

## Supplementary Materials

Table A1: Sector and Region Composition

SECTOR	REGION											
	<u>NORTHERN</u>		<u>EASTERN</u>		<u>WESTERN</u>		<u>CENTRAL</u>		<u>KAMPALA</u>		<u>Total</u>	
	No.	Col%	No.	Col%	No.	Col%	No.	Col%	No.	Col%	No.	Col%
ACCOMODATION	25	16.2	22	9.0	32	9.2	43	6.8	17	5.2	139	8.2
AGRICULTURE	3	1.9	46	18.9	50	14.4	178	28.3	22	6.7	299	17.6
CONSTRUCTION	4	2.6	6	2.5	12	3.5	7	1.1	9	2.7	38	2.2
EDUCATION & HEALTH	31	20.1	32	13.1	49	14.1	95	15.1	29	8.8	236	13.9
FOOD PROCESSING	18	11.7	39	16.0	27	7.8	43	6.8	21	6.4	148	8.7
INFORMATION & COMMUNICATION	10	6.5	16	6.6	42	12.1	21	3.3	26	7.9	115	6.8
MINING	1	0.6	5	2.0	5	1.4	17	2.7	7	2.1	35	2.1
OTHER MANUFACTURING	27	17.5	11	4.5	47	13.5	58	9.2	24	7.3	167	9.8
REAL ESTATE	1	0.6	0	0.0	6	1.7	34	5.4	39	11.9	80	4.7
RECREATION & PERSONAL	13	8.4	24	9.8	40	11.5	71	11.3	42	12.8	190	11.2
TRADING	14	9.1	9	3.7	24	6.9	37	5.9	65	19.8	149	8.8
TRANSPORT, UTILITIES & STORAGE	7	4.5	34	13.9	13	3.7	24	3.8	28	8.5	106	6.2
<b>Total</b>	154	100.0	244	100.0	347	100.0	628	100.0	329	100.0	1702	100.0

Table A2: Correlation Table

	DHire Permanent	DHire Casual	DHire Family	DHire Trained	DHire Experienced	$\Delta$ Profit	$\Delta$ Sales	Total Employees	Invested Capital	Business Age	New Innovative Product	Applied for a Loan	Applied and Got a Loan
DHire Casual	0.46***	1											
DHire Family	0.44***	0.47***	1										
DHire Trained	0.73***	0.38***	0.41***	1									
DHire Experienced	0.73***	0.54***	0.54***	0.76***	1								
$\Delta$ Profit	0.13***	0.03	0.05*	0.12***	0.11***	1							
$\Delta$ Sales	0.15***	0.03	0.05*	0.13***	0.12***	0.80***	1						
Total Employees	0.18***	0.12***	0.07*	0.14***	0.16***	0.01	0.04	1					
Invested Capital	0.16***	0.08**	0.13***	0.18***	0.18***	-0.03	-0.02	0.21***	1				
Business Age	-0.03	-0.00	-0.01	-0.03	-0.03	-0.06*	-0.09***	0.13***	0.04	1			
New Innovative Product	0.20***	0.11***	0.13***	0.22***	0.19***	0.06*	0.11***	0.13***	0.13**	0.00	1		
Applied for a Loan	0.04	0.01	0.01	0.04	0.04	-0.03	-0.03	0.09***	0.05*	0.03	0.06*	1	
Applied and Got a Loan	0.04	0.03	0.07**	0.07**	0.07**	-0.05	-0.04	0.02	0.02	0.02	0.12***	0.41***	1
Cannot Get a Loan	0.02	-0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.01	-0.02	-0.01	0.20***	-0.45***

