm Performance

Mechanisms

Alternative

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### Rules of Thumb

- Arráiz et al. (2019) compare 4-hours heuristics-based finance training with standard finance and accounting program among 2,408 micro-entrepreneurs in Ecuador
  - Heuristics-based training increases daily business sales and profits by about 8% each
  - Effects driven by women and entrepreneurs with lower cognitive scores

### Points of critique

- Limited target group of cognitively challenged
- Limited scope (mostly confined to accounting practices)
- So far no long-term follow-up (studies use 1-year endlines)
- Cole et al. (2018) find more mixed evidence for text-based rule-of-thumb assistance among micro-entrepreneurs in India and The Philippines

PART I: Lecture Business Practices and Training

and Productivity

Classical MSME

Training

Extensions of the

Measuring Firm

Mochanisms

Alternative

Takeaways

# Entrepreneurial mindset

# Core idea: Develop proactive mindset and increase growth aspirations

- Examples:
  - Encourage continued search for new opportunities
  - Encourage reflection on business differentiation
  - Learning by doing and from mistakes
  - Set daily goals
- Campos et al. (2017) compare mindset training to standard business training among 1,500 micro-entrepreneurs in Togo
  - 36 hours classroom instruction
  - 4 monthly 3-hours one-on-one follow-ups by trainer
  - USD 750 per person
    - → Initiative training improves business profits by 30% over 2.5 years (Standard business training improves profits by 11%)
    - → Costs amortized within a year through firm profits

**PART I: Lecture** Business Practice: and Training

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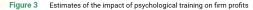
Performance

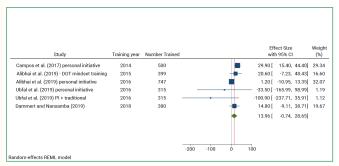
Mechanisms

Alternative Approaches

Takeaways

# Entrepreneurial mindset





- Average increases in business profits of 14% and in sales of 10%
- Programs show substantial heterogeneity wrt content and focus
  - → Heterogeneous, but generally positive, results

PART I: Lecture
Business Practices
and Training

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Training

Classical Approach Measuring Firm

Mechanisms

Alternative

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# Entrepreneurial mindset

### Points of critique

- Probably limited target group
- Not clear whether standard curriculum and personal initiative training are complements or substitutes
- Alibhai et al. (2019) and Ubfal et al. (2020) find mixed results with lower treatment intensity
- No work yet on whether classroom training and/or one-on-one follow-ups necessary and/or sufficient conditions for success

PART I: Lecture Business Practices and Training

and Productivity

Training

Measuring Firm

Measuring Firm Performance

Mechanisms

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Takeaways

# Local Knowledge and Mentoring

### Local entrepreneurs as mentors

- Core ideas:
  - Information may be highly localized
  - Peers may know better about particular local constraints and practices
  - Social learning may work better between peers
  - Local mentors may be more cost effective
  - $\rightarrow$  Who mentors?
  - → Will mentors agree to share information?
  - → How to incentivize continued mentoring?

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Measuring Firm

Performance

Approaches

Takeaways

# Local Knowledge and Mentoring

- Successful business owners mentor smaller firms (Brooks et al., 2018)
  - Random assignment of mentors or standard business training to 372 female micro-entrepreneurs in Kenya
  - Mentorship dyads
    - Mentors local entrepreneurs from more profitable firms
    - Encouragement of weekly meetings at mentor's firm for one month
    - Many dyads continue meeting for more than one year
  - Mentored businesses show increases in profits by 20%
  - → Effect fades after one year (when dyad dissolves)
  - No effect of standard business training.
  - McKenzie and Puerto (2021) find no impact of a 5-months mentoring scheme among female micro-entrepreneurs in Kenya

PART I: Lecture
Business Practices
and Training

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Performance

Mechanism

Alternative

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# Local Knowledge and Mentoring

### Peer-to-peer learning

- Core idea: Firms may improve through mutual social learning
- Firms matched among peers (Cai and Szeidl, 2018)
  - Random assignment of peer group meetings among 2,820 SMEs in China
  - Monthly meetings with 9 peers for 10 months
  - Peer groups of different sizes and sector compositions
    - $\rightarrow$  Sales increased by 8 10%
    - ightarrow Comparable increases in material inputs, employment, and assets

