Organizational Barriers to Technology Adoption: Evidence from Soccer-Ball Producers in Pakistan

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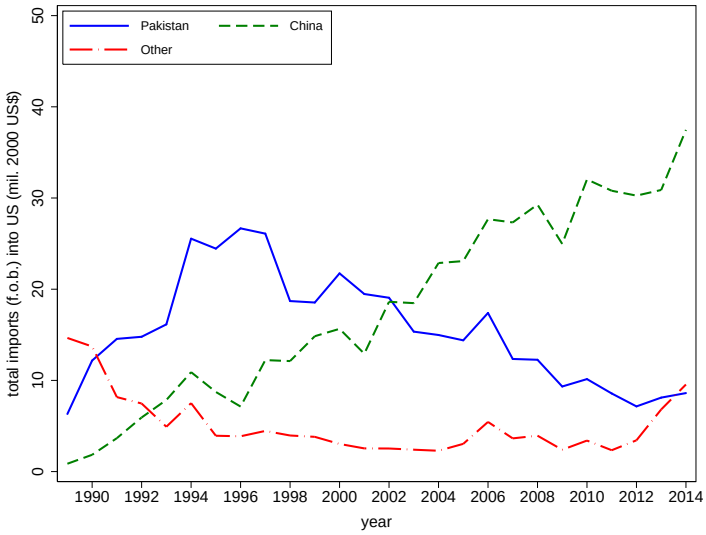
Appendix A: Appendix Figures and Tables

A Appendix Figures and Tables

Figure A.1: U.S. Imports of Inflatable Soccer Balls



Notes: Figure shows import market shares within the United States in HS 10-digit category 9506.62.40.80 ("inflatable soccer balls"). Primary countries in "other" category are South Korea in early 1990s and Vietnam and Indonesia in 2012-2014. Source: United States International Trade Commission.

Figure A.2: "Buckyball" Design

Notes: Figure shows the standard "buckyball" design, based on a geodesic dome designed by R. Buckminster Fuller. It combines 20 hexagons and 12 pentagons.

Figure A.3: Making the Laminated Rexine Sheet (Step 1)

Notes: Figure displays workers gluing layers of cloth (cotton and/or polyester) to artificial leather called rexine using a latex-based adhesive to form what is called a laminated rexine sheet.

Figure A.4: Cutting the Laminated Rexine Sheet (Step 2)

Notes: Figure displays a cutter using a hydraulic press to cut hexagons from the laminated rexine sheet. The process for cutting pentagons differs only in the die used.

Figure A.5: Printing the Designs (Step 3)

Notes: Figure displays a printer printing a logo on the pentagon and hexagon panels.

Figure A.6: Stitching (Step 4)

Notes: Figure displays a worker stitching a soccer ball.

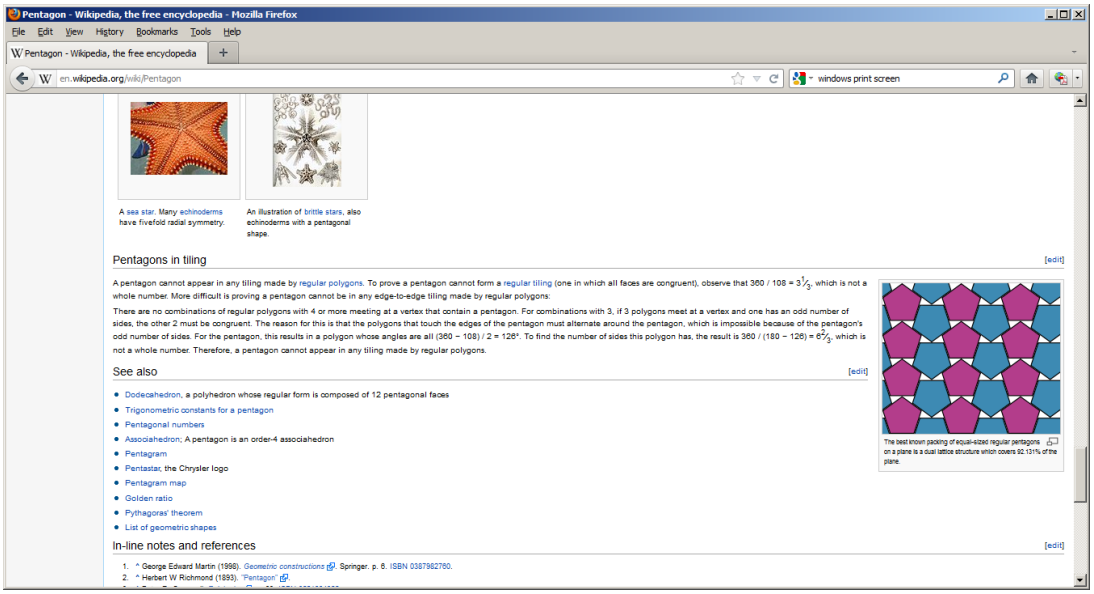
Figure A.7: Snapshot from YouTube Video of Adidas Jabulani Production Process

Notes: Snapshot from YouTube video of production process for Adidas Jabulani ball, used in 2010 World Cup, available at http://www.youtube.com/watch?v=zbLjk4OTRdI. Pentagons used for interior lining of ball. Accessed June 10, 2011.