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

Table A3: Extensive Margin Effects with Alternative Performance Variables: Hiring Skilled Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	0.140** (0.063)		0.143** (0.068)	
Profit Increased* Cannot Get Loan	0.055** (0.026)		0.057* (0.030)	
Sales Increased* Applied and got a Loan		0.102* (0.059)		0.120* (0.064)
Sales Increased* Cannot Get Loan		0.039 (0.027)		0.055* (0.029)
Profit Increased	-0.001 (0.018)		0.016 (0.022)	
Profit Decreased	-0.001 (0.011)		0.018 (0.011)	
Sales Increased		0.018 (0.020)		0.015 (0.023)
Sales Decreased		0.004 (0.012)		0.021 (0.013)
Applied and got a Loan	-0.005 (0.018)	-0.000 (0.020)	0.005 (0.023)	0.004 (0.027)
Cannot Get Loan	0.018 (0.011)	0.021* (0.011)	0.005 (0.013)	0.002 (0.015)
Total Employees	0.002** (0.001)	0.002* (0.001)	0.003** (0.001)	0.003** (0.001)
ln(1+Invested Capital)	0.002** (0.001)	0.002** (0.001)	0.003*** (0.001)	0.003** (0.001)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
New Innovative Product	0.056*** (0.017)	0.059*** (0.018)	0.041** (0.018)	0.044** (0.019)
High Education	0.031** (0.014)	0.041*** (0.015)	0.029* (0.017)	0.041** (0.017)
Medium Education	0.016 (0.013)	0.021 (0.014)	-0.000 (0.015)	0.005 (0.017)
Observations	1,307	1,181	1,302	1,176
R-squared	0.103	0.110	0.099	0.101
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	3.991	2.093	3.246	2.805
Prob > F-val	0.0187	0.124	0.0392	0.0609

*Notes:* This table shows our baseline estimation results for the relationship between hiring skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Performance variables are dummies for whether performance or sales had increased or decreased compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A4: Extensive Margin Effects: Planned Skilled Hiring

VARIABLES	(1) DPlanned Trained	(2) DPlanned Trained	(3) DPlanned Experienced	(4) DPlanned Experienced	(5) DPlanned Trained	(6) DPlanned Trained	(7) DPlanned Experienced	(8) DPlanned Experienced
Profit Increased* Applied and got a Loan	0.223*** (0.080)		0.311*** (0.082)		0.185 (0.163)		0.511*** (0.171)	
Profit Increased* Cannot Get Loan	0.049 (0.030)		0.079** (0.032)		0.046 (0.096)		0.208** (0.102)	
Sales Increased* Applied and got a Loan		0.259*** (0.080)		0.348*** (0.080)		0.341** (0.171)		0.580*** (0.171)
Sales Increased* Cannot Get Loan		0.016 (0.033)		0.035 (0.035)		0.051 (0.099)		0.096 (0.106)
$\Delta$ Profit	-0.015 (0.013)		-0.023* (0.013)		-0.047 (0.054)		-0.148** (0.058)	
$\Delta$ Sales		-0.009 (0.014)		-0.011 (0.014)		-0.095* (0.057)		-0.134** (0.060)
Applied and got a Loan	0.058* (0.033)	0.052 (0.036)	0.025 (0.031)	0.007 (0.033)	0.019 (0.127)	-0.057 (0.136)	-0.175 (0.127)	-0.263** (0.126)
Cannot Get Loan	0.025 (0.019)	0.040* (0.023)	0.048** (0.019)	0.063*** (0.024)	-0.120 (0.084)	-0.116 (0.084)	-0.058 (0.085)	-0.041 (0.084)
Total Employees	-0.001** (0.001)	-0.002*** (0.001)	-0.001 (0.001)	-0.001* (0.001)	-0.005** (0.002)	-0.003 (0.003)	-0.001 (0.003)	0.000 (0.004)
ln(1+Invested Capital)	0.005*** (0.001)	0.005*** (0.001)	0.002 (0.001)	0.002 (0.001)	0.015*** (0.004)	0.015*** (0.004)	-0.005 (0.005)	-0.004 (0.004)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002 (0.004)	-0.003 (0.004)	0.002 (0.004)	0.001 (0.004)
New Innovative Product	0.016 (0.021)	0.011 (0.022)	0.073*** (0.023)	0.073*** (0.024)	-0.145*** (0.055)	-0.138** (0.054)	0.138** (0.061)	0.139** (0.061)
High Education	0.026 (0.021)	0.033 (0.023)	0.075*** (0.023)	0.086*** (0.024)	0.091 (0.069)	0.104 (0.072)	0.322*** (0.076)	0.345*** (0.078)
Medium Education	-0.020 (0.017)	-0.019 (0.018)	0.015 (0.019)	0.017 (0.020)	-0.050 (0.070)	-0.033 (0.070)	0.130 (0.079)	0.157** (0.079)
Observations	1,338	1,193	1,326	1,182	297	287	298	288
R-squared	0.178	0.188	0.173	0.182	0.404	0.411	0.300	0.315
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test	4.629	5.363	9.007	9.417	0.640	2.083	4.809	6.146
Prob > F-val	0.00992	0.00480	0.000130	8.77e-05	0.528	0.127	0.00887	0.00246

