

Benefits and Costs of (Dual) Apprenticeship in an Informal Setting

Bart Kudrzycki*

March 23, 2022

Changes in apprentice competency

Trade	N	Selected ¹	N	Not Selected ¹	N	Did Not Apply ¹	p-value ²
Competency							
Electrical Installation	16	0.09 (0.16)	25	0.03 (0.09)	23	0.15 (0.24)	0.11
Masonry	14	0.13 (0.26)	10	0.14 (0.24)	10	0.17 (0.41)	0.9
Carpentry	12	0.05 (0.24)	3	0.18 (0.24)	5	0.24 (0.58)	0.6
Plumbing	17	0.18 (0.25)	7	-0.03 (0.18)	4	0.35 (0.29)	0.047
Metalwork	23	0.09 (0.11)	2	0.13 (0.00)	12	0.07 (0.29)	0.4
Experience							
Electrical Installation	16	0.13 (0.20)	25	0.04 (0.10)	23	0.17 (0.25)	0.12
Masonry	14	0.19 (0.23)	10	0.13 (0.24)	10	0.29 (0.33)	0.4
Carpentry	12	0.09 (0.23)	3	0.48 (0.14)	5	0.25 (0.45)	0.13
Plumbing	17	0.20 (0.26)	7	0.13 (0.31)	4	0.38 (0.26)	0.3
Metalwork	23	0.14 (0.19)	2	0.13 (0.00)	12	0.12 (0.38)	0.7

¹Mean (SD). Change in scores over time.

²Kruskal-Wallis rank sum test

*Development Economics Group, ETH Zurich, Switzerland, bartlomiej.kudrzycki@nadel.ethz.ch

Apprentice Allowances

Trade	N	Baseline	N	Endline	p-value
Pocket Money	179	651 (577)	44	1,197 (2,396)	0.10
Food	130	402 (464)	79	362 (192)	0.5
Transportation	68	682 (954)	30	292 (256)	0.6
Total	267	807 (1,061)	105	857 (1,636)	0.4

¹ Mean (SD). Allowances reported in FCFA by firm.

² Paired t-test

Apprenticeship fees reported by firm.

Trade	N	Baseline	N	Endline	p-value
Initiation	427	7,061 (17,113)	204	8,848 (21,425)	0.042
Training	426	81,350 (91,789)	203	82,734 (92,836)	0.2
Graduation	419	20,913 (44,070)	193	25,130 (67,092)	0.2
Materials	427	14,533 (22,002)	200	11,785 (11,759)	0.10
Contract	423	18,935 (39,738)	202	11,087 (29,148)	0.11
Application	421	6,945 (10,074)	202	9,985 (9,524)	<0.001
Total	396	160,534 (107,264)	193	155,769 (99,773)	0.14
fees_avg	408	169,760 (105,045)	207	171,516 (86,924)	0.063

¹ Mean (SD). Fees reported in FCFA by firm.

² Paired t-test

Apprenticeship fees reported by apprentices and firm owners.

Fee Type	Baseline		Endline	
	Apprentice	Firm	Apprentice	Firm
Initiation	16,748 (41,421)	7,061 (17,113)	14,451 (24,961)	8,848 (21,425)
Training	150,839 (69,163)	81,350 (91,789)	164,149 (66,635)	82,734 (92,836)
Graduation	100,000 (45,563)	20,913 (44,070)	101,500 (32,120)	25,130 (67,092)
Materials	24,039 (20,688)	14,533 (22,002)	23,841 (20,088)	11,785 (11,759)
Contract	41,681 (51,194)	18,935 (39,738)	39,653 (51,222)	11,087 (29,148)
Application	17,506 (6,625)	6,945 (10,074)	17,145 (6,688)	9,985 (9,524)
Total	174,639 (115,118)	160,534 (107,264)	194,312 (112,315)	155,769 (99,773)

¹ Mean (SD). Fees in FCFA.

	<i>Dependent variable:</i>			
	Fraction of knowledge questions			
CQP	−0.04** (0.02)	0.02 (0.03)	0.02 (0.02)	0.02 (0.03)
Years in training	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.004 (0.01)
Firm size			−0.001 (0.003)	0.001 (0.003)
Total apprentices hired			0.003 (0.004)	0.01 (0.01)
CQP apprentices hired			−0.22 (0.17)	0.03 (0.15)
Total instructors in firm				0.01 (0.02)
Days trained per week				−0.07 (0.06)
Duration of last training				0.01 (0.01)
External training dummy				−0.04 (0.03)
Constant	0.78*** (0.03)	0.77*** (0.12)	0.76*** (0.12)	0.46 (0.28)
Firm FE	NO	YES	YES	YES
Observations	393	393	367	237
R ²	0.02	0.82	0.83	0.92
Adjusted R ²	0.01	0.65	0.67	0.73
Residual Std. Error	0.20	0.12	0.12	0.11
F Statistic	3.20**	4.90***	5.20***	4.90***

Note:

*p<0.1; **p<0.05; ***p<0.01

	<i>Dependent variable:</i>			
	Net Benefits to Firm			
Selected for CQP	36,299 (41,400)	18,067 (20,526)	702 (19,155)	4,457 (19,602)
Applied but not selected		53,255*** (16,775)	20,857 (16,562)	26,166 (17,562)
Years in Training			-23,749*** (4,410)	-21,916*** (4,848)
CQP * wave				-7,267 (7,960)
Constant	-503,249*** (115,870)	-277,611*** (61,973)	-157,734** (61,200)	-155,063** (61,303)
Firm FE	YES	YES	YES	YES
Observations	173	298	298	298
R ²	1	1	1	1
Adjusted R ²	-0	0	0	0
Residual Std. Error	108,221	84,256	77,505	77,547
F Statistic	1	1**	2***	2***

Note:

*p<0.1; **p<0.05; ***p<0.01