Institutions, Family Firms and the Lack of Manufacturing Employment: Evidence from Ethiopia

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Motivation

- In many of the poorest developing countries, we observe low levels of manufacturing activity and low productivity
- At the same time, manufacturing activity appears concentrated in small firms (often family firms) in LDCs

	India	Ethiopia
Total Labor Force	500 mil	30 mil
Formal Mfg	8 mil	0.2 mil
Informal Mfg	35 mil	1.3 mil
Total Mfg	43 mil	1.5 mil
Median firm size	3	1

Notes: India statistics from Hsieh and Klenow (2011)

- Low incomes may be in part due to lack of successful firms providing employment opportunities for the poor and low skilled

➢ This paper provides an explanation for LDCs have high employment in small, family-run firms and low total manufacturing employment
  - Root cause is difficulty punishing employees for theft/shirking

Our Explanation

- We propose that the reason many small unproductive firms continue to exist is because of a lack of contracting/enforcement institutions
  - To deter theft/shirking, firms must pay managers efficiency wages
    - Productive firms remain small
  - Using family members is a response, since common incentives or outside sanctions negate the need for efficiency wages
    - Unproductive firms therefore remain viable

➢ Combined effect is that aggregate productivity remains low, small number of large productive firms

- Our plan is to model this story formally in order to:
  1. Provide testable predictions in micro data
  2. Guide our empirical strategy
  3. Perform counterfactual exercises (ie, what would happen if Ethiopia had US institutions)

A Flavor of the Model

- Heterogeneous families differ in a) Productivity, b) Family Size
  - Production requires effort from managers and production workers
  - Managerial effort is unobservable, caught shirking w/ probability q
  - Family managers caught shirking subject to larger punishments

- Model generates the following outcomes:

➢ Wages in low q countries
  - Relatively few (and productive) firms employ non-family managers
  - Non-family manager wages > family manager wages
  - Non-family manager wage premium falls with q

➢ Firm sizes in low q countries
  - Productive firms remain small because can't afford expensive non-family managers
  - Low productivity firms with large family sizes are viable

Literature Review

Lack of contracting/enforcement institutions:

- Large literature on effects of poor legal institutions
  - We focus on a specific channel: ability to punish employees for theft/shirking
- Clark (2007) suggests widespread shirking of workers contributes to low productivity in developing countries

The role of family firms:

- Literature on causes/outcomes of family firms (Bertrand & Schoar, 2006)
- Family control is substitute for weak formal investor protection Burkart, Panunzi & Shleifer (2003), Caselli & Giannone (2005)
- Bloom et al. (2010): limited span of control constrains firm growth
  - Only family members have major decision-making power in firms
  - "The principal reason seems to be that family members do not trust non-family members"

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Testing the Hypotheses

- In a cross-country setting, ideally want exogenous variation in institutional constraint to trace out firm outcomes
  - Normal problems with cross-country regressions

- Instead, we use micro-data for one country—Ethiopia.
  - Although institutional constraint is same across all firms, exploit variation in how <u>binding</u> the constraint is to shed light on the efficiency-wage mechanism

  - Firms with large families are less constrained because they can rely on family members to monitor production workers

Preview of Results

- Ethiopia's manufacturing landscape is dominated by very small and unproductive firms
  - Only a small fraction of firms employ non-family managers
  - Firms pay these non-family managers efficiency wages
  - The small firms have extremely low sales/worker

- Evidence that firms with large family sizes are less constrained by the need to pay efficiency wages to non-family managers
  - These firms use more supervisors to production workers
  - They are less likely to hire non-family managers
  - They have lower sales/worker, and less likely to exit
  - Firms appear to grow more slowly after employing all family members

Road Map

- Data
- Empirical Results (All firms)
- Empirical Results (Comparing firms with varying numbers of family members)
- Conclusion/Next Steps

Data on Ethiopian Industrial Activity

- LMMIS (Large and Medium Manufacturing Industries Survey)
  - Firms with power
  - Census of Firms with 10+ workers
  - Panel from 1996-2009

- SSMIS (Small Scale Manufacturing Industries Survey)
  - Firms with power
  - Representative Sample of Firms with <10 workers
  - Three cross sections (2002, 2006, 2008)

- CHMIS (Cottage and Handicraft Manufacturing Industries Survey)
  - Representative Sample of Firms without power
  - One cross section (2002)
  - Wages of employees not broken down by manager/worker

Key Variables

- Family managers: "Unpaid working proprietors, active partners and family workers"
  - All we require is:
    - These workers are managerial positions
    - At a given wage, less inclined to steal/shirk than others
    - Includes firm owner if owner works in the firm
  - Wages are not recorded for family managers

- Non-family managers: "Administrative, technical employees, clerical and office workers"

- Workers: Production workers, paid and unpaid apprentices, temporary workers

Firms and Aggregate Employment

Year	LMMIS (10+, Power)		SSMIS (<10, Power)		Cottage/Handicraft (No Power)	
	Firms	Employment	Firms	Employment	Firms	Employment
1996	623	90,851				
1997	697	94,117				
1998	725	93,465				
1999	725	92,540				
2000	739	94,599				
2001	722	85,861				
2002	883	98,371	31,866	94,490	974,676	1,306,867
2003	939	101,931				
2004	997	106,010				
2005	1,146	110,651				
2006	1,153	118,123	39,076	120,715		
2007	1,339	135,731				
2008	1,734	132,862	43,217	134,194		
2009	1,948	146,086				

Notes: Table reports total number of firms, and aggregate employment, in the 3 samples.

- Ethiopia 2002 population: 70 million, workforce of 30 million
- Agriculture is 43% of GDP (85% of employment), Industry is 14% (5% of labor force, 0.7% of labor force in firms with power!)

Testable Predictions (All Firms)

First, check that the Ethiopian data is consistent with the aggregate predictions when **looking across <u>all</u> firms using the 2002 cross-section**

Deficient institution is a lack of contracting/enforcement institutions

- Managers must be paid efficiency wages to deter theft/shirking
  - Firms pay managers efficiency wages

- Only a small fraction of firms are willing to employ managers
  - Relatively few firms employ non-family managers
  - Only most productive firms hire non-family managers

- The average firm size is small and labor demand is low
  - Firms are small and numerous, but total mfg employment is low

- Unproductive firms viable, drag down aggregate productivity
  - Small firms have very low levels of sales per worker

Testable Predictions (Family Firms)

Next, compare differences between firms with few family (institutionally constrained) and many family members (not constrained) **using panel data**

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- Managers must be paid efficiency wages to deter theft/shirking.
  - Family managers are relatively cheap compared to non-family managers

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  - Productivity cutoff for employing non-family managers $\uparrow$ in family size

- The average firm size is small and labor demand is low.
  - Conditional on productivity, more constrained firms (few family) smaller.

- Small/unproductive firms viable, drag on aggregate productivity.
  - Family firms are less likely to exit, less productive, older
  - Family firms grow slower when they run out of family members