*Notes:* This table shows the estimation results for the relationship between the planned hiring of skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm planned hiring trained or experienced employees in the next 12 months. Variables  $\Delta$ Sales and  $\Delta$ Profit take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 8 using an OLS regression. In columns 1-4, all missing values of the dependent variables were converted to a value of zero. In columns 5-8, only missing values that were labeled as "do not know" were converted to a value of zero. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A5: Intensive Margin Effects: Planned Skilled Hiring

VARIABLES	(1) Planned Trained	(2) Planned Trained	(3) Planned Experienced	(4) Planned Experienced	(5) Planned Trained	(6) Planned Trained	(7) Planned Experienced	(8) Planned Experienced
Profit Increased* Applied and got a Loan	2.726*** (1.039)		4.731*** (1.443)		1.052 (0.821)		3.164*** (1.154)	
Profit Increased* Cannot Get Loan	1.533* (0.811)		1.989** (0.908)		0.811 (0.742)		1.298* (0.747)	
Sales Increased* Applied and got a Loan		3.311*** (1.180)		5.328*** (1.662)		2.029** (0.966)		3.693*** (1.361)
Sales Increased* Cannot Get Loan		0.699 (0.830)		0.783 (0.853)		0.418 (0.728)		0.225 (0.687)
$\Delta$ Profit	-0.534 (0.391)		-0.700* (0.415)		-0.458 (0.351)		-0.773** (0.385)	
$\Delta$ Sales		-0.326 (0.399)		-0.299 (0.403)		-0.524 (0.387)		-0.530 (0.396)
Applied and got a Loan	1.680** (0.829)	1.350 (0.912)	0.878 (0.957)	0.055 (1.086)	0.455 (0.635)	-0.081 (0.669)	-0.882 (0.824)	-1.724* (0.997)
Cannot Get Loan	0.607 (0.555)	0.929 (0.613)	1.427** (0.625)	1.685** (0.688)	-0.565 (0.545)	-0.417 (0.529)	0.100 (0.511)	0.275 (0.490)
Total Employees	-0.034 (0.022)	-0.035 (0.023)	-0.002 (0.015)	-0.008 (0.015)	-0.015 (0.021)	-0.003 (0.021)	0.030 (0.033)	0.035 (0.035)
ln(1+Invested Capital)	0.145*** (0.034)	0.151*** (0.036)	0.060** (0.030)	0.066** (0.030)	0.125*** (0.038)	0.134*** (0.042)	-0.012 (0.027)	0.007 (0.025)
Business Age	-0.008 (0.038)	-0.003 (0.035)	-0.011 (0.036)	-0.007 (0.034)	0.021 (0.028)	0.021 (0.026)	0.011 (0.029)	0.007 (0.027)
New Innovative Product	0.255 (0.421)	0.081 (0.421)	1.483** (0.603)	1.351** (0.594)	-0.805** (0.327)	-0.829** (0.326)	0.936* (0.534)	0.936* (0.538)
High Education	0.810 (0.587)	0.969 (0.609)	1.871*** (0.689)	1.984*** (0.707)	1.034* (0.594)	1.169* (0.637)	2.068*** (0.640)	2.211*** (0.688)
Medium Education	-0.599 (0.622)	-0.488 (0.629)	0.264 (0.640)	0.319 (0.649)	-0.184 (0.548)	-0.045 (0.559)	0.774 (0.591)	0.965 (0.603)
Observations	1,338	1,193	1,326	1,182	297	287	298	288
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test	3.771	4.281	5.444	5.844	0.986	2.589	3.775	4.582
Prob > F-val	0.0233	0.0140	0.00442	0.00298	0.374	0.0770	0.0241	0.0111

Notes: This table shows the estimation results for the relationship between the planned hiring of skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable measures the real amount of planned hiring in the next 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 8 using a Tobit regression where we account for left censoring at zero. In columns 1-4, all missing values of the dependent variables were converted to a value of zero. In columns 5-8, only missing values that were labeled as "do not know" were converted to a value of zero. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A6: Extensive and Intensive Margin Effects: Planned Skilled Employees and Controlling for Actual Hiring