Figure A.8: The "Offset" Four-Pentagon Die

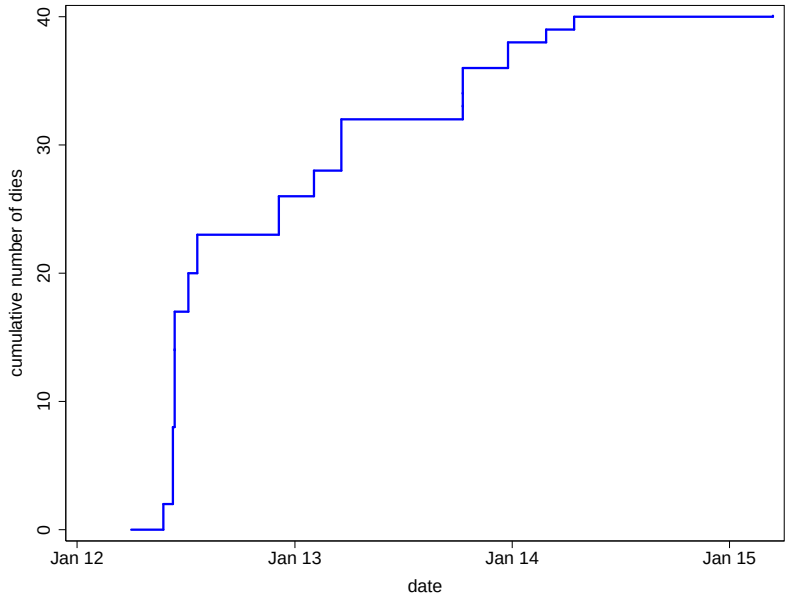
Notes: Figure displays the four-panel offset die that was provided to Tech-Drop firms.

Figure A.9: Wikipedia "Pentagon" Page



Note: Accessed April 29, 2012.

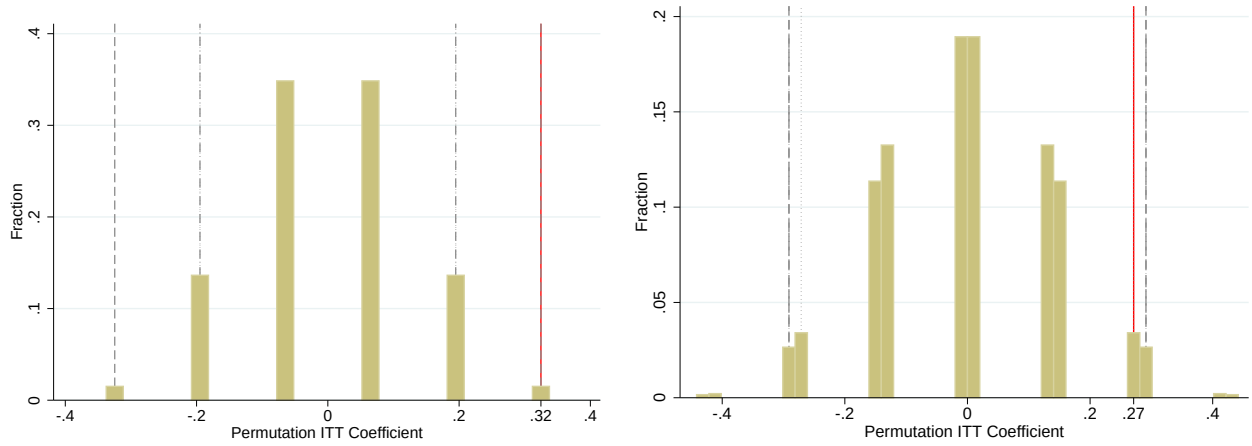
Figure A.10: Adoption of Offset Dies by Firm Z



Notes: Figure displays cumulative number of purchases of offset dies by "Firm Z", a large producer which was a late responder assigned to the no-drop group, but which found out almost immediately about the offset die after the initial roll-out in May 2012. By March 2014 the firm reported using offset dies for 100 percent of its pentagon cutting.

Figure A.11: Permutation Test: Liberal Adoption Measure

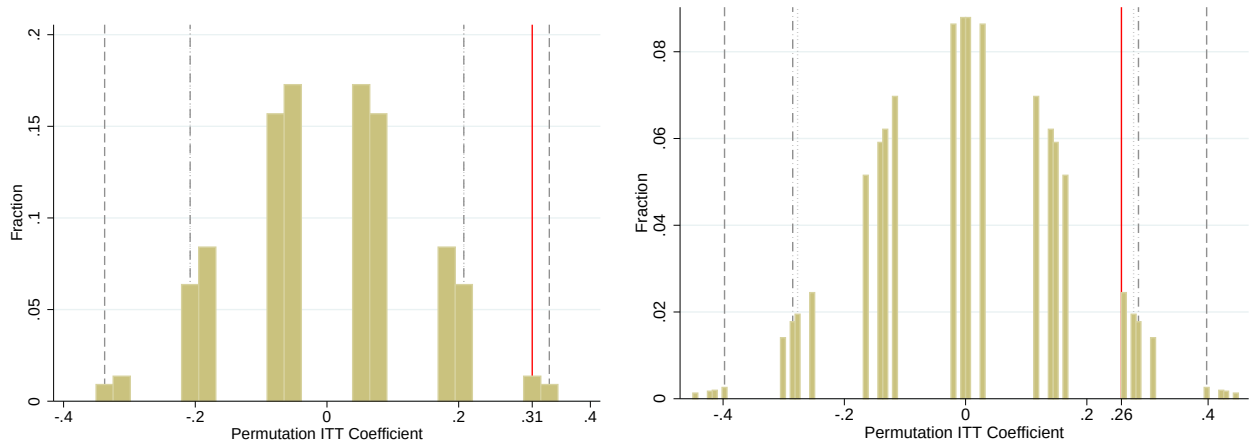
Round 6 (Short Run) Round 7 (Medium Run)