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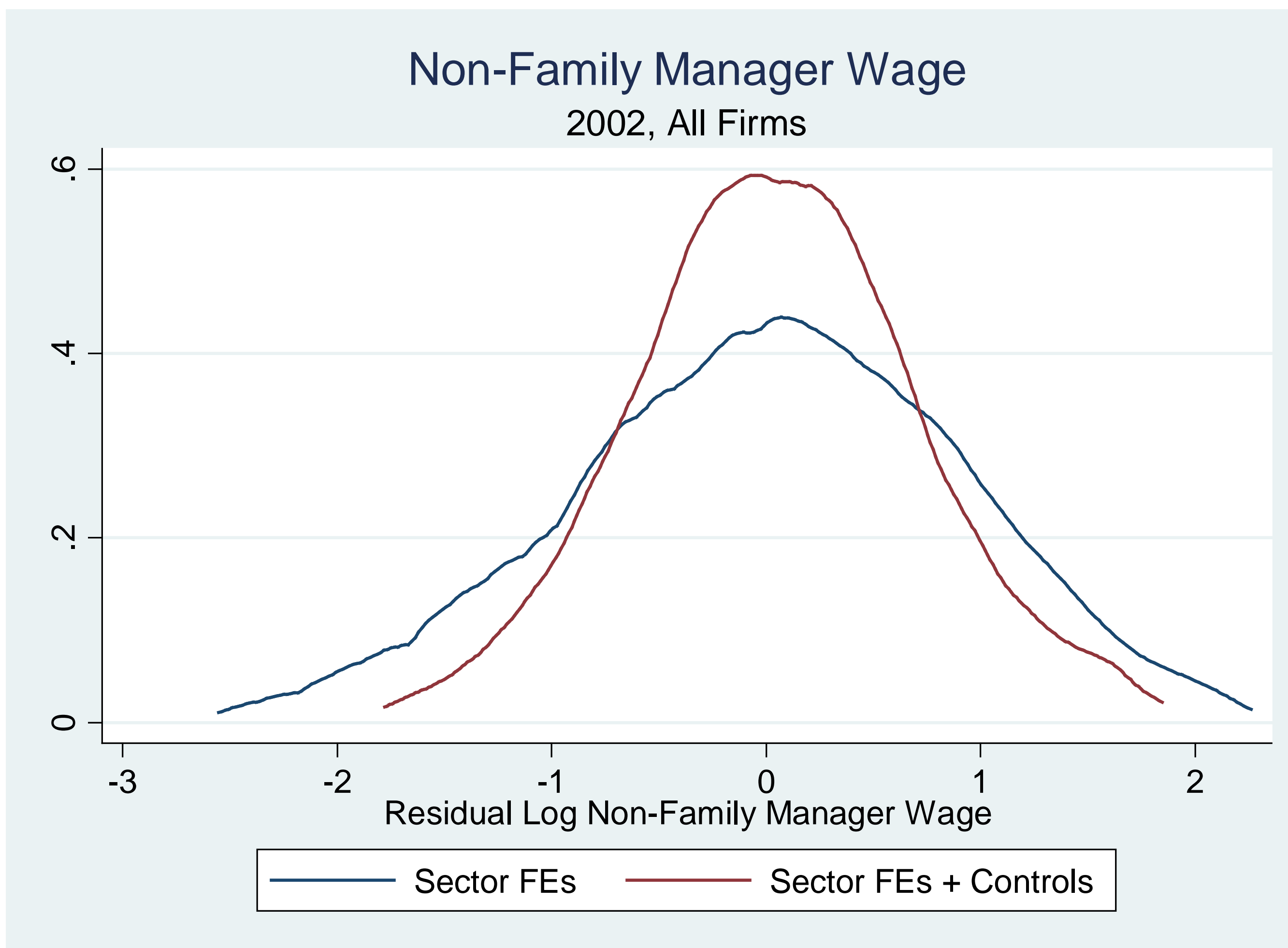
Efficiency Wages for Non-Family Managers

- Wide dispersion in non-family manager wage across firms
- Holds even after controlling for firm characteristics



Efficiency Wages for Non-Family Managers

- Several tests for efficiency wages

- Non-family managers paid more if:
  1. Less monitoring of non-family managers
     - High non-family manager/owner ratio
     - High non-family/family manager ratio
  2. Exerting low effort is costly for a firm
     - Low manager/worker ratio
  3. Misbehavior is costly for the firm
     - Firm has lots of assets that can be easily stolen

Efficiency Wages for Non-Family Managers (1)

- Non-family managers paid more if they are not monitored or if it is costly when they exert low effort:
  - High non-family manager/owner ratio
  - High non-family/family manager ratio
  - High worker/manager ratio
- Results hold conditioning on sales/worker

	Log Average Non-Family Manager Wage		
	(1)	(2)	(3)
Log (1 + Non-Family Managers/Owners)	0.580 ***		
	0.042		
Log (1 + Non-Family/Family Managers)		0.603 ***	
		0.073	
Log (Workers/Manager)			0.318 ***
			0.036
Sector-Year FEs	yes	yes	yes
R-squared	0.30	0.16	0.30
Observations	1,758	977	1,617

Notes: The dependent variable is log average non-family manager wage. Regressions account for the sample weights and include two-digit ISIC sector fixed effects.

Efficiency Wages for Non-Family Managers (1b)

- Non-family managers paid more if they are not monitored or if it is costly when they exert low effort:
  - High non-family manager/owner ratio
  - High non-family/family manager ratio
  - High worker/manager ratio
- Results hold conditioning on sales/worker

	Log Average Non-Family Manager Wage		
	(1)	(2)	(3)
Log (1 + Non-Family Managers/Owners)	0.393 ***		
	0.043		
Log (1 + Non-Family/Family Managers)		0.189 ***	
		0.059	
Log (Workers/Manager)			0.355 ***
			0.031
Log Sales/Worker	0.403 ***	0.354 ***	0.364 ***
	0.042	0.063	0.044
Sector-Year FEs	yes	yes	yes
R-squared	0.46	0.32	0.43
Observations	1,117	561	959

Notes: The dependent variable is log average non-family manager wage. Regressions account for the sample weights and include two-digit ISIC sector fixed effects.

Efficiency Wages for Non-Family Managers (2)

- Non-family managers are paid more if the firm has assets that are easily stolen
  - Office equipment, furniture, and fixtures per employee (excludes machinery/land/buildings/vehicles)
  - Control for total assets per employee
- Results hold controlling for sales/worker

	Log Average Non-Family Manager Wage	
	(1)	(2)
Log (1 + Other Assets/Employee)	0.052 ***	0.027 **
	0.011	0.012
Log (1+ Total Assets/Employee)		0.066 ***
		0.013
Constant	6.623 ***	6.167 ***
	0.044	0.106
Sector-Year FEs	yes	yes
R-squared	0.25	0.28
Observations	1,839	1,839

Notes: The dependent variable is log average non-family manager wage. Other assets are firms assets excluding capital machinery, landholdings and buildings. They explicitly include office equipment, fixtures and furniture. Regressions account for the sample weights and include two-digit ISIC sector fixed effects.

Efficiency Wages for Non-Family Managers (2b)

- Non-family managers are paid more if the firm has assets that are easily stolen
  - Office equipment, furniture, and fixtures per employee (excludes machinery/land/buildings/vehicles)
  - Control for total assets per employee
- Results hold controlling for sales/worker

	Log Average Non-Family Manager Wage	
	(1)	(2)
Log (1 + Other Assets/Employee)	0.109 ***	0.071 ***
	0.013	0.014
Log Sales/Worker	0.340 ***	0.304 ***
	0.036	0.033
Log (1+ Total Assets/Employee)		0.078 ***
		0.018
Constant	3.988 ***	3.846 ***
	0.358	0.332
Sector-Year FEs	yes	yes
R-squared	0.44	0.46
Observations	1,129	1,129

Notes: The dependent variable is log average non-family manager wage. Other assets are firms assets include office equipment, fixtures and furniture. Regressions account for the sample weights

Testable Predictions (All Firms)

First, check that the Ethiopian data is consistent with the aggregate predictions when **looking across <u>all</u> firms using the 2002 cross-section**

Deficient institution is a lack of contracting/enforcement institutions

- Managers must be paid efficiency wages to deter theft/shirking
  - Firms pay managers efficiency wages

- Only a small fraction of firms are willing to employ managers
  - **Relatively few firms employ non-family managers**
  - **Only most productive firms hire non-family managers**

- The average firm size is small and labor demand is low
  - Firms are small and numerous, but total mfg employment is low

- Unproductive firms viable, drag down aggregate productivity
  - Small firms have very low levels of sales per worker

Few Firms Hire Non-Family

- Few firms hire managers (20% of full sample)
- Only the most productive firms hire non-family managers

	Non-Family Manager Dummy		Non-Family Manager Share	
	(1)	(2)	(3)	(4)
Log sales/worker		0.073 ***		0.074 ***
		0.006		0.005
Constant	0.199 ***	-0.400 ***	0.160 ***	-0.465 ***
	0.006	0.055	0.005	0.043
Sector-Year FEs	yes	yes	yes	yes
R-squared	0.03	0.20	0.05	0.29
Observations	8,937	4,463	8,139	4,309

Notes: The dependent variable in columns 1-2 is a indicator if a firm employs a non-family manager. The dependent variable in columns 3-4 is the share of managers that are non-family. Regressions are run on the SSMIS+LMMIS sample for 2002, account for the sample weights, and include two-digit sector fixed effects.