VARIABLES	(1) DPlanned Trained	(2) DPlanned Trained	(3) DPlanned Experienced	(4) DPlanned Experienced	(5) Planned Trained	(6) Planned Trained	(7) Planned Experienced	(8) Planned Experienced
Profit Increased* Applied and got a Loan	0.169** (0.077)		0.252*** (0.081)		2.174** (0.984)		3.217*** (0.897)	
Profit Increased* Cannot Get Loan	0.025 (0.031)		0.043 (0.032)		1.162 (0.802)		1.121* (0.612)	
Sales Increased* Applied and got a Loan		0.218*** (0.078)		0.302*** (0.079)		2.699** (1.116)		3.562*** (0.968)
Sales Increased* Cannot Get Loan		-0.004 (0.034)		0.011 (0.035)		0.298 (0.807)		0.201 (0.614)
$\Delta$ Profit	-0.010 (0.013)		-0.013 (0.014)		-0.420 (0.394)		-0.490 (0.320)	
$\Delta$ Sales		-0.006 (0.014)		-0.003 (0.014)		-0.154 (0.396)		-0.090 (0.310)
DHire Trained	0.239*** (0.065)	0.227*** (0.066)						
DHire Experienced			0.200*** (0.060)	0.183*** (0.060)				
Hire Trained					0.391** (0.191)	0.372** (0.188)		
Hire Experienced							0.213* (0.126)	0.188 (0.122)
Applied and got a Loan	0.076** (0.034)	0.064* (0.037)	0.041 (0.032)	0.020 (0.033)	2.075** (0.843)	1.670* (0.914)	1.012 (0.720)	0.343 (0.822)
Cannot Get Loan	0.031 (0.019)	0.046* (0.024)	0.056*** (0.020)	0.070*** (0.024)	0.837 (0.560)	1.111* (0.604)	1.259*** (0.458)	1.414*** (0.484)
Total Employees	-0.002*** (0.001)	-0.002*** (0.001)	-0.002** (0.001)	-0.002** (0.001)	-0.070** (0.034)	-0.071* (0.036)	-0.028 (0.020)	-0.029 (0.020)
Observations	1,263	1,140	1,242	1,119	1,303	1,161	1,281	1,140
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test	2.513	4.281	5.184	7.428	2.587	3.488	6.525	8.014
Prob > F-val	0.0814	0.0141	0.00573	0.000625	0.0756	0.0309	0.00152	0.000350

Notes: This table shows the results for the relationship between hiring skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. For columns 1-4, the dependent variable is a dummy variable for whether the firm planned hiring trained or experienced employees in the next 12 months. For columns 5-8, the dependent variable is measuring the real amount of planned hiring in the next 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1-4 using an OLS regression and columns 5-8 using a Tobit regression where we account for left censoring at zero. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A7: Alternative Financial Access Measures, Extensive Margin Effects: Hiring Skilled Employees

VARIABLES	(1)	(2)	(3)	(4)
	DHire Trained	DHire Trained	DHire Experienced	DHire Experienced
Profit Increased* Applied and got a Loan	0.139** (0.063)		0.163** (0.066)	
Profit Increased* Applied and was Rejected a Loan	0.035 (0.027)		0.068** (0.029)	
Profit Increased* Did not Apply but Needs Loan Service	0.074** (0.032)		0.086*** (0.031)	
Sales Increased* Applied and got a Loan		0.113* (0.058)		0.136** (0.062)
Sales Increased* Applied and was Rejected a Loan		0.040 (0.027)		0.076*** (0.029)
Sales Increased* Did not Apply but Needs Loan Service		0.062* (0.032)		0.070** (0.031)
$\Delta$ Profit	0.001 (0.008)		-0.009 (0.010)	
$\Delta$ Sales		0.003 (0.009)		-0.009 (0.010)
Applied and got a Loan	-0.005 (0.018)	-0.005 (0.021)	0.000 (0.023)	-0.002 (0.027)
Applied and was rejected a Loan	0.016 (0.013)	0.010 (0.013)	0.002 (0.015)	-0.008 (0.017)
Did not apply for Loan but Needs Loan Services	0.020 (0.013)	0.024* (0.014)	-0.002 (0.013)	0.000 (0.016)
Total Employees	0.002** (0.001)	0.002** (0.001)	0.003** (0.001)	0.003** (0.001)
ln(1+Invested Capital)	0.002** (0.001)	0.002** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
New Innovative Product	0.055*** (0.017)	0.058*** (0.019)	0.041** (0.018)	0.044** (0.019)
High Education	0.031** (0.015)	0.043*** (0.015)	0.029* (0.017)	0.041** (0.017)
Medium Education	0.016 (0.013)	0.021 (0.014)	-0.000 (0.015)	0.004 (0.016)
Observations	1,307	1,181	1,302	1,176
R-squared	0.105	0.112	0.098	0.100
Industry FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	3.372	2.650	5.242	4.362
Prob > F-val	0.0179	0.0476	0.00135	0.00460
Test12 F-val	0.0509	0.0727	0.00581	0.00621
Test13 F-val	0.00889	0.0321	0.00179	0.0120
Test23 F-val	0.0453	0.0739	0.00341	0.00641