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and Productivity

Training

Extensions of the

Measuring Firm

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Alternative

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Takeaways

## Takeaways

PART I: Lecture Business Practices and Training

Business Practices and Productivity

Training

Classical Approac

Measuring Firm Performance

Mechanisms

Alternative

Takeaways

# **Takeaways**

- Business practices differ substantially across firms ...
  - .. and vary with productivity
- Standard business training has limited ability to change practices and firm performance in the short-term ..
  - .. while long-term evidence is scarce
- Some of that is due to measurement error (especially wrt firm profits) and lack of statistical power ..
  - .. but extensions of classical approach also show promise:
  - Personal initiative training
  - Business mentoring
  - Peer-to-peer learning

Business Practice and Training

Business Practices and Productivity

Training

Extensions of the

Measuring Firm

Performance

Mechanism

Approaches

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## Questions

### Any questions?

.. before we move on to our paper?

# PART I: Lecture Business Practices and Training

Business Practices and Productivity

> Classical MSI Training

Extensions of the Classical Approach

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Takeaways

# Curating Local Knowledge

Experimental Evidence from Small Retailers in Indonesia

Patricio S. Dalton<sup>1</sup> Julius Rüschenpöhler<sup>2</sup> Burak Uras<sup>1</sup> and Bilal Zia<sup>3</sup>

<sup>1</sup>Tilburg University <sup>2</sup>UC Berkeley, CEGA <sup>3</sup>The World Bank

March 04, 2021

# Paper Overview

1 PART I: Lecture

Business Practices and Training

2 PART II: Paper

Curating Local Knowledge

- Motivation
- Our Approach
- Data and Design
- Results
- Discussion
- Conclusion

PART I: Lecture Business Practice and Training

PART II: Paper Curating Local Knowledge

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Our Approach

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### Motivation

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

Motivation

Data and Dasian

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# Background

- Micro and small firms (MSEs) are typically the main source of employment in the developing world
- In Indonesia, MSEs represent ..
  - .. 99% of all firms
  - .. 94.5% of employment
- Understanding the factors fostering efficiency and growth of MSEs is an important research and policy goal

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Mouvation

Our Approach

Data and Design

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Discussion

Conclusion

# A Growing Focus on Management

- Classroom Training: McKenzie and Woodruff (2014); Karlan and Valdivia (2011); Bruhn and Zia (2013); Anderson et al. (2018); Bulte et al. (2017); Field et al. (2010)
- Consulting: Bruhn and Schoar (2018); Anderson and McKenzie (2020); Karlan et al. (2015)
- Mobilizing Peer Knowledge:
  - Brooks et al. (2018) → Local mentors (market information)
  - Cai and Szeidl (2018) → Business meetings
  - Abebe et al. (2019) → Management experience matching

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

Motivation

Our Approach

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Discussion

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# Our Approach

Business Practice and Training

Curating Local Knowledge

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Our Approach

Data and Desigr

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Discussion

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# Harnessing Cross-Firm Heterogeneity

### Some stylized facts about business practices in small firms

- Vast heterogeneity in business practices and performance across similar businesses (McKenzie and Woodruff, 2017; de Mel et al., 2009b)
- Variation in practices accounts for up to 30% of variation in TFP across plants within the same firm in the US (Bloom et al., 2019)
  - $\rightarrow$  Research has largely overlooked this heterogeneity in program design and implementation

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

Monvedion

Our Approach

Data and Design

Results

Discussion

# Harnessing Cross-Firm Heterogeneity

### Some stylized facts about business practices in small firms

- Vast heterogeneity in business practices and performance across similar businesses (McKenzie and Woodruff, 2017; de Mel et al., 2009b)
- Variation in practices accounts for up to 30% of variation in TFP across plants within the same firm in the US (Bloom et al., 2019)
  - → Research has largely overlooked this heterogeneity in program design and implementation

We make productive use of this heterogeneity in our research design:

- Use cross-firm variation to identify practices associated with business performance
- Curation of local best practices
- Test different modes of delivery, and their cost-effectiveness

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and Training

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Our Approx

Our Approach

Data and Desigr

Discussion

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## **Selecting Local Best Practices**

#### Detailed qualitative interviews with local business peers

- Understand and codify their practices (record-keeping, financial planning, stocking-up, marketing, and joint decision-making)
- Identify implementation norms and beliefs regarding each practice (e.g. whether they are complicated, necessary, etc.)
- Document locally relevant tips and rule of thumbs