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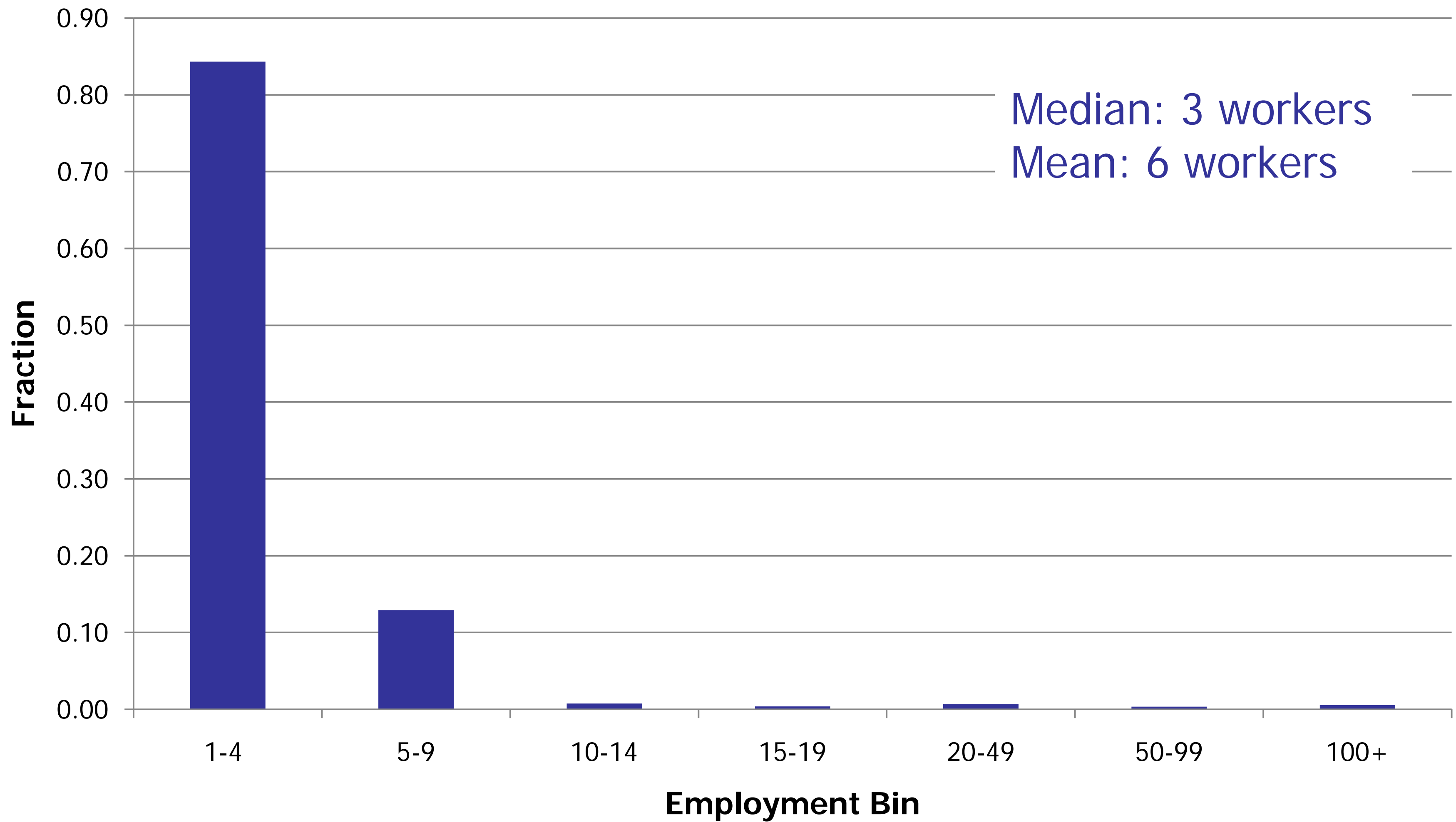
Firm Size Distribution

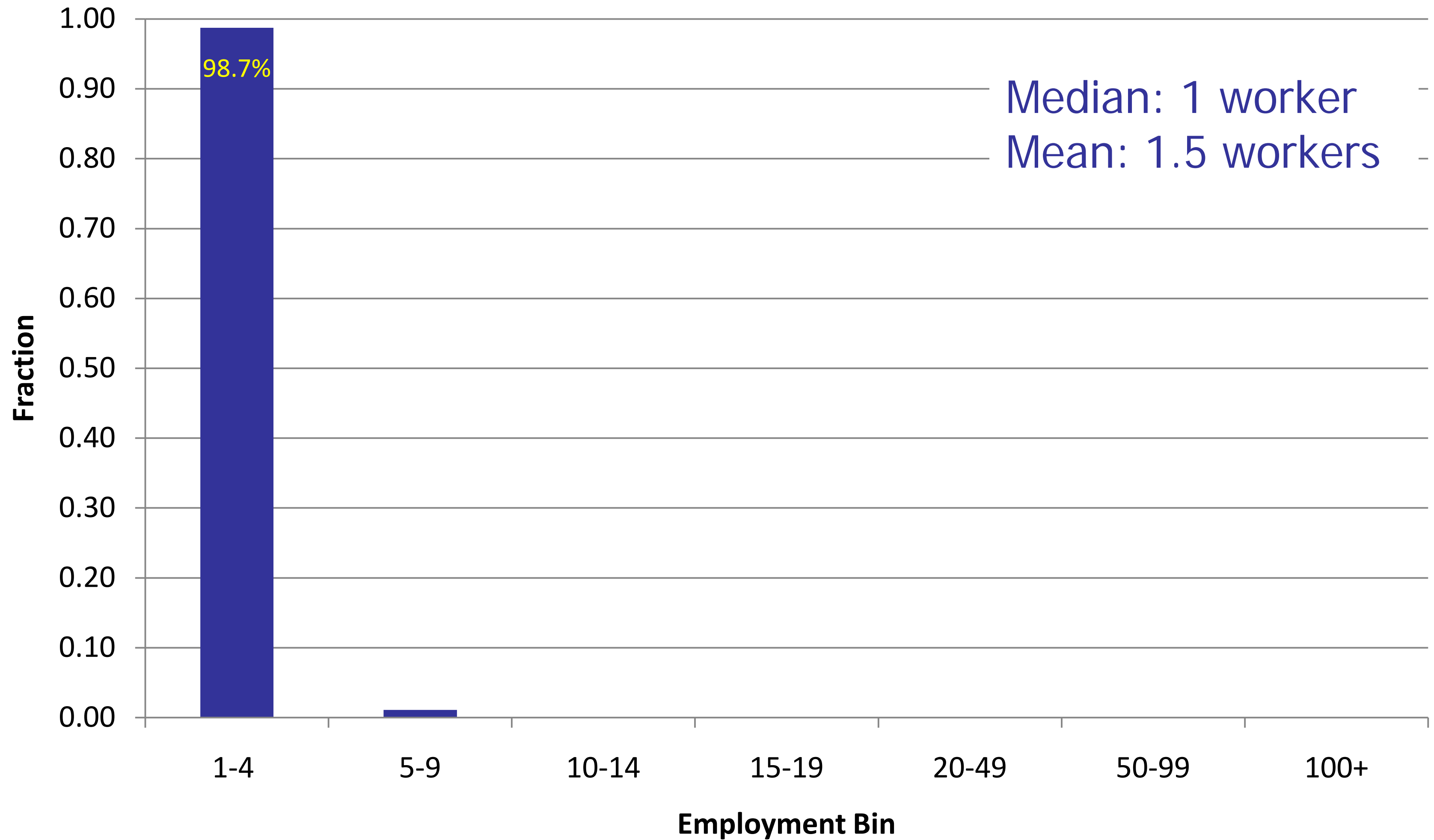
2002, Full Sample



- 0.7% of labor force employed in firms with power!