Notes: This table shows the alternative estimation results for the relationship between hiring skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. We also conduct Wald tests separately between two interactions for all possible combinations. "Test12 Chi" tests for the equality between the first and second interaction, "Test 23 Chi" between the second and third interaction and "Test 13 Chi" between the first and third interaction. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A8: Alternative Discouraged Firm Specification, Extensive Margin Effects: Hiring Skilled Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	0.131** (0.063)		0.149** (0.066)	
Profit Increased* Cannot Get Loan2	0.044* (0.025)		0.062** (0.026)	
Sales Increased* Applied and got a Loan		0.103* (0.058)		0.124** (0.062)
Sales Increased* Cannot Get Loan2		0.039 (0.025)		0.065*** (0.025)
$\Delta$ Profit	0.006 (0.008)		-0.000 (0.010)	
$\Delta$ Sales		0.009 (0.009)		-0.002 (0.010)
Applied and got a Loan	-0.010 (0.017)	-0.009 (0.020)	-0.001 (0.022)	-0.003 (0.026)
Cannot Get Loan2	0.017 (0.011)	0.017 (0.012)	0.000 (0.012)	-0.006 (0.014)
Total Employees	0.002** (0.001)	0.002* (0.001)	0.003** (0.001)	0.003** (0.001)
ln(1+Invested Capital)	0.002** (0.001)	0.002** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
New Innovative Product	0.055*** (0.017)	0.058*** (0.019)	0.042** (0.018)	0.044** (0.019)
Medium Education	0.021 (0.039)	0.016 (0.044)	0.015 (0.038)	0.008 (0.043)
High Education	0.035 (0.039)	0.036 (0.044)	0.044 (0.038)	0.045 (0.043)
Observations	1,307	1,181	1,302	1,176
R-squared	0.102	0.108	0.095	0.099
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	3.399	2.500	4.761	4.681
Prob > F-val	0.0337	0.0825	0.00871	0.00945

*Notes:* This table shows the alternative discouraged firm estimation results for the relationship between hiring skilled labor, firm performance and financial constraints. Variable *CannotGetLoan2* includes firms who (i) applied for a loan, but got rejected and (ii) firms who did not apply for a loan but admit needing loan application and other financial services as well as would like to take out new debt in the next 12 months. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1



Table A9: Extensive Margin Effects: Accounting for Total Skilled Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(7) DHire Experienced	(8) DHire Experienced
Profit Increased* Applied and got a Loan	0.152** (0.065)		0.172** (0.068)	
Profit Increased* Cannot Get Loan	0.055** (0.022)		0.078*** (0.023)	
Sales Increased* Applied and got a Loan		0.122** (0.060)		0.149** (0.065)
Sales Increased* Cannot Get Loan		0.054** (0.022)		0.077*** (0.023)
Trained Employees	0.010*** (0.003)	0.012*** (0.004)		
Experienced Employees			0.006** (0.003)	0.007** (0.003)
$\Delta$ Profit	0.003 (0.008)		-0.011 (0.010)	
$\Delta$ Sales		0.004 (0.009)		-0.012 (0.010)
Applied and got a Loan	-0.000 (0.018)	-0.001 (0.021)	0.009 (0.023)	0.006 (0.027)
Cannot Get Loan	0.020* (0.011)	0.018 (0.012)	0.002 (0.013)	-0.003 (0.015)
Total Employees	-0.000 (0.001)	-0.001 (0.002)	0.001 (0.001)	0.000 (0.001)
ln(1+Invested Capital)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.003** (0.001)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
New Innovative Product	0.053*** (0.017)	0.057*** (0.018)	0.040** (0.018)	0.042** (0.019)
High Education	0.029* (0.015)	0.042*** (0.016)	0.032* (0.017)	0.043** (0.018)
Medium Education	0.020 (0.014)	0.025* (0.015)	0.003 (0.016)	0.008 (0.017)
Observations	1,259	1,138	1,272	1,148
R-squared	0.136	0.148	0.111	0.116
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	5.139	4.363	7.749	7.098
Prob > F-val	0.00599	0.0130	0.000452	0.000865