#### Quantitative baseline survey

- Measure practices and outcomes
- Quantitative association of business practices with profits and sales

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Our Approach

Data and Desigi

Discussion

# Disseminating Knowledge

#### Basic information intervention

- Handbook
  - Pure information on profitable practices, implementation advice

#### Two complementary behavioral interventions

- Movie of successful peers
  - Psychological and emotional involvement
    - → Social learning through observing experiences of similar others (see,e.g., Bernard et al., 2014; La Ferrara et al., 2012; Chong and La Ferrara, 2009; Berg and Zia, 2017)
- On-site assistance
  - Hands-on involvement
    - → Social learning through own idiosyncratic experience
  - Facilitated by local lay person
  - → Movie and assistance based exclusively on handbook!

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and Training

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Monvation

Our Approach

Data and Desig

Discussion

## Research Questions

#### Characterization of local best practices

- Which practices are associated with high profits?
- How do successful businesses implement them?

#### Adoption of best practices

- Do retailers adopt best practices once aggregated and made common knowledge?
- If so, does the type of experiential involvement matter?

#### Impact on business performance

- Does adoption increase firm profits?
- If so, what are the channels?

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PART II: Paper Curating Local Knowledge

Our Approach

Data and Design

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## Data and Design

Business Practice and Training

Curating Local Knowledge

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Our Approach

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Results

Discussion

## Sample

- Listing of 2042 small retail businesses from 29 sub-districts ("kelurahan") in urban Jakarta
- Selection criteria for firm listing:
  - At least  $4m^2$  in size
  - At least two different product categories on offer
  - At least 30 meters distance to next business in sample → to minimize spillovers
- Random sample of 1301 from the list
- Randomization to treatment arms stratified by
  - Gender
  - Firm space  $(4-6m^2, 6-10m^2, 10 \text{ and above } m^2)$
  - Composite score of business practices above or below median
  - Sub-district

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Business Practices
and Training
PART II: Paper

Motivation

Our Approach

ata and Desigr

Data and Design

Discussion

## **Experimental Design**

#### Three types of information delivery:

- 1 Handbook with best practices and implementation tips
- 2 Movie with successful peers
- 3 On-site assistance with practice adoption

#### Five experimental groups

- 1 Handbook only (N=260)
- 2 Handbook + invitation to movie screening (N=260)
- 3 Handbook + offer of two assistance visits (N=260)
- 4 Handbook + movie + assistance (N=260)
- 5 Control (N=261)

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Business Practices
and Training
PART II: Paper

nowledge Motivation

Our Approach

Data and Desigr

Data and Desig

Discussion

#### Timeline

- 1 September 2015: Qualitative Interviews
- 2 January 2016: Firm listing (→ survey instrument)
- 3 Feb-Apr 2016: Baseline survey
- 4 Oct-Nov 2016: Interventions
- 5 Apr-May 2017: Midline survey
- 6 Apr-May 2018: Endline survey

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Curating Local Knowledge

Motivation

Our Approach

Data and Desigr

Discussio

## Typical Business in the Sample



## Typical Business in the Sample



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and Training

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Our Approach

Data and Desigr

Discussio

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## Best-practices Handbook



#### Handbook Content

# Why you should try these best practices in your shop

Evidence from a large-scale study on Jakarta-based retailers





#### **RECORD-KEEPING**

Shop owners who keep business records report 28% higher monthly sales and 26% higher monthly profits than those who do not keep business records.

Shop owners who <u>track their customers'</u> <u>debts</u> report 40% higher monthly sales and 36% higher monthly profits than those who do not track their customers' debts.

#### STOCK-UP SCHEDULING

Shops that <u>maintain stock-up schedules</u> earn 26% more in monthly sales and 25% more in profits than those that do not maintain stock-up schedules of their primary products.