Notes: Figure displays the distribution of ITT coefficients from short-run (left panel) and medium-run (right panel) permutation tests using the liberal adoption measure (> 1000 balls cut with offset die, using non-survey as well as survey information). The dotted, dashed-dotted and dashed grey lines reflect critical values for a two-sided hypothesis test of the null that that the ITT effect is zero at a 10%, 5% and 1% level of significance, respectively. The solid red line is the observed ITT estimate from Table VIII and is marked on the x-axis to two decimal places. In the left panel, the 10% and 5% lines overlap at both tails, and the 1% line overlaps with the observed ITT estimate at the right tail. In the right panel, the 1% and 5% lines overlap, and the observed ITT estimate overlaps with the 10% line at the right tail.

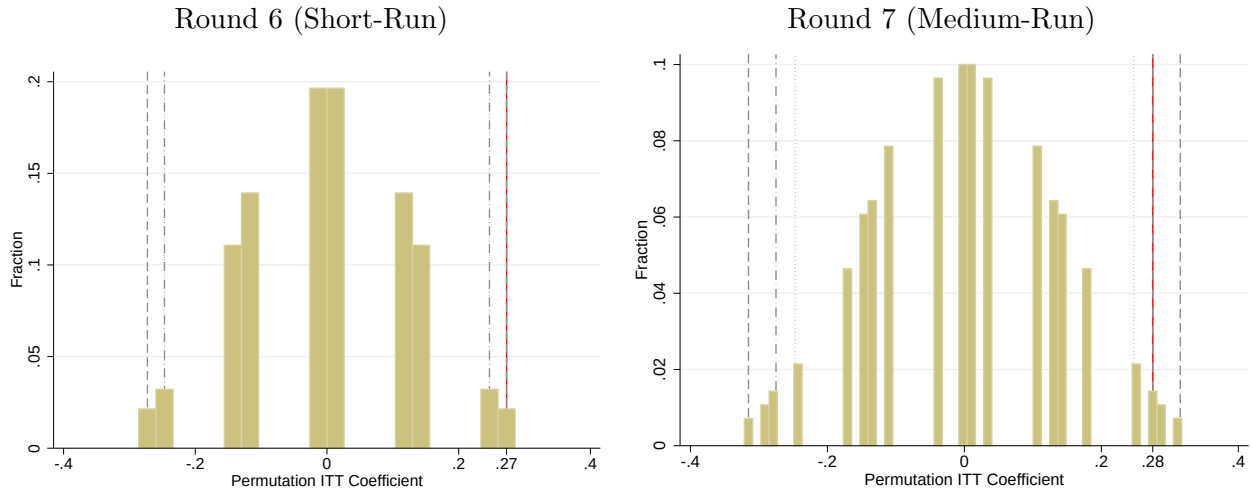
Figure A.12: Permutation Test: Conservative Adoption Measure

Round 6 (Short-Run) Round 7 (Medium-Run)



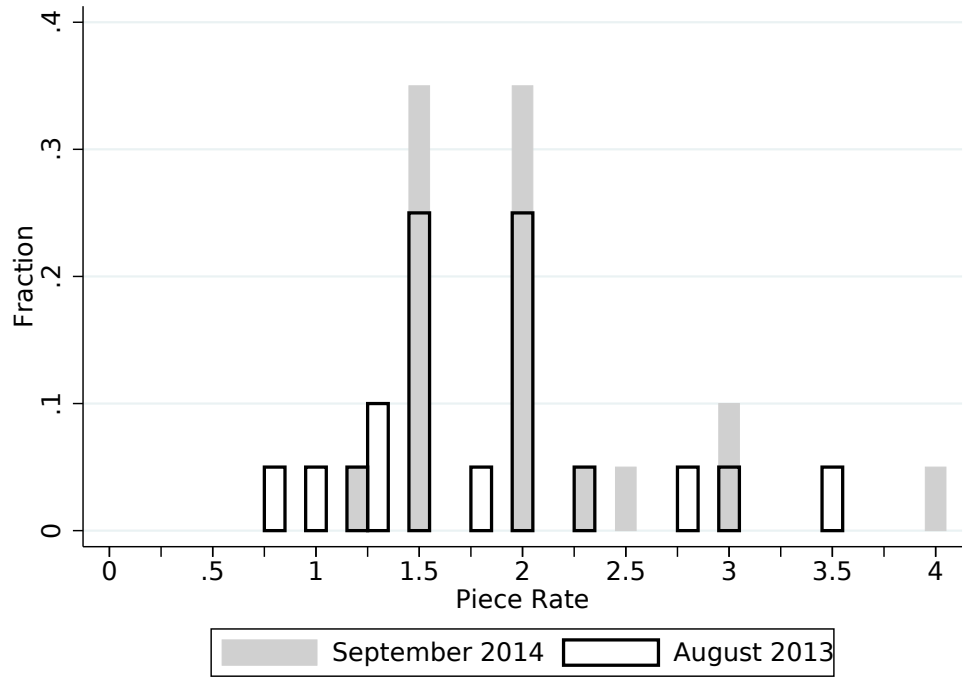
Notes: Figure displays the distribution of ITT coefficients from short-run (left panel) and medium-run (right panel) permutation tests using the conservative adoption measure (> 1000 balls cut with offset die, using only survey information). The dotted, dashed-dotted and dashed grey lines reflect critical values for a two-sided hypothesis test that the ITT effect is zero at a 10%, 5% and 1% level of significance, respectively. The solid red line is the observed ITT estimate from Table IX and is marked on the x-axis to two decimal places. The 10% and 5% lines overlap in the left panel.