*Notes:* This table shows the relationship between hiring skilled labor, firm performance and financial constraints. *TrainedEmployees* and *ExperienceEmployees* measure the total amount of employees in the firm for each respective employment category. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A10: Probit Regression - Extensive Margin Effects: Hiring Skilled Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	1.041** (0.449)		1.154*** (0.411)	
Profit Increased* Cannot Get Loan	0.527* (0.277)		0.874*** (0.287)	
Sales Increased* Applied and got a Loan		0.922* (0.473)		1.083** (0.430)
Sales Increased* Cannot Get Loan		0.542* (0.293)		0.893*** (0.299)
$\Delta$ Profit	-0.010 (0.143)		-0.169 (0.152)	
$\Delta$ Sales		0.018 (0.154)		-0.191 (0.151)
Applied and got a Loan	-0.004 (0.323)	-0.011 (0.345)	-0.047 (0.279)	-0.093 (0.301)
Cannot Get Loan	0.302 (0.224)	0.236 (0.234)	-0.093 (0.197)	-0.185 (0.211)
Total Employees	0.014** (0.006)	0.012** (0.006)	0.019*** (0.005)	0.017*** (0.005)
ln(1+Invested Capital)	0.029*** (0.010)	0.030*** (0.010)	0.028*** (0.010)	0.028*** (0.010)
Business Age	-0.012 (0.009)	-0.011 (0.010)	-0.011 (0.009)	-0.011 (0.009)
New Innovative Product	0.563*** (0.151)	0.587*** (0.158)	0.374** (0.147)	0.391*** (0.150)
Medium Education	0.174 (0.507)	0.085 (0.532)	0.149 (0.492)	0.048 (0.495)
High Education	0.385 (0.489)	0.359 (0.509)	0.532 (0.480)	0.484 (0.481)
Observations	1,307	1,181	1,302	1,176
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	6.254	4.813	11.48	10.21
Prob > Chi <sup>2</sup>	0.0438	0.0902	0.00321	0.00607

*Notes:* This table shows the results for the relationship between hiring skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using a Probit regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A11: Extensive Margin Effects: Hiring Skilled Employees and Interactions

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	0.124** (0.061)		0.144** (0.064)	
Profit Increased* Cannot Get Loan	0.052** (0.022)		0.077*** (0.022)	
Sales Increased* Applied and got a Loan		0.103* (0.057)		0.120** (0.061)
Sales Increased* Cannot Get Loan		0.048** (0.021)		0.070*** (0.022)
$\Delta$ Profit	0.001 (0.008)		-0.009 (0.010)	
$\Delta$ Sales		0.005 (0.009)		-0.007 (0.010)
Applied and got a Loan	-0.047 (0.084)	-0.054 (0.091)	-0.076 (0.074)	-0.093 (0.079)
Cannot Get Loan	0.022 (0.067)	0.043 (0.083)	0.005 (0.066)	0.020 (0.081)
Total Employees * Applied and got a Loan	-0.001 (0.002)	-0.002 (0.003)	0.000 (0.002)	-0.001 (0.003)
Total Employees * Cannot Get Loan	-0.000 (0.002)	-0.001 (0.003)	0.001 (0.002)	-0.000 (0.003)
ln(1+invested capital)* Applied and got a Loan	-0.000 (0.003)	0.000 (0.003)	0.000 (0.004)	0.001 (0.004)
ln(1+invested capital)* Cannot Get Loan	0.001 (0.002)	0.001 (0.002)	-0.002 (0.002)	-0.001 (0.003)
Business Age* Applied and got a Loan	-0.003 (0.002)	-0.002 (0.002)	-0.003 (0.002)	-0.002 (0.002)
Business Age* Cannot Get Loan	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
New Innovative Product* Applied and got a Loan	0.095* (0.050)	0.107** (0.053)	0.100* (0.057)	0.111* (0.062)
New Innovative Product* Cannot Get Loan	0.049 (0.034)	0.053 (0.036)	0.073** (0.036)	0.076** (0.038)
Low Education* Applied and got a Loan	0.047 (0.086)	0.052 (0.094)	0.073 (0.081)	0.087 (0.088)
Low Education* Cannot Get Loan	-0.040 (0.067)	-0.072 (0.082)	-0.040 (0.068)	-0.070 (0.082)
Medium Education* Applied and got a Loan	0.026 (0.082)	0.016 (0.091)	0.056 (0.074)	0.057 (0.083)
Medium Education * Cannot Get Loan	-0.012 (0.069)	-0.038 (0.085)	-0.016 (0.066)	-0.039 (0.080)
High Education * Applied and got a Loan	0.079 (0.086)	0.090 (0.092)	0.086 (0.077)	0.102 (0.081)
High Education * Cannot Get Loan	-0.019 (0.068)	-0.037 (0.083)	-0.028 (0.067)	-0.044 (0.081)
Observations	1,307	1,181	1,302	1,176
R-squared	0.110	0.120	0.105	0.109
Firm Controls	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	4.317	3.602	7.406	6.108
Prob > F-val	0.0135	0.0276	0.000634	0.00230