Shops that stock up daily rather than weekly earn 48% more in monthly sales and 37% more in monthly profits. PART I: Lecture Business Practice and Training

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Our Approach

Data and Desig

Results

Discussion

#### Movie with Successful Peers



PART I: Lecture ness Practices Training

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# Implementation Assistance for Business Practices



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Motivation

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Our Approach

Results

Discussio

## Results

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Curating Local Knowledge

Motivation

Our Approach

Data and Design

esults

Discussion

## **Summary Statistics**

	(4)	(8)	(4)	(4)	(=)
	(1)	(2)	(3)	(4)	(5)
	Control	HB only	HB & MOV	HB & HELP	HB & MOV
					& HELP
	N = 261	N = 260	N = 260	N = 260	N = 260
Fig. 0					
Firm Owner Characteristics					
Gender (Male=1)	0.28	0.3	0.29	0.3	0.28
Age	45.22	45.27	45.28	45.16	45.38
Education (Years)	9.1	9.52	9.36	9.42	9.55
Risk Preference (0 - 10 "Perfectly Risk-Seeking")	3.74	3.76	3.88	3.6	3.68
Time Preference (0 - 10 "Perfect Patience")	5.19	5.07	5.21	5.25	5.2
Firm Characteristics					
Firm Age (Years)	12.76	13.77	14.03	13.98	13.47
Family Member Is Business Partner	0.56	0.6	0.63	0.59	0.62
Total Number of Workers	2.03	2.05	1.9	1.99	2.04
Business Has Tax ID	0.2	0.21	0.2	0.15	0.18
Total Sales Last Month (USD PPP)	4454.37	4730.64	4840.55	4761.4	5139
Total Profits Last Month (USD PPP)	889.58	961.1	926.78	825.25	934.66
Applied for Bus Loan in Last 12 Months	0.2	0.17	0.15	0.22	0.17
Obtained Bus Loan in Last 12 Months	0.18	0.15	0.14	0.18	0.14
Business Practices					
Management Practices Aggregate Score	0.37	0.36	0.37	0.35	0.37
Marketing Subscore	0.23	0.23	0.25	0.23	0.24
Stocking-up Subscore	0.45	0.47	0.47	0.47	0.46
Record-keeping Subscore	0.33	0.28	0.3	0.29	0.3
Financial-planning Subscore	0.51	0.47	0.47	0.43	0.47

Test of joint orthogonality from multinomial logit (p-value): 0.857

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Discussion

## Movie: Take Up and Assessment

	(1)	(2)
	HB & MOV	HB & MOV
		& HELP
	(A)	(B)
	N=260	N=260
Attendance		
Business Owner or Partner Attended Film Screening	0.52	0.49
Evaluation (1-4 Scale):		
Has Learned Something New	3.34	3.21
Feels Inspired	3.31	3.30
Feels Hopeful	3.60	3.42
Feels Bored	0.83	0.97

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> Curating Loca Cnowledge

> Motivation

Our Approach

Rosults

Discussion

## Assistance: Take Up and Assessment

	(1)	(2)
	HB & HELP	HB & MOV,
		& HELP
	(A)	(B)
	N=260	N=260
Attendance		
Business Owner or Partner Attended 1st Session	0.77	0.78
Business Owner or Partner Attended 2nd Session	0.68	0.68
Evaluation (1-4 Scale)		
Has Learned Something New	2.88	2.89
Feels Inspired	2.76	2.83
Feels Hopeful	2.88	2.97
Feels Bored	0.59	0.43

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Curating Local Knowledge

Motivation

Data and Design

Results

Discussion

## Impact on Business Practices

#### Aggregate Scores

	Record Keeping	Planning	Stocking-up	Marketing	Joint Decision-making
	(1)	(2)	(3)	(4)	(5)
Assigned Handbook	0.025	0.027	-0.007	-0.011	0.011
	(0.209)	(0.273)	(0.694)	(0.694)	(0.694)
Assigned Handbook & Movie	0.057***	0.043	0.038	0.040	0.040
	(0.009)	(0.107)	(0.117)	(0.166)	(0.217)
Assigned Handbook & Assistance	0.065***	0.034	0.011	0.039	0.037
	(0.004)	(0.166)	(0.664)	(0.166)	(0.239)
Assigned All Three	0.054***	0.068***	0.053**	0.061**	0.059*
	(0.009)	(0.009)	(0.020)	(0.032)	(0.094)
R-squared	0.204	0.192	0.187	0.150	0.120
Sample Size	2205	2204	2205	2205	2205
Dependent Variable Mean of Control	0.196	0.402	0.471	0.250	0.269
Dependent Variable SD of Control	0.252	0.310	0.270	0.320	0.420
F-tests (p-value):					
Book = Book & Mov	0.069	0.487	0.014	0.028	0.300
Book = Book & Assistance	0.025	0.754	0.304	0.030	0.348
Book = All Three	0.096	0.073	0.001	0.002	0.082

Multiple hypothesis testing corrected p-values in parentheses

"All Three" improvement of 28 % in record-keeping, 17 % in planning, 11 % in stocking, 24 % in marketing and 22 % in joint decision making.