Figure A.13: Permutation Test: Die Purchase



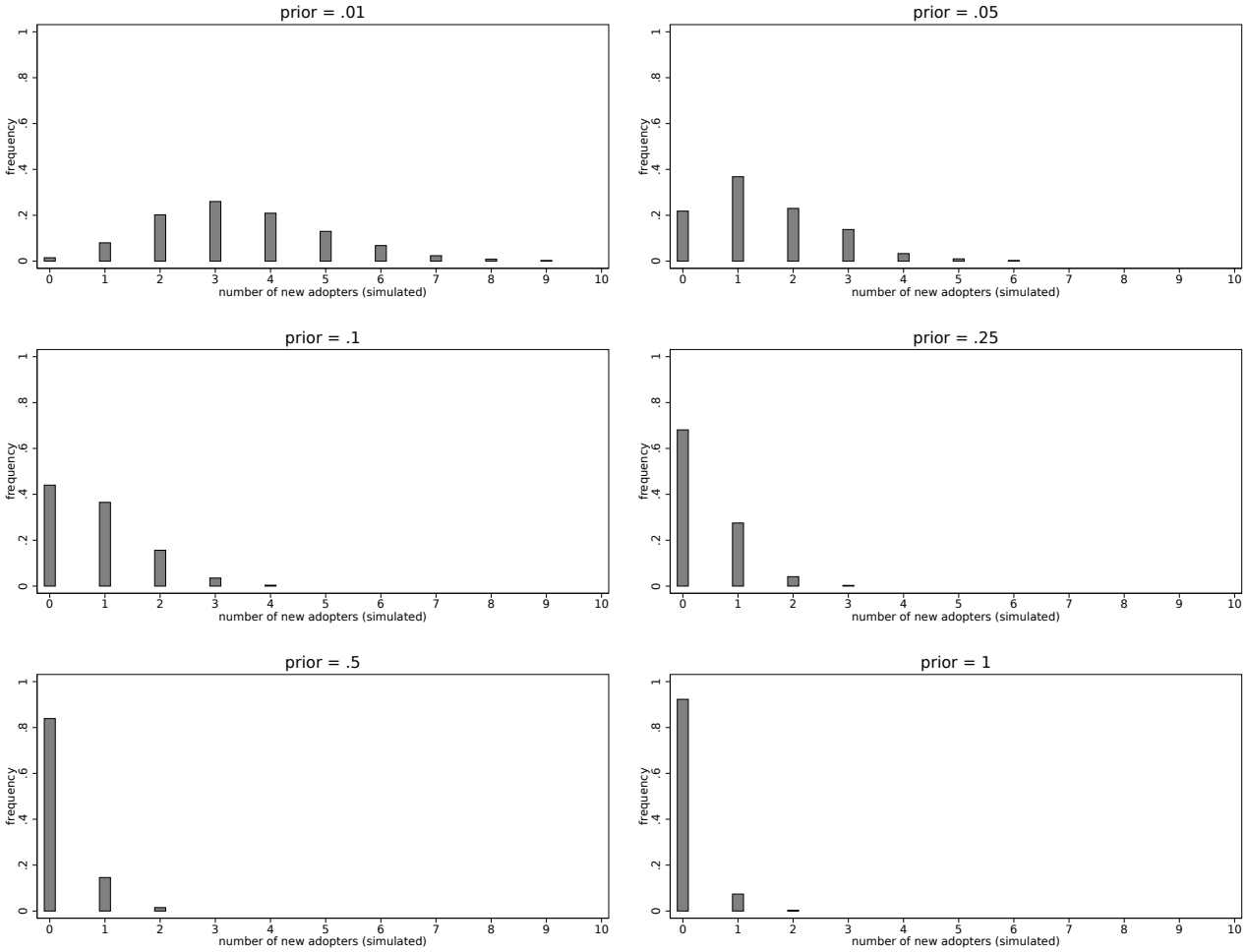
Notes: Figure displays the distribution of ITT coefficients from short-run (left panel) and medium-run (right panel) permutation tests using die purchase after Sept. 2013 as an alternative measure of adoption. The dotted, dashed-dotted and dashed grey lines reflect critical values for a two-sided hypothesis test that the ITT effect is zero at a 10%, 5% and 1% level of significance, respectively. The solid red line is the observed ITT estimate from Table X and is marked on the x-axis to two decimal places. In the left panel, the 10% and 5% lines overlap at both tails, and the observed ITT estimate overlaps with the 1% line at the right tail. In the right panel, the 5% line overlaps with the actual ITT estimate at the right tail.