Firm Size Distribution

2002, Full Sample (including Cottage Industries)



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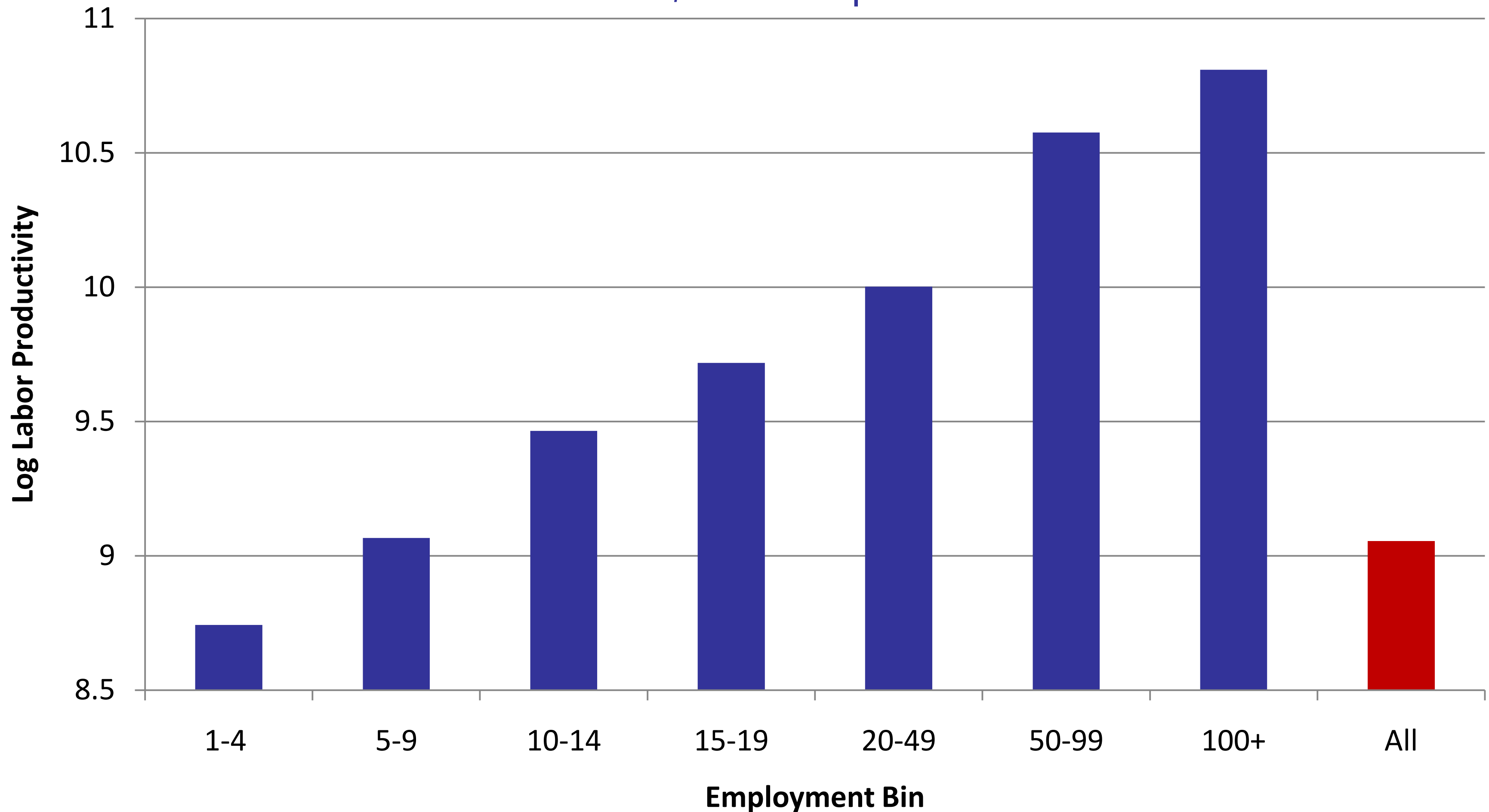
Small Firms are Unproductive



- Large share of small firms implies low aggregate productivity
- Aggregate annual sales/worker is $2930 (2002 USD)
- Aggregate annual sales/worker is $31 if include cottage firms!

Definition of “family” firm

- We now examine differences in outcomes between firms with few family members and many available family members

- Define “familyness” as the maximum number of family workers employed by the firm from 1996-2008
  - Logic of max is that firms use family managers until stock is exhausted (max family|non-family manager>0) = total family
    - Data suggests this pattern of hiring
    - Given this definition, we cannot use the SSMIS

- Non-family firms are very different than family firms, so we focus only on variation within family firms

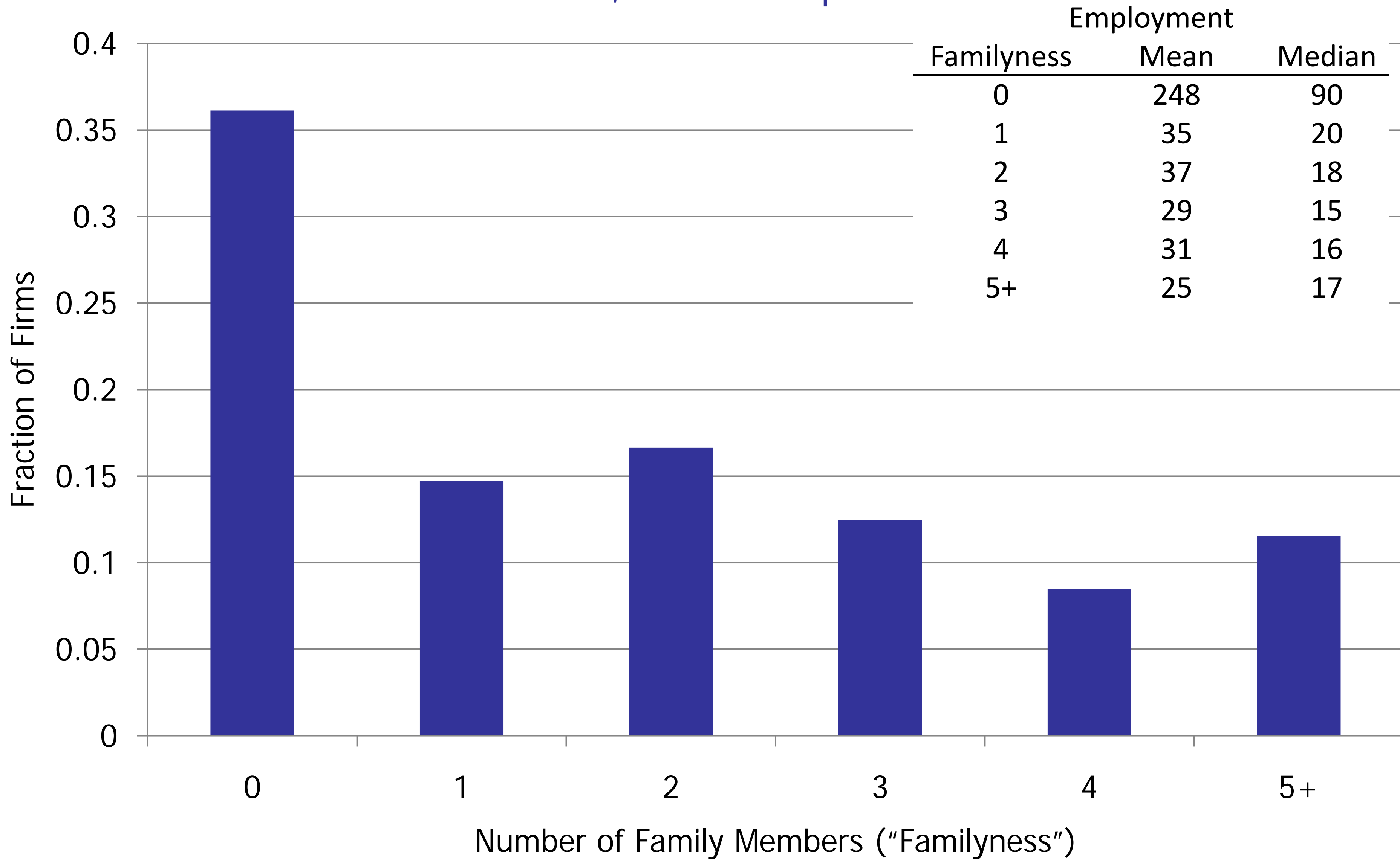
Econometric Concerns with “Familyness” Measure

1. Fertility could respond to a firm’s productivity draw
   - Not much we can do here, but we view as 2nd order concern
   - Polygamy is illegal

2. Some firms may not have used all their potential family members in our sample
   - Less productive firms will not have used slack family members, so measurement error in “familyness” is correlated with productivity
   - However:
     - We are only focusing on the large firms in the LMMIS (generally more productive than firms in SMMIS)
     - If this measurement error issue was substantial productivity should increase with familyness, but data suggests opposite
     - We will try restricting sample to firms that have hired a non-family manager (ie, this is a firm that has used all its potential family members)

Familyness Distribution

2002, LMMIS Sample



Testable Predictions (Family Firms)

Compare differences between firms with few family (institutionally constrained) and many family members (not constrained) **using panel data**

Deficient institution is a lack of contracting/enforcement institutions

- Managers must be paid efficiency wages to deter theft/shirking.
  - **Family managers relatively cheap compared to non-family managers**

- Only a small fraction of firms are willing to employ managers
  - Family firms are less likely to hire outside managers
  - Productivity cutoff for employing non-family managers↑ in family size

- The average firm size is small and labor demand is low.
  - Conditional on productivity, more constrained firms (few family) smaller.