PART I: Lecture
Business Practices
and Training

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Our Approach

Discussion

#### **Business Profits**

	(1)	(2)
	Profits	Profits
	last month	last month
	(win 5%)	(IHS)
	(1)	(2)
Assigned Handbook	-91.307	-0.067
Ü	(78.400)	(0.088)
Assigned Handbook & Movie	110.378	0.055
ŭ	(86.841)	(0.092)
Assigned Handbook & Assistance	310.455***	0.261***
_	(89.488)	(0.096)
Assigned All Three	191.088**	0.199**
	(84.662)	(0.094)
R-squared	0.179	0.211
Sample Size	2172	2172
Dependent Variable Mean in Control Group	894.544	6.817
Dependent Variable SD in Control Group	1127.783	1.348
F-tests (p-value):		
Book = Book & Mov	0.020	0.167
Book = Book & Assistance	0.000	0.000
Book = All Three	0.001	0.003

Intention to treat (ITT): Profits increase by 35% (about 0.28 sd.)

PART I: Lecture
Business Practice
and Training

ART II: Pap Turating Loca Inowledge

Motivation

Our Approach

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#### **Business Sales**

	(1)	(2)
	ITT	TOT
	Sales	Sales
	last month	last month
	(win 5%)	(win 5%)
	(1)	(2)
Assigned Handbook	-396.976	-417.198
o .	(314.252)	(-397.174)
Assigned Handbook & Movie	335.489	601.221
•	(337.881)	(606.634)
Assigned Handbook & Assistance	836.755**	1031.692**
	(372.924)	(457.015)
Assigned All Three	807.462**	1558.326**
	(358.384)	(696.317)
R-squared	0.492	0.483
Sample Size	2197	2197
Dependent Variable Mean in Control Group	4998.923	4998.923
Dependent Variable SD in Control Group	5623.257	5623.257
F-tests (p-value):		
Book = Book & Mov	0.020	0.047
Book = Book & Assistance	0.000	0.000
Book = All Three	0.000	0.001

■ Intention to treat (ITT): Sales increase by 16% (about 0.15 sd.)

PART I: Lecture Business Practice and Training

Curating Loca Knowledge

Motivation

Our Approach

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Results

Discussion

#### Other Outcomes

#### No significant impacts on:

- Business expenses
- Business size
- Number of employees
- Number of customers
- Business credit

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

Motivation

Our Approach

Data and Design

Results

Discussion

#### Discussion

PART 1: Lecture Business Practices and Training

Curating Local Knowledge

Monvation

Our Approach

ata and Desigr

esults

Discussion

## **Efficiency Gains?**

#### Impact on business practices $\rightarrow$ efficiency practices:

- Adjust stocks based on product profitability
- Negotiate lower prices with suppliers
- Consult with former customers
- Offer discounts
- Make joint decisions
- Review performance to identify ways to improve
- Make anticipated budget for upcoming costs

PART I: Lecture
Business Practice
nd Training

PART II: Paper Curating Local Knowledge

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Data and Design

Results

Discussion

## Efficiency Gains?

#### Impact on business practices $\rightarrow$ efficiency practices:

- Adjust stocks based on product profitability
- Negotiate lower prices with suppliers
- Consult with former customers
- Offer discounts
- Make joint decisions
- Review performance to identify ways to improve
- Make anticipated budget for upcoming costs
  - → Non-record-keeping practices
  - → Causal mediation analysis: Stocking up and marketing practices drive performance impact
  - $\rightarrow$  Variance in profits among treated firms does not converge
  - → Efficiency gains

PART I: Lecture
Business Practices
and Training

PART II: Paper Curating Local Knowledge

Our Approach

Data and Design

esults

Discussion

## Business Knowledge or Aspirations?

Impact on practice adoption and business performance may work through ..

- .. acquisition of business knowledge and/or
- .. strengthening of growth aspirations

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

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Our Approach

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Discussion

## Business Knowledge or Aspirations?

Impact on practice adoption and business performance may work through ..