Figure A.14: Distribution of Piece Rates



Notes: Figure displays the distribution of piece rates paid by firms using data collected in Round 7 of our survey.

Figure A.15: Effect of Incentive Treatment Under Assumption It Only Reduced Fixed Costs



Notes: Figure displays the distribution of the number of firms from Group A predicted to respond to the incentive intervention in the short-run, using 1,000 simulation draws from a normal distribution with mean and standard deviation reported in Table XI, using liberal measure of adoption. See Section VIII.A for more details.

Table A.1: Production Costs

Input	Share of Production Costs (%)	Input Cost (in Rs)
rexine	19.79	39.68
	(5.37)	(13.87)
cotton/poly cloth	12.32	23.27
	(4.56)	(8.27)
latex	13.94	38.71
	(10.73)	(90.71)
bladder	21.07	42.02
	(4.87)	(14.09)
labor for cutting	0.78	1.49
	(0.22)	(0.31)
labor for stitching	19.67	39.24
	(5.25)	(12.82)
other labor	7.30	15.56
	(4.55)	(13.21)
overhead	5.14	10.84
	(2.05)	(6.10)
total	100.00	210.83
N	38	38

Notes: Columns 1 and 2 report the mean cost share per ball of each input and the input cost in Rupees, respectively. "Other labor" includes laminating, washing, packing, and matching. Data taken from the baseline survey. Standard deviations in parentheses.

Table A.2: Defect Rates, Missing Deadlines, & Cutter Capacity

	Median	Mean	N
A. Defect Rates, Missing Deadlines			
Defective panels, traditional die (out of 1,000)	10.00	8.40	15
Defective panels, offset die (out of 1,000), adopters only	10.00	8.50	4
Ever missed deadline b/c offset die slower? (0=no, 1=yes), adopters only	0.00	0.00	4
Concerned about missing deadlines b/c offset die slow? (1=not, 5=very)	1.00	1.00	17
Of last 10 orders, how many deadlines missed?	0.00	0.88	16
B. Cutter Capacity			
B.1. Full Capacity			
Number of balls	25000.0	75852.9	17
Total days of cutting (using all employed cutters simultaneously)	20.0	18.0	16
Number of cutters	2.0	3.5	17
Hours/week per cutter (excludes days not working)	48.0	46.9	16
B.2. Normal Month			
Number of cutters	1.0	2.2	17
Hours/week per cutter (excludes days not working)	45.0	38.4	16

C. Difficulty of Increasing Cutter Capacity

	very easy	easy	neither easy nor hard	hard	very hard	
How easy is it to do cutting for unusually large order at short notice?	6	7	2	1	0	
	< 1 hour	≤ 0.5 day	≤ 1 day	≤ 2 days	$3-6$ days	≥ 7 days
If you need an additional cutter urgently, how long to hire?	3	1	6	2	2	0

Notes: Table reports results from short survey of tech-drop firms in March-April 2016. Panel A Row 1 reports average number of defective panels (out of 1,000) for traditional die for all firms (one non-adopter reported "negligible" which we assumed was 5 out of 1,000 panels), Row 2 for offset die for adopters. Row 3: adopters' responses to "Have you ever missed a deadline for an order because the offset die was slower than the traditional die?". Row 4: all tech-drop firms' responses to "Prior to adopting the offset die, how concerned were you that you may miss a deadline for an order because the offset die was slower than the traditional die? (1=not, 5=very)". Panel B Row 1: balls firm at full capacity can produce in one month. (See Table III for output in a normal month.) Row 2: cutting days to achieve this limit using all employed cutters, Rows 3-4: corresponding number of cutters and hours per week per cutter (excluding days not working). Rows 5-6: number of cutters and hours per week per cutter in normal month. Row 7: all firms' responses to "Given the number of cutters that typically work at your factory, if you received an unusually large order with a tight deadline, how easy would it be to do the cutting for this order at short notice? (1=very easy, 2=easy, 3=neither easy nor hard, 4=hard, 5=very hard.)" Row 8: all firms' responses to "If you needed to hire an additional cutter urgently, how long would it take to hire the cutter?s (1=within an hour (i.e. if you call him now, he can come within one hour); 2=within half a day (i.e. if you call him in the morning, he can come in the afternoon); 3=within one day (i.e. if you call him today, he can come the next day); 4=within two days (i.e. if you call him today, he can come two days from now); 5=between three days and six days; 6=one week or more."