- Small/unproductive firms viable, drag on aggregate productivity.
  - Family firms are less likely to exit, less productive, older
  - Family firms grow slower when they run out of family members

Family Firms Have Fewer Workers/Manager

	Log (Workers/Manager)			
	(1)	(2)	(3)	(4)
Log Familyness	-0.247***	-0.236***		
	0.028	0.028		
Familyness			-0.123***	-0.116***
			0.014	0.014
Log Sales/Worker		0.069***		0.064***
		0.017		0.017
Constant	1.078***	0.376**	1.186***	0.523***
	0.030	0.173	0.040	0.179
R-squared	0.11	0.12	0.11	0.12
Observations	8,052	7,941	8,052	7,941
Sector-Year FEs	yes	yes	yes	yes

Notes: The dependent variable is log (workers/manager). The first two specification have log familyness as the dependent variable. Columns 2-4 have familyness in levels, which is winsorized at 5. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit sector-year pair fixed effects and standard errors are clustered by firm.

- Suggests that family managers relatively cheap compared to non-family managers
- Regressions exclude firms with zero family managers

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Family Firms Less Likely to Hire Outside Managers

	Non-Family Manager Dummy			
	(1)	(2)	(3)	(4)
Log Familyness	-0.051***	-0.047***		
	0.010	0.010		
Familyness			-0.033***	-0.030***
			0.004	0.004
Log Sales/Worker		0.043***		0.041***
		0.005		0.005
Constant	0.912***	0.482***	0.954***	0.535***
	0.010	0.052	0.011	0.052
R-squared	0.07	0.08	0.07	0.09
Observations	8,355	8,210	8,355	8,210
Sector-Year FEs	yes	yes	yes	yes

Notes: The dependent variable in columns 1-2 is an indicator if the firm employees at least one non-family manager. The first two specification have log familyness as the dependent variable. Columns 3-4 have familyness in levels, which is winsorized at 5. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit sector-year pair fixed effects and standard errors are clustered by firm.

- Results are similar with non-family share of total managers

Productivity Threshold for Hiring Non-Family Managers Increases with Familyness

	Hire an Non-Family Manager		Non-Family Manager Share	
	(1)	(2)	(3)	(4)
Log Familyness	-0.260***		-0.272***	
	0.052		0.075	
Log Sales/Worker	0.021***	0.016*	0.050***	0.048***
	0.006	0.009	0.008	0.008
Log Familyness X Log Sales/Worker	0.021***		0.019**	
	0.005		0.008	
Familyness		-0.117***		-0.117***
		0.031		0.031
Familyness X Log Sales/Worker		0.009***		0.006*
		0.003		0.003
Constant	0.698***	0.785***	0.270***	0.366***
	0.069	0.094	0.077	0.088
R-squared	0.09	0.09	0.20	0.22
Observations	8,210	8,210	8,044	8,044
Sector-Year FEs	yes	yes	yes	yes

Notes: The dependent variable in the right panel is an indicator if the firm employs a non-family manager. The dependent variable in the right panel is the share of total managers that are non-family. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit ISIC sector-year pair fixed effects and standard errors are clustered by firm.

Testable Predictions (Family Firms)

Second, compare differences between firms with few family (institutionally constrained) and many family members (not constrained) **using panel data**

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Firm Size and Familyness

- Firms with small families (more constrained) are also smaller

	Log Employment			
	(1)	(2)	(3)	(4)
Log Familyness	0.105*	0.128**		
	0.056	0.052		
Familyness			0.003	0.019
			0.018	0.017
Log Sales/Worker		0.186***		0.182***
		0.021		0.021
Constant	3.008***	1.118***	3.097***	1.228***
	0.052	0.220	0.050	0.219
R-squared	0.14	0.20	0.13	0.19
Observations	8,333	8,210	8,333	8,210
Sector-Year FEs	yes	yes	yes	yes

Notes: The dependent variable is log employment. The first two specification have log familyness as the dependent variable. Columns 3-4 have familyness in levels, which is winsorized at 5. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit sector-year pair fixed effects and standard errors are clustered by firm.

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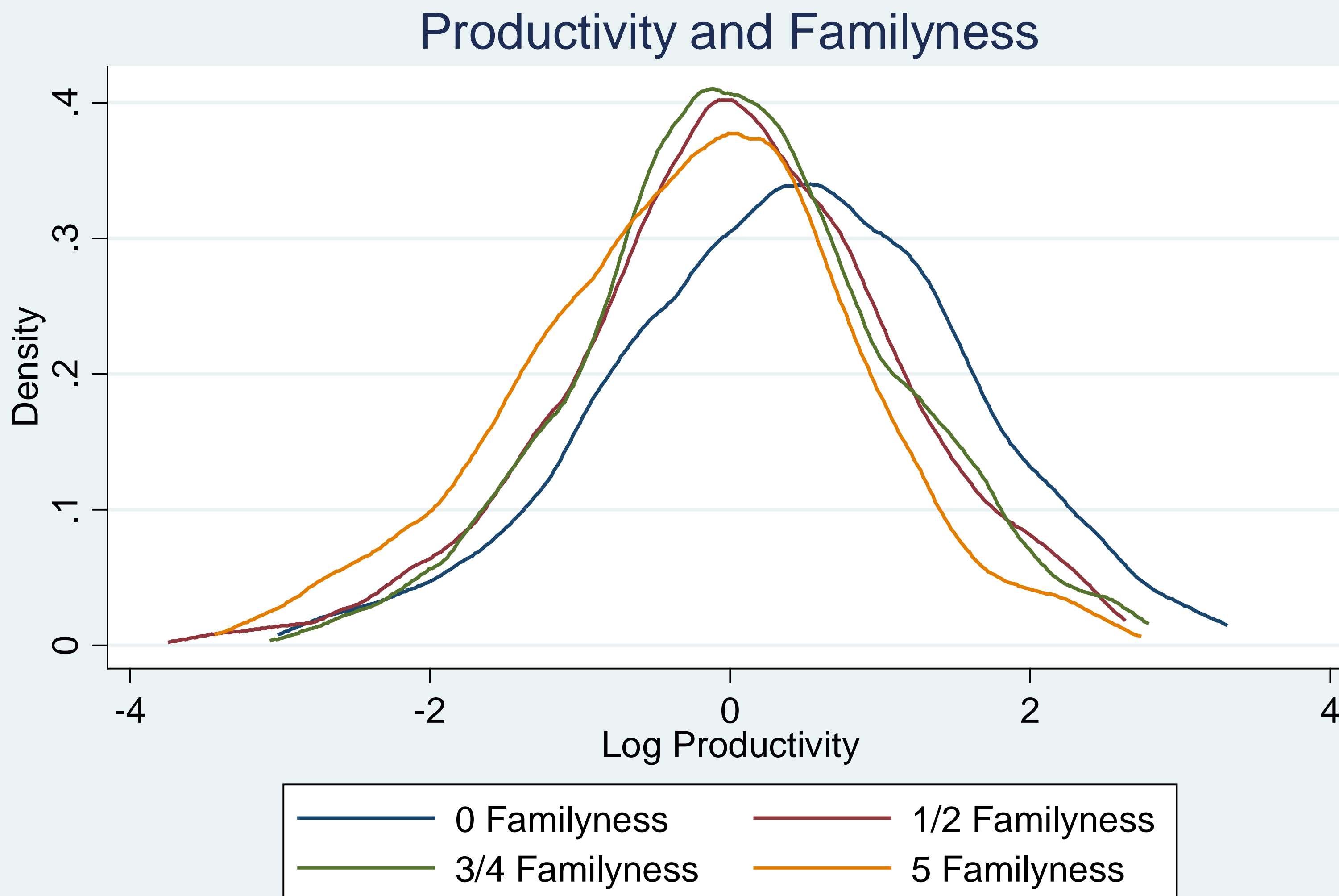
Exit and Familyness