- .. acquisition of business knowledge and/or
- .. strengthening of growth aspirations

We directly measure business aspirations ..

- .. at baseline, midline, and endline
- .. for short (one year) and long ("ideal business") time horizons
- .. for various dimensions of potential business expansion
  - Sales on a normal day
  - Physical size
  - Customers on a normal day
  - Employees
  - → No impact on aspirations
  - $\rightarrow$  Performance likely driven by increase in business knowledge

PART I: Lecture
Business Practices
and Training

PART II: Paper Curating Local Knowledge

Our Approach

ata and Design

sults

Discussion

## **Business Stealing?**

Do treated businesses improve performance at the expense of the control?

- Sales and profits of control businesses do not decrease from baseline to endline (roughly equal)
- Sales and profits of control businesses closer to treated shops do not decrease by more than those further away
  - → No evidence for business stealing

PART I: Lecture Business Practices and Training

PART II: Paper Curating Local Knowledge

Motivation

Data and Design

Results

Discussion

#### **Cost-Effectiveness**

#### Small costs (per firm):

■ Cost Handbook alone: USD 100

Cost Handbook & Movie: USD 125

Cost Handbook & Assistance: USD 125

Cost Handbook & Movie & Assistance: USD 150

#### **Substantial Benefits**

Up to USD 330 per month in profits

Adoption of top practices by retailers

Research design likely scalable and portable

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PART II: Paper Curating Local Knowledge

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Our Approach

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Discussion

## Conclusion

PART I: Lecture Business Practices and Training

Curating Local Knowledge

Motivation

Our Ammioo

Data and Design

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Discussion

## **Takeaways**

- Curating local knowledge has value for business growth
- Information alone does not have impact, only combined with behavioral interventions
- Mechanism likely knowledge-based, not aspirations-based
- Behavioral interventions are inexpensive and scalable
  - → Attractive for policy

PART I: Lecture
Business Practices
and Training
PART II: Paper

Knowledge Motivation

Data and Desier

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Discussio

## Questions

#### Any questions?

.. happy to stay on for a little while!

PART 1: Lecture Business Practices and Training

Curating Local Knowledge

Motivation

Our Approac

Data and Desig

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Discussion

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Appendi

## **Evidence of Impact**

Figure 1 Estimates of the impact of business training on firm sales

Study	Training year	Number Trained				Effect Size with 95% CI	
Karlan and Valdivia (2011)	2002	2732	-		-0.10 [ -10.68,	10.48]	18.07
Drexler et al. (2014) accounting	2007	402			-7.80 [ -26.03,	10.43]	6.09
Gine and Mansuri (2020)	2007	1016			24.90 [ -54.30,	4.50]	2.34
Berge et al. (2015) - females	2008	135			-0.50 [ -26.76,	25.76]	2.93
Berge et al. (2015) - males	2008	58			13.00 [ -21.30,	47.30]	1.72
Calderon et al. (2020)	2009	164		_	28.80 [ 4.89,	52.71]	3.54
De Mel et al. (2014) current firms	2009	200			13.60 [ -67.89,	40.69]	0.69
De Mel et al. (2014) potential firms	2009	200	-		40.90 [ -5.75,	87.55]	0.93
Valdivia (2015)	2009	711			12.20 [ -8.77,	33.17]	4.60
Anderson et al. (2018) finance training	2012	266	-	_	25.30 [ -5.86,	56.46]	2.08
Anderson et al. (2018) marketing training	2012	270	-	-	64.40 [ 17.75,	111.05]	0.93
Chong and Velez (2020)	2013	568	-		35.80 [ -4.58,	76.18]	1.24
Brooks et al. (2018) training	2014	129	-		3.30 [ -11.60,	18.20]	9.12
Campos et al. (2017) traditional training	2014	500			5.60 [ -11.06,	22.26]	7.29
Arraiz et al. (2019) accounting	2015	803			3.60 [ -4.04,	11.24]	34.65
Alibhai et al. (2019) traditional training	2016	757			-0.90 [ -27.16,	25.36]	2.93
Anderson and McKenzie (2020)	2017	152			20.70 [ -28.89,	70.29]	0.82
			•		4.67 [ 0.17,	9.17]	
			-50 0	50 100			
indom-effects REMI model							

Source: McKenzie (2020)

■ Small positive impact on sales (back to profits)

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