Table A.3: Covariate Balance, Tech-Drop Experiment

	Tech Drop	Cash Drop	No Drop
A. Initial responders			
output, normal month (000s)	34.18	26.69	41.56
	(11.48)	(12.15)	(9.53)
output, previous year (000s)	680.17	579.97	763.33
	(220.13)	(225.13)	(232.95)
employment, normal month	42.26	82.58	92.62
	(13.25)	(47.16)	(35.77)
% size 5	84.61	88.96	82.67
	(5.38)	(4.52)	(3.74)
% promotional (of size 5)	50.12	66.09	59.02
	(7.12)	(11.04)	(5.17)
age of firm	22.70	29.25	25.76
	(2.25)	(4.88)	(3.09)
CEO experience	16.22	20.42	16.55
	(2.39)	(2.70)	(1.62)
CEO college indicator	0.43	0.27	0.40
	(0.11)	(0.14)	(0.08)
head cutter experience	17.00	30.33	20.91
	(2.08)	(6.69)	(2.68)
head cutter tenure	12.20	12.00	10.50
	(2.21)	(5.77)	(2.11)
share cutters paid piece rate	1.00	0.83	0.89
	(0.00)	(0.11)	(0.05)
rupees/ball (head cutter)	1.44	1.62	1.37
	(0.14)	(0.21)	(0.10)
N	23	12	50
B. Initial non-responders			
output, normal month (000s)	27.85	34.80	63.12
	(14.01)	(4.99)	(18.25)
employment, normal month	67.20	61.00	353.38
	(48.18)	(34.94)	(264.52)
% size 5	68.00	72.22	96.88
	(9.80)	(16.16)	(3.12)
% promotional (of size 5)	31.17	36.11	24.22
	(9.77)	(12.58)	(13.28)
age of firm	17.40	39.60	35.12
	(3.13)	(16.68)	(5.55)
N	10	5	8

Notes: Table reports balance for initial responders (i.e. responders to baseline) (Panel A) and initial non-responders (Panel B). There are no significant differences between groups at the 95 percent level in the initial responder sampler. The initial non-responder sample has significant differences, consistent with the fact that response rates responded to treatment assignment among initial non-responders. Only 23 initial non-responder firms completed an abridged baseline survey which is why the number of observations in Panel B is lower than that reported in Row 1 of Panel B of Table IV; the remaining 8 firms only completed one or more subsequent surveys. Standard errors in parentheses.

Table A.4: Correlates of Adoption: Scale & Quality Variables (Initial-Responder Sample)

	Dep. var.: liberal adoption measure									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
tech drop group	0.18**	0.18**		0.61						0.16**
	(0.08)	(0.08)		(0.51)						(0.07)
cash drop group		-0.00								
		(0.02)								
log avg output/month			0.03	0.04*		0.03				0.05
			(0.02)	(0.02)		(0.03)				(0.04)
log avg output*tech drop				-0.05						
				(0.05)						
share standard (of size 5)					-0.39	-0.38				-0.44
					(0.32)	(0.33)				(0.26)
log avg price, size 5 training							-0.06			-0.20*
							(0.05)			(0.10)
avg share promotional (of size 5)								-0.11		-0.17
								(0.07)		(0.10)
avg profit rate, size 5 training									0.65	0.45
									(0.72)	(0.61)
constant	0.02	0.02	-0.20	-0.28	0.41	0.17	0.42	0.11	0.02	1.24*
	(0.05)	(0.05)	(0.21)	(0.17)	(0.32)	(0.45)	(0.30)	(0.07)	(0.05)	(0.64)
stratum dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
mean of no-drop firms (control group)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R-squared	0.22	0.22	0.10	0.25	0.16	0.17	0.10	0.10	0.11	0.37
N	79	79	79	79	74	74	69	79	67	64

Notes: Table reports linear probability regressions, measured using the liberal definition of adoption, for the initial-responder sample. Variables beginning with "avg ..." represent within-firm averages across all rounds for which responses are available. Output is measured as total balls produced per month. Variables "tech drop group" and "cash drop group" are 0/1 indicators for treatment group. The "share standard (of size 5)" is the share of size 5 balls that are the standard "buckyball" design. The "avg share promotional (of size 5)" is the average share of size 5 balls that are promotional. The "avg profit rate, size 5 training" is the firm's self-reported profit rate on training balls. All regressions include stratum dummies. Significance: * 0.10, ** 0.05, *** 0.01.

Table A.5: Correlates of Adoption: Manager & Cutter Characteristics (Initial-Responder Sample)

	Dep. var.: liberal adoption measure									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
tech drop group	0.18**									0.11
	(0.08)									(0.13)
CEO university indicator		0.04								-0.08
		(0.07)								(0.09)
CEO experience (/100)			-0.24							-1.88
			(0.17)							(1.61)
age of firm (/100)				-0.06						-0.02
				(0.09)						(0.21)
Rs/ball, head cutter					0.10					0.26
					(0.15)					(0.24)
head cutter experience (/100)						-0.03				0.38
						(0.09)				(0.86)
head cutter tenure (/100)							-0.19			0.19
							(0.23)			(0.88)
cutter raven's score								-0.01		-0.02
								(0.03)		(0.09)
avg pent/sheet, rescaled (/100)									0.62*	1.29
									(0.36)	(1.36)
log avg output/month										-0.02
										(0.10)
constant	0.02	0.05	0.11	0.07	-0.09	0.00	0.03	0.03	-1.51*	-3.26
	(0.05)	(0.05)	(0.07)	(0.05)	(0.19)	(0.01)	(0.03)	(0.07)	(0.87)	(3.87)
stratum dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
mean of no-drop firms (control)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R-squared	0.22	0.09	0.09	0.08	0.11	0.12	0.12	0.18	0.11	0.49
N	79	70	77	78	74	33	32	37	70	25

Notes: Table reports linear probability regressions, using the liberal definition of adoption, for the initial-responder sample. Variable "tech drop group" is a 0/1 indicator. "Rs/ball, head cutter" is the rupee payment per ball to the head cutter. "cutter raven's score" is the cutter's score from a simple Raven's Progressive Matrices test, measured at baseline. Variables beginning with "avg ..." represent within-firm averages across all rounds for which responses are available. All regressions include stratum dummies. Significance: * 0.10, ** 0.05, *** 0.01.