- Exit probability declines with familyness

	Probability of Exit							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log Familyness	-0.039***	-0.036***	-0.043***	-0.042***				
	0.006	0.006	0.007	0.007				
Familyness					-0.019***	-0.018***	-0.023***	-0.023***
					0.004	0.004	0.004	0.004
Age		-0.002***	-0.002***	-0.002***		-0.002***	-0.002***	-0.002***
		0.000	0.000	0.000		0.000	0.000	0.000
Log Sales/Worker			-0.050***	-0.038***			-0.051***	-0.038***
			0.005	0.005			0.005	0.005
Log Capital				-0.015***				-0.015***
				0.003				0.003
Constant	0.254***	0.278***	0.776***	0.835***	0.270***	0.294***	0.806***	0.872***
	0.009	0.010	0.047	0.048	0.013	0.013	0.047	0.049
R-squared	0.121	0.124	0.139	0.145	0.120	0.124	0.139	0.145
Observations	7,413	7,381	7,255	7,128	7,413	7,381	7,255	7,128
Sector-Year FEs	yes	yes	yes	yes	yes	yes	yes	yes

Notes: The dependent variable is in an indicator if a firm is present in the sample in period *t* but not *t-1*. The first five specifications have log familyness as the dependent variable. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit ISIC sector-year pair fixed effects and standard errors are clustered by firm.

Productivity and Familyness



Productivity and Familyness

- Labor productivity declines with familyness

	Labor Productivity			
	(1)	(2)	(3)	(4)
Log Familyness	-0.103**	-0.109**		
	0.043	0.042		
Familyness			-0.077***	-0.080***
			0.018	0.018
Age		0.007***		0.007***
		0.002		0.002
Constant	10.130***	10.050***	10.244***	10.164***
	0.043	0.049	0.052	0.055
R-squared	0.23	0.24	0.24	0.24
Observations	8,210	8,168	8,210	8,168
Sector-Year FEs	yes	yes	yes	yes

Notes: The dependent variable is log labor productivity. The panels has log familyness as the dependent variable. The right panel has familyness in levels, which is winsorized at 5. All specifications exclude firms with zero family managers. The regressions are run on the LMMIS sample for all years. Each specification includes two-digit ISIC sector-year pair fixed effects and standard errors are clustered by firm.

Testable Predictions (Family Firms)

Second, compare differences between firms with few family (institutionally constrained) and many family members (not constrained) **using panel data**

Deficient institution is a lack of contracting/enforcement institutions

- Managers must be paid efficiency wages to deter theft/shirking.
  - Family managers are relatively cheap compared to non-family managers

- Only a small fraction of firms are willing to employ managers
  - Family firms are less likely to hire outside managers
  - Productivity cutoff for employing non-family managers↑ in family size

- The average firm size is small and labor demand is low.
  - Conditional on productivity, more constrained firms (few family) smaller.

- Small/unproductive firms viable, drag on aggregate productivity.
  - Family firms are less likely to exit, less productive, older
  - **Family firms grow slower when they run out of family members**

Family Firms and Firm Growth

- Family firms appear to grow more slowly when they run exhaust family members working in the firm
- Spare manager = familyness - family managers

	Change in Log Employment			
	(1)	(2)	(3)	(4)
Spare Manager	0.012 ***	0.012 ***	0.029 ***	0.023 ***
	0.003	0.003	0.008	0.007
Change in Log Sales/Worker				-0.174 ***
				0.016
Constant	-0.001	-0.001	0.048 **	0.038 *
	0.004	0.004	0.022	0.021
R-squared	0.00	0.02	0.24	0.32
Observations	9,540	9,540	9,540	9,346
Firm	no	no	yes	yes
Sector-Year Fixed Effects	no	yes	yes	yes

Notes: The dependent variable is the change is the (log) employment. Spare manager is the differences between the contemporaneous family members minus the maximum family members. The variable is winsorized at -5. The regressions are run on the LMMIS sample for all years. Standard errors are clustered by firm.

Conclusions/Next Steps

- Efficiency wage premium required for managers
  - Relatively expensive managers suggests that firms turn to family members to supervise workers
    - Constraint is more binding for firms w/ smaller families and so these firms stay small
  - Usual selection effect that weeds out low productivity firms is not as strong on firms with large families
    - Firms with large families are less likely to exit

➢ Small unproductive family firms, small number of large productive firms

- We have shown evidence of these mechanisms, and the next step is to quantify its importance on the firm-size distribution in Ethiopia