Notes: This table shows the results for the relationship between hiring skilled labor, firm performance and financial constraints. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A12: Extensive Margin Effects: Hiring Skilled Employees &amp; Controlling for Firing Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	0.078 (0.051)		0.100* (0.055)	
Profit Increased* Cannot Get Loan	0.036* (0.019)		0.055*** (0.020)	
Sales Increased* Applied and got a Loan		0.087* (0.050)		0.117** (0.053)
Sales Increased* Cannot Get Loan		0.042** (0.018)		0.054*** (0.017)
$\Delta$ Profit	0.005 (0.006)		-0.001 (0.007)	
$\Delta$ Sales		0.003 (0.006)		-0.003 (0.007)
Applied and got a Loan	0.012 (0.016)	0.002 (0.017)	0.008 (0.018)	-0.015 (0.018)
Cannot Get Loan	0.030*** (0.008)	0.024*** (0.008)	0.011 (0.008)	-0.000 (0.010)
Total Employees	0.002** (0.001)	0.001* (0.001)	0.002** (0.001)	0.001 (0.001)
ln(1+Invested Capital)	0.001 (0.001)	0.001 (0.001)	0.001* (0.001)	0.002** (0.001)
Dfire Trained	0.467*** (0.106)		0.661*** (0.113)	
Dfire Experienced		0.381*** (0.090)		0.658*** (0.088)
New Innovative Product	0.048*** (0.015)	0.041** (0.016)	0.026* (0.015)	0.015 (0.015)
High Education	0.012 (0.013)	0.025* (0.013)	0.017 (0.013)	0.038*** (0.014)
Medium Education	0.012 (0.012)	0.023* (0.013)	0.001 (0.012)	0.017 (0.013)
Observations	1,288	1,161	1,280	1,154
R-squared	0.183	0.181	0.224	0.309
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	2.761	4.178	4.995	6.548
Prob > F-val	0.0636	0.0156	0.00691	0.00149

*Notes:* This table shows our baseline estimation results for the relationship between hiring skilled labor, firm performance and financial constraints, while controlling for whether the firm had fired a skilled employee in the past year. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

Table A13: Do Not Need a Loan &amp; Extensive Margin Effects: Hiring Skilled Employees

VARIABLES	(1) DHire Trained	(2) DHire Trained	(3) DHire Experienced	(4) DHire Experienced
Profit Increased* Applied and got a Loan	0.103 (0.063)		0.117* (0.066)	
Profit Increased * Do Not Need Loan	-0.035 (0.022)		-0.022 (0.026)	
Sales Increased* Applied and got a Loan		0.078 (0.058)		0.086 (0.062)
Sales Increased * Do Not Need Loan		-0.023 (0.025)		-0.032 (0.027)
$\Delta$ Profit	0.023** (0.009)		0.020** (0.010)	
$\Delta$ Sales		0.024** (0.010)		0.020** (0.010)
Applied and got a Loan	-0.004 (0.018)	0.000 (0.019)	0.008 (0.023)	0.005 (0.027)
Cannot Get Loan	0.024** (0.011)	0.027** (0.011)	0.017 (0.013)	0.010 (0.015)
Total Employees	0.002** (0.001)	0.002* (0.001)	0.003** (0.001)	0.003** (0.001)
ln(1+Invested Capital)	0.002** (0.001)	0.002** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Business Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
New Innovative Product	0.056*** (0.017)	0.059*** (0.019)	0.041** (0.018)	0.044** (0.019)
High Education	0.031** (0.014)	0.042*** (0.015)	0.031* (0.017)	0.042** (0.017)
Medium Education	0.015 (0.013)	0.020 (0.014)	-0.000 (0.015)	0.003 (0.017)
Observations	1,307	1,181	1,302	1,176
R-squared	0.100	0.107	0.090	0.095
Sector FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Wald Test	3.110	1.633	2.147	1.957
Prob > F-val	0.0449	0.196	0.117	0.142