Table A.6: "Test" Results

firm	1	2	3	4	5	6	7	8	9	10
time	2:52	2:40	3:03	3:02	2:59	2:28	2:25	2:45	2:30	2:50
die size	43.5	43.75	44	44	43.5	43.5	43.5	43.5	44	43.5
# pentagons	270	272	273	272	282	279	279	272	272	267

Notes: Table reports the times achieved by cutters at the 10 Group A firms who agreed to the incentive payment intervention. The 2nd row reports the time, in minutes and seconds, to cut a single laminated rexine sheet with the offset die. The 3rd row reports the size of the die (in mm) used by the cutter. The 4th row reports the number of pentagons achieved. The typical time to cut a sheet with the traditional die is 2:15.

Table A.7: Incentive-Payment Experiment (5,000-ball cutoff)

		Dep. var.: adoption (>5,000 balls, cons. measure)		
	First Stage (1)	OLS (2)	Reduced Form (ITT) (3)	IV (TOT) (4)
A. Short-Run (as of Round 6)				
received treatment		0.48***		0.50***
		(0.17)		(0.17)
assigned to group A	0.68***		0.34**	
	(0.12)		(0.13)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.57	0.42	0.27	0.42
N	31	31	31	31
B. Medium-Run (as of Round 7)				
received treatment		0.48***		0.49***
		(0.17)		(0.17)
assigned to group A	0.72***		0.36**	
	(0.12)		(0.13)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.60	0.41	0.27	0.41
N	29	29	29	29

Notes: Table similar to Table IX in main text but using 5,000-ball cutoff in conservative definition of adoption. Panel A reports short-run results as of Round 6 (Jan.-March 2014). Panel B reports medium-run results as of Round 7 (Oct.-Dec. 2014). The dependent variable in Column 1 is an indicator variable for whether the firm received treatment. Two firms exited between Rounds 6 and 7. All regressions include stratum dummies, and report robust standard errors. Significance: * 0.10, ** 0.05; *** 0.01.

Table A.8: Incentive-Payment Experiment (10,000-ball cutoff)

		Dep. var.: adoption (>10,000 balls, cons. measure)		
	First Stage	OLS	Reduced Form (ITT)	IV (TOT)
	(1)	(2)	(3)	(4)
A. Short-Run (as of Round 6)				
received treatment		0.48***		0.50***
		(0.17)		(0.17)
assigned to group A	0.68***		0.34**	
	(0.12)		(0.13)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.57	0.42	0.27	0.42
N	31	31	31	31
B. Medium-Run (as of Round 7)				
received treatment		0.48***		0.49***
		(0.17)		(0.17)
assigned to group A	0.72***		0.36**	
	(0.12)		(0.13)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.60	0.41	0.27	0.41
N	29	29	29	29

Notes: Table similar to Table IX in main text but using 10,000-ball cutoff in conservative definition of adoption. Panel A reports short-run results as of Round 6 (Jan.-March 2014). Panel B reports medium-run results as of Round 7 (Oct.-Dec. 2014). The dependent variable in Column 1 is an indicator variable for whether the firm received treatment. Two firms exited between Rounds 6 and 7. All regressions include stratum dummies, and report robust standard errors. Significance: * 0.10, ** 0.05; *** 0.01.

Table A.9: Incentive-Payment Experiment (20,000-ball cutoff)

		Dep. var.: adoption (>20,000 balls, cons. measure)		
	First Stage (1)	OLS (2)	Reduced Form (ITT) (3)	IV (TOT) (4)
A. Short-Run (as of Round 6)				
received treatment		0.39**		0.40**
		(0.17)		(0.17)
assigned to group A	0.68***		0.27**	
	(0.12)		(0.12)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.57	0.32	0.21	0.32
N	31	31	31	31
B. Medium-Run (as of Round 7)				
received treatment		0.39**		0.39**
		(0.17)		(0.17)
assigned to group A	0.72***		0.29**	
	(0.12)		(0.13)	
stratum dummies	Y	Y	Y	Y
mean of group B (control group)		0.00	0.00	0.00
R-squared	0.60	0.32	0.20	0.32
N	29	29	29	29

Notes: Table similar to Table IX in main text but using 20,000-ball cutoff in conservative definition of adoption. Panel A reports short-run results as of Round 6 (Jan.-March 2014). Panel B reports medium-run results as of Round 7 (Oct.-Dec. 2014). The dependent variable in Column 1 is an indicator variable for whether the firm received treatment. Two firms exited between Rounds 6 and 7. All regressions include stratum dummies, and report robust standard errors. Significance: * 0.10, ** 0.05; *** 0.01.

