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## What drives post-acquisition farm growth? Empirical evidence from Ukraine

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# What drives post-acquisition farm growth? Empirical evidence from Ukraine

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The authors are fully responsible for both the content and the formal aspects of the electronic supplementary material. No editorial adjustments were made.

## Electronic supplementary material (ESM)

Supplementary Table S1

Supplementary Table S2

Supplementary Table S3

Supplementary Table S4

Supplementary Table S5

Supplementary Table S6

<https://doi.org/10.17221/385/2024-AGRICECON>

Supplementary Table S1. Model 1: Estimation results of PAI instruments effects on organic growth with system GMM model, 2005–2016

Group of variables	Variable name	Coefficient	z-value	$P >  z $	95% CI			
Farm size	crop production value <sup>1</sup>	0.006	1.61	0.107	-0.001	0.013		
Performance	farm growth	$\Delta$ crop production value <sup>1</sup>	-0.157	-1.80	0.071	-0.327	0.014	
	resource reallocation	$\Delta$ share of crop production	2.269	7.10	0.000	1.643	2.895	
		$\Delta$ ratio of harvested to arable land	1.134	6.32	0.000	0.782	1.485	
	investment/ divestment – variable inputs	$\Delta$ material costs <sup>1</sup>	0.062	1.22	0.223	-0.038	0.162	
Post-acquisition integration (PAI)	investment/ divestment – fixed assets & labour	$\Delta$ depreciation <sup>1</sup>	0.010	1.71	0.087	-0.002	0.022	
		$\Delta$ land area <sup>1</sup>	0.840	8.72	0.000	0.651	1.029	
		$\Delta$ labour units in CP <sup>1</sup>	-0.007	-0.18	0.856	-0.083	0.069	
		investment/ divestment – services	$\Delta$ 3 <sup>rd</sup> party services <sup>1</sup>	0.020	2.34	0.019	0.003	0.037
		resource redeployment	$\Delta$ land rent payment <sup>1</sup>	-0.011	-1.21	0.227	-0.029	0.007
		$\Delta$ salary <sup>1</sup>	0.011	0.83	0.407	-0.015	0.038	
Control variables		restructuring dummy	0.086	1.63	0.103	-0.017	0.190	
		acquired from another agroholding – dummy	0.105	1.98	0.048	0.001	0.208	

<sup>1</sup>log-transformed variable

CP – crop production

Source: Own elaboration

<https://doi.org/10.17221/385/2024-AGRICECON>

Supplementary Table S2. Model 2: Estimation results of PAI instruments effects on organic growth with system GMM model, 2005–2016

Group of variables	Variable name	Coefficient	z-value	$P >  z $	95% CI		
Farm size	crop production value <sup>1</sup>	0.005	1.51	0.132	-0.002	0.012	
Performance	farm growth	$\Delta$ crop production value <sup>1</sup>	-0.163	-1.85	0.064	-0.336	0.010
	resource	$\Delta$ share of crop production	2.253	7.12	0.000	1.633	2.874
	reallocation	$\Delta$ ratio of harvested to arable land	1.176	6.82	0.000	0.838	1.514
	investment/	$\Delta$ seeds <sup>1</sup>	0.007	0.45	0.650	-0.024	0.039
	divestment –	$\Delta$ fertilisers <sup>1</sup>	0.017	1.96	0.050	0.000	0.035
	variable inputs	$\Delta$ other material costs <sup>1</sup>	0.004	0.55	0.581	-0.009	0.017
	investment/	$\Delta$ depreciation <sup>1</sup>	0.012	1.99	0.047	0.000	0.024
Post-acquisition integration (PAI)	divestment – fixed assets & labour	$\Delta$ land area <sup>1</sup>	0.839	9.26	0.000	0.661	1.017
	labour	$\Delta$ labour units in CP <sup>1</sup>	-0.009	-0.23	0.819	-0.081	0.064
	investment/	$\Delta$ 3 <sup>rd</sup> party services <sup>1</sup>	0.019	2.50	0.012	0.004	0.034
	divestment – services						
	resource	$\Delta$ land rent payment <sup>1</sup>	-0.010	-0.98	0.326	-0.030	0.010
	redeployment	$\Delta$ salary <sup>1</sup>	0.009	0.72	0.474	-0.015	0.033
		restructuring dummy	0.086	1.65	0.099	-0.016	0.189
Control variables		acquired from another agrohholding