*Notes:* This table shows our baseline estimation results for the relationship between hiring skilled labor, firm performance and financial constraints. The purpose of this estimation is to test whether financially unconstrained firms, whose performance increased, expand employment significantly more than firms not needing a loan. The detailed variable definitions are provided in Section 2 and the Appendix. The dependent variable is a dummy variable for whether the firm hired trained or experienced employees in the past 12 months. Variables  $\Delta Sales$  and  $\Delta Profit$  take a value of 1 if the performance variable increased, 0 if there was no change and -1 if there was a decrease in sales or profits compared to the performance of the firm a year ago. The Dummy *CannotGetLoan*, includes firms who applied for a loan, but do not have a loan and also firms who did not apply for a loan, but state in the survey that they need a loan for their operations. We estimate columns 1 to 4 using an OLS regression. To control for unobserved regional and sector level fixed effects, we include sector and region dummies in all our estimations. The result for the Wald Tests are reported in the bottom of the table. The null hypothesis assumes that the interaction terms between performance and financial access are equal to one another. Robust standard errors are reported in parentheses. \*\*\* p0.01, \*\* p0.05, \* p0.1

**Table A14: Variable Definitions and Survey Questions**

Panel A: Employment Variables	Questions
Hiring Overall	C10: In the past 12 months, has the workforce increased, decreased or stayed the same?
Hiring Permanent	C11: Number of permanent employees hired/laid-off (employees who have worked in the firm on a daily basis for at least 3 consecutive months)
Hiring Casual	C12: Number of casual employees hired/laid-off
Hiring Family	C13: Number of employees from your family, relatives or friends hired/laid-off
Hiring Trained	C14: Number of employees hired/laid-off who have a formal training appropriate for this particular business
Hiring Experienced	C15: Number of employees hired/laid-off who have a work experience for at least of two consecutive years in this particular business occupation
Planned Hiring Overall	C16: In the coming 12 months, do you plan to or anticipate employing more workers?
Planned Hiring Permanent	C18a: How many permanent employees do you anticipate to employ?
Planned Hiring Casual	C18b: How many casual employees do you anticipate to employ?
Planned Hiring Trained	C18c: How many trained employees do you anticipate to employ?
Planned Hiring Experienced	C18d: How many experienced employees do you anticipate to employ?
Employee Training	B12: What Investments have you made in the past year in your business? B12C1: Training/human capital for you or your employees
Panel B: Performance & Financial Access Variables	Questions
Performance	B3 & B9: Comparing this last month to the same month a year ago, would you say that your sales/profits have- Increased, Decreased or Stayed the same
Outstanding Loan	E5: Does your business have any outstanding debt/loans?
Applied for a Loan	E4: Has your business ever applied for a loan?
Demand for New Debt	E17: Would you like to take out new debt in the next 12 months?
Demand for Loan Application and Other Financial Services	D9: I am now going to read out a list of services. Please identify which ones you would need - Loan application and other financial services 1) Do not need 2) Need but don't have 3) Would want to develop within the business 4) Would want to outsource 5) Not aware of
Panel C: Control Variables	Questions
Invested Capital	B12: What investments have you made in the past year in your business? 1) Machinery and equipment (including computers and software) 2) Buildings/land 3) Trainings/human capital for you or your employees 4) Other (specify)
Business Age	A8: How long has the business been operating (years)?
New Innovative Product	I1: From fiscal year 2010 through 2012, did this establishment introduce any innovative product, service or process? Yes/No
Low Education	D2A: What is the highest level of educational attainment of the business owner? None or Primary
Medium Education	D2A: What is the highest level of educational attainment of the business owner? Secondary
High Education	D2A: What is the highest level of educational attainment of the business owner? Tertiary, University (undergraduate), Postgraduate Masters, Postgraduate Doctors, Postgraduate PHD

*Notes:* For all the questions above, respondents had nearly always the option to answer either "Don't Know" or "Refuse to Answer"