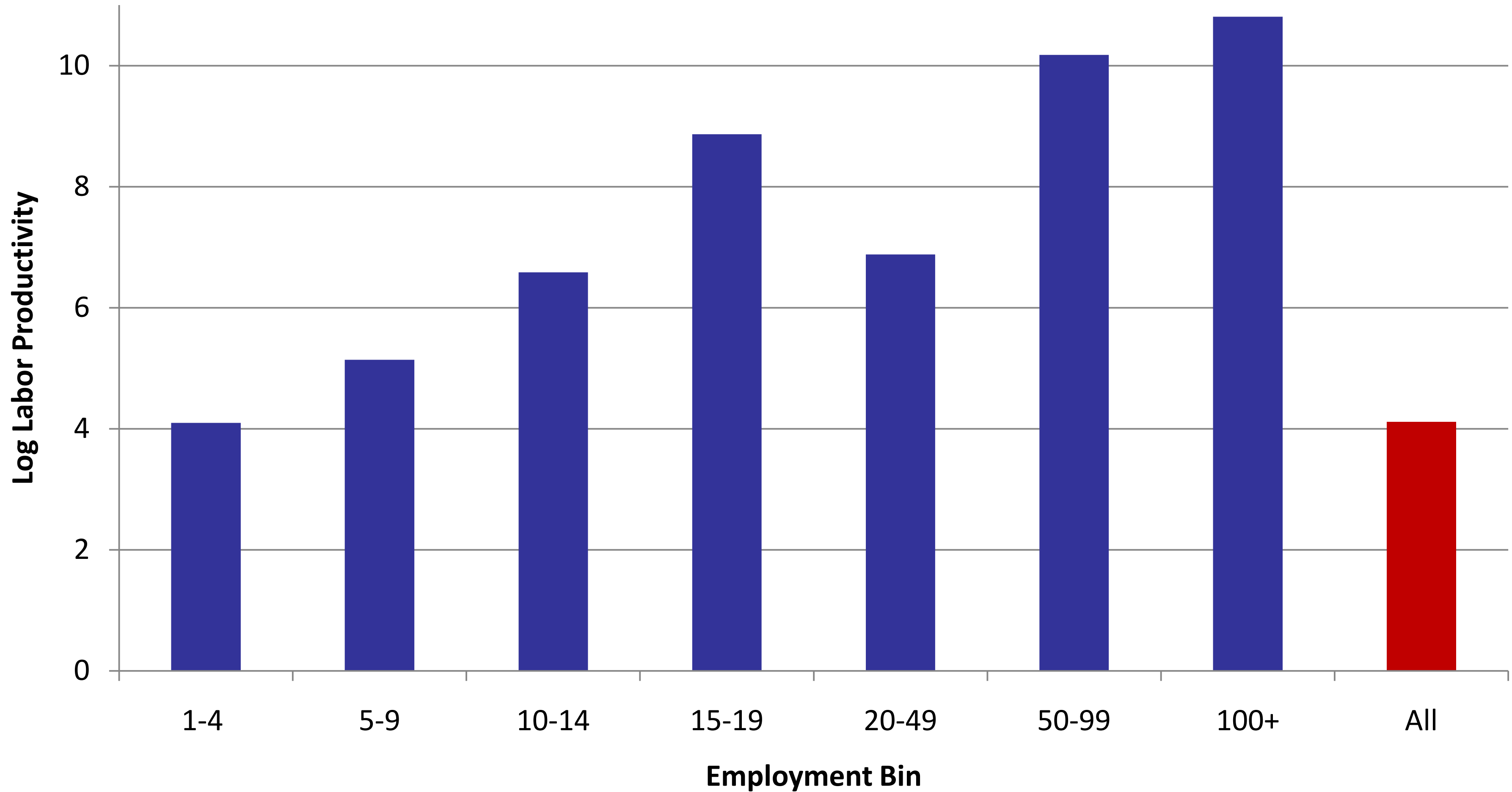
xxx Thank You xxx

Ethiopia Manufacturing, by Sector

	LMMIS (10+, Power)		SSMIS (<10, Power)		Cottage (No Power)	
Sector	Firms	Employment	Firms	Employment	Firms	Employment
15 Food and Beverage	266	28,732	27,916	82,513	533,126	731,178
16 Tobacco	1	792			966	1,116
17 Textiles	34	22,313	23	80	221,848	296,201
18 Apparel	29	3,722	962	1,952	24,137	32,371
19 Leather	52	6,680	15	59	12,025	15,083
20 Wood	21	1,299	167	655	60,482	70,129
21 Paper	7	1,571	4	31		
22 Printing	66	4,615	229	687	197	240
24 Chemicals	41	5,089	2	11	1,117	2,125
25 Rubber	37	4,372				
26 Non-metallic Minerals	96	8,289	106	453	92,403	109,538
27 Basic Metals	11	1,442			5,751	7,082
28 Fabricated Metals	61	2,836	1,308	3,772	20,788	33,392
29 Machinery	7	180	30	106		
31 Electricial Machinery	1	23				
34 Motor Vehicles	6	1,079	5	26		
36 Furniture	147	5,336	1,099	4,148	16,561	24,823
Total	883	98,371	31,866	94,490	989,401	1,323,278

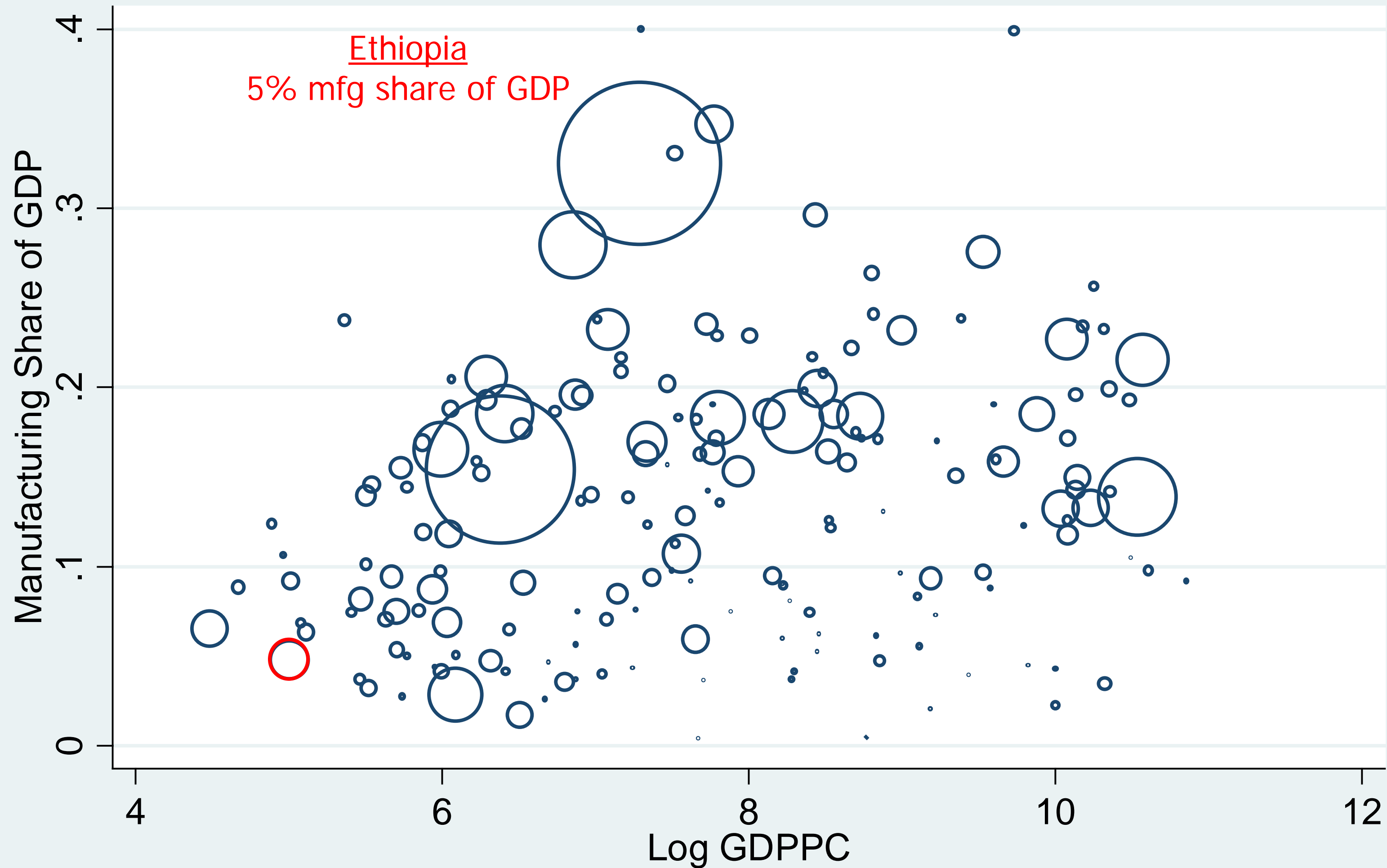
Small Firms are Unproductive

2002, Full Sample (inc. cottage industries)

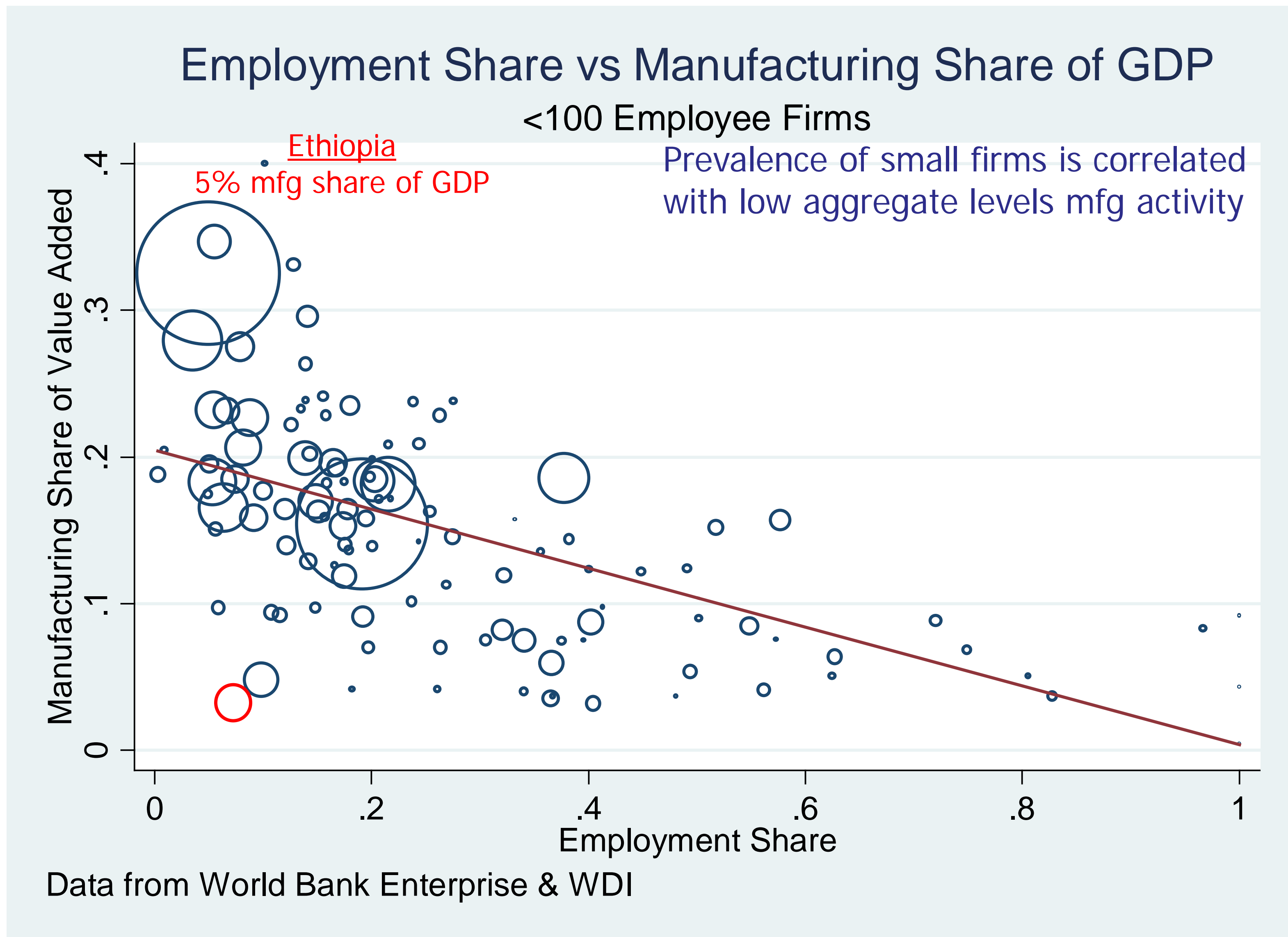


- Large share of small firms implies low aggregate productivity
- Aggregate annual sales/worker is $31 (2002 USD)