Table A.10: Wage Changes from August 2013 to September 2014

	No Change (1)	Change (2)	Total Firms (3)
A. Owner Responses			
Head Cutter	10	14	24
Other Cutters	2	6	8
Head Printer	13	11	24
Other Printers	10	6	16
B. Employee Responses			
Head Cutters (Self-Reported)	13	2	15
Head Printers (Self-Reported)	13	4	17

Notes: Table reports the number of firms that made changes to wages between August 2013 and September 2014. All changes are increases. Panel A reports responses by the firm owner. Panel B reports self-reported responses by the head cutters and head printers. These data were collected in Round 7 of our survey.

Table A.11: Reasons for Changing Payments

	Head Cutter (1)	Other Cutters (2)	Head Printer (3)	Other Printers (4)
Because of Offset Die	1	1	0	0
New Hire	1	0	0	0
Worker Shortage	0	0	0	0
Prices were increasing	3	0	1	1
End of year change	4	2	1	1
Other	1	1	2	1
Total	10	4	4	3

Notes: Table reports the owners' reasons for changing wages of employees between August 2013 and September 2014. These data were collected in Round 7 of our survey.

Table A.12: Why Owners Do Not Suggest Changes to Incentives

	Total
I did not think about offering an incentive	3
Offering incentives to workers beyond their current piece rate is not common	2
I thought about offering an incentive, but the benefits of adoption were not high enough	1
If I offered an incentive to some workers, other workers would perceive this to be unfair	3
If I offered an incentive, workers would expect additional incentives for other tasks	6
Even if I had offered an incentive, the workers would not have adopted the offset die	0
Other	3
Total	18

Notes: Table reports owners' self-reports about why they do not offer incentives to use the offset die. The owners were asked to choose from the list of reasons reported in the table. These data were collected in Round 7 of our survey.

Table A.13: Why Head Cutters Do Not Suggest Changes to Incentives

	Total
I did not think any changes in payment scheme were needed.	0
It is not my place to make suggestions about the payment scheme.	11
Management unlikely to listen to a suggestion from me about the payment scheme.	0
Suggesting would make firm more likely to adopt and my income would decline.	1
Other	2
Total	14

Notes: Table reports the head cutters' self-reports about why they did not suggest making changes to the payment scheme to adopt the offset die. The cutters were asked to choose from the list of reasons reported in the table. These data were collected in Round 7 of our survey.

Table A.14: Conversations about Changes to Payments

A. Owners' reports of conversations about changing payment schemes

	Head Cutter (1)	Other Cutters (2)	Head Printer (3)
Yes	1	1	1
No	21	7	21
Not Applicable	0	14	0
Total	22	22	22

B. Head cutters' reports of conversations about changing payment schemes

	Owner (1)	Head Printer (2)	Other Cutters (3)
Yes	0	0	0
No	14	14	7
Not Applicable	0	0	7
Total	14	14	14

Notes: Table reports the answers to the question: "Did you discuss with any of the following people that the firm's payment scheme should be changed if the new offset die is adopted?" Panel A reports responses by the owner with the person indicated at the top of each column. Panel B reports responses by the head cutter. "Not applicable" means that the firm did not have an employee in the indicated category. These data were collected in Round 7 of our survey.

Table A.15: Owners' Reports of Conversations about the Offset Die

	Head Cutter (1)	Other Cutters (2)	Head Printer (3)
Yes	10	6	6
No	12	2	16
Not Applicable	0	14	0
Total	22	22	22

Notes: Table reports owners' answers to the question: "Did you have a conversation with this employee about whether you should adopt the offset die?" "Not applicable" means that the firm did not have an employee in the indicated category. These data were collected in Round 7 of our survey.

Table A.16: Cutters' Die Recommendation and Adoption

	Owner's decision	
Cutter's recommendation	Did Not Adopt (1)	Adopted (2)
Offset die is beneficial & should be adopted	0	3
Offset die is not beneficial & should not be adopted	4	2
Not sure whether the die is beneficial or not	0	1
Total	4	6

Notes: Table shows owners' reports of recommendations by head cutters about the offset die. "Did Not Adopt" indicates that the firm did not adopt the offset die according to the liberal definition, and "Adopt" indicates that the firm adopted. The total number of responses match the number of "yes" responses reported in Column 2 of Table A.15. These data were collected in Round 7 of our survey.

Table A.17: Adoption Speed of "Back-to-Back" Die

	Number of responses
Adopted when firm was born	1
Within a Month	3
1 Month	7
3 Months	2
6 Months	1
>6 Months	0
Total	14

Notes: Table shows owners reports how quickly their firm adopted the two-panel non-offset "back-to-back" pentagon die after they first heard about the die. These data were collected in Round 7 of our survey.

Table A.18: Resistance to "Back-to-Back" Die

	Resistance encountered from	
	Cutters (1)	Printers (2)
Yes	1	1
No	23	23
Total	24	24

Notes: Table shows owners' reports about whether firms encountered resistance from cutters and printers to adopting the two-panel non-offset "back-to-back" pentagon die. These data were collected in Round 7 of our survey.

Table A.19: Payment Changes after Adoption of "Back-to-Back" Die

	Number of responses
Piece rate increased	1
Piece rate decreased	1
No change	19
Other type of change	3
Total	24

Notes: Table reports the types of changes (if any) that firms made to payments when adopting the "back-to-back" pentagon die. These data were collected in Round 7 of our survey.