Manufacturing Value Added/GDP

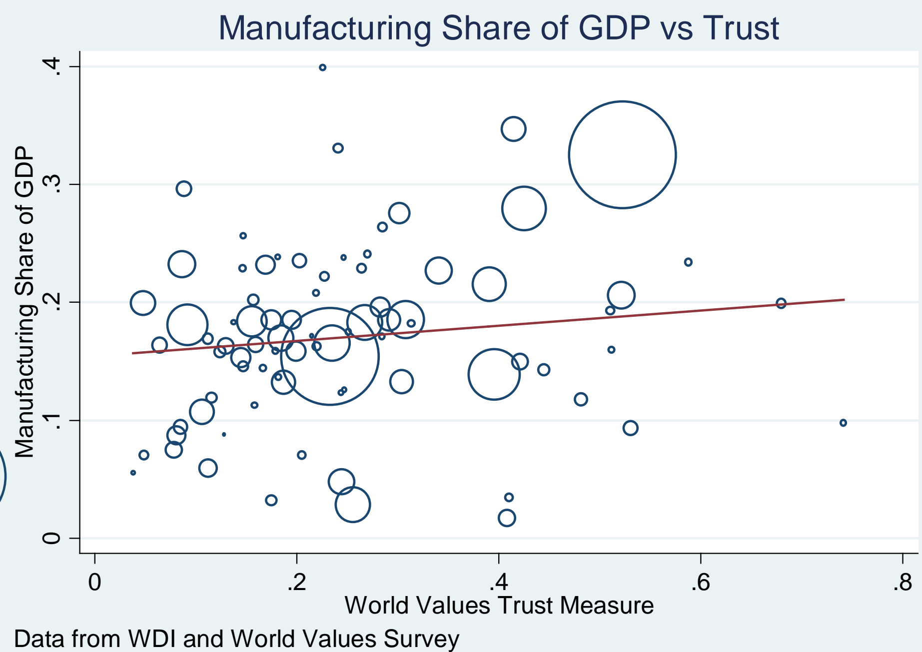


Employment in Small Firms vs Mfg Share of GDP

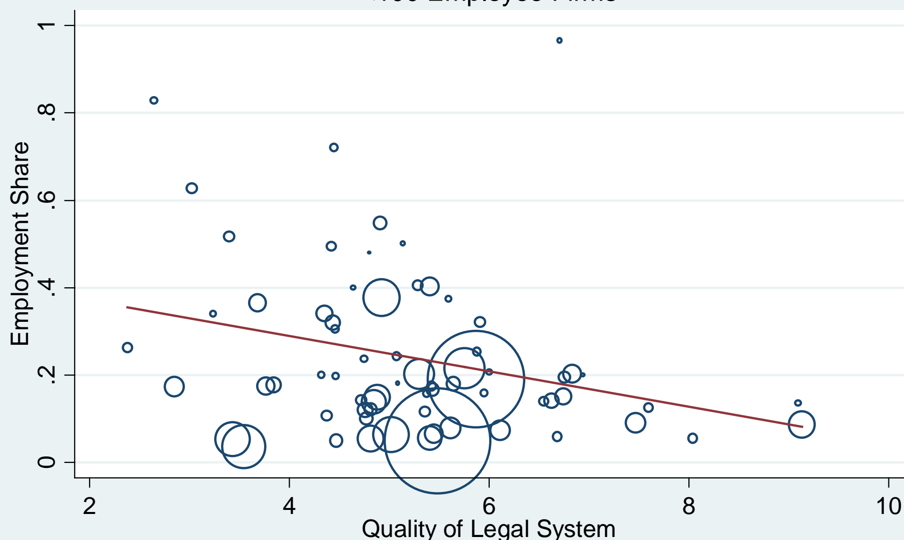


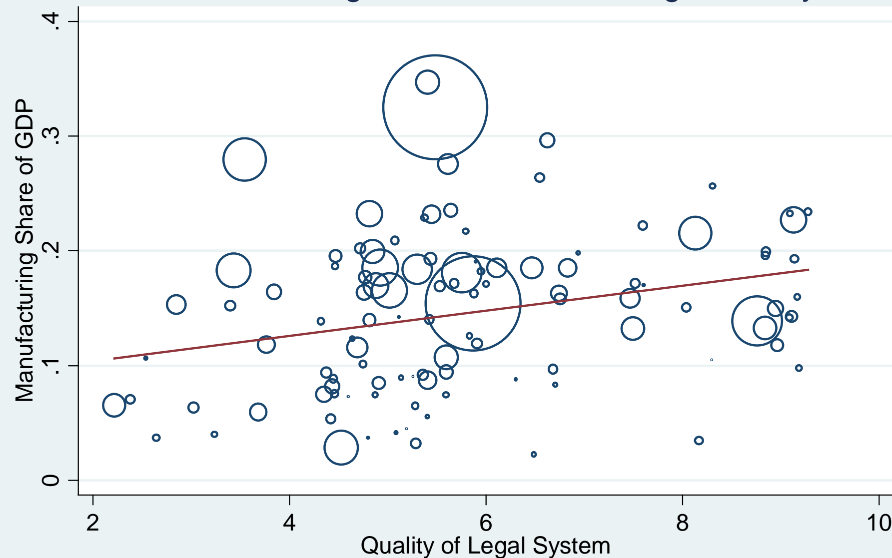
WB Enterprise Survey: Share of mfg employment in that work in <100 employee firms

Manufacturing Activity and Trust



Manufacturing Activity and Legal Quality





Some Cross-Country Motivation

- These hypotheses appear to hold in cross-country regressions
  (of course, many issues with cross-country approach…)

- Correlate levels of trust in a society/quality of legal institutions with prevalence of small firms and aggregate mfg activity

- Trust: World Values Survey
  - "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people"
    - Need to be very careful
    - Most people can be trusted

- Institutional quality
  - Taken from Nunn (2007)

Motivation

- In many of the poorest developing countries, we observe low levels of manufacturing activity
- Moreover, manufacturing activity appears concentrated in small firms (often family firms) in LDCs
  - India is classic example: total labor force is ~500 million workers. Formal mfg employs ~8 million in 100k firms and informal sector employs ~30 million in 15 million firms (Nataraj, 2011)
  - In Ethiopia, 89% of workers are employed in <5 employee firms
- Low incomes may be in part due to lack of successful firms providing employment opportunities for the poor and low skilled

➢ In this paper, we propose a model that generates large fraction of employment in small firms, low total manuf. & lots of family firms
  - Root cause is difficulty punishing employees for theft/shirking

TO DO LIST

TO DO BY PRESENTATION

- Jon's model slide (1 or 2 slides)
- Evidence of sequential hiring (at least talk about this)
- Note: Productivity correlated with measurement error in familyness (have something to say by WB - in long run must solve)

WOULD BE NICE IF DONE BY PRESENTATION

- Improve cross-country evidence: See if average firm size/productivity/manuf. emp is related to institutional proxies
- Show that in absolute sense aggregate productivity in Ethiopia is low
- New Test: f you had big problems with workers in the past you should pay high efficiency wages today to stop it
- We are short on evidence that family managers paid lower efficiencey wages? Anything about efficiency wages of non-family managers and number of family monitors?
- Run all regs with true productivity rather than labor productivity as robustness check so Chang doesn't slaughter us for using RMPL.
- Macro predictions about relative wage of manufacturing to outside sector. Would think these would be low. Can show this is due to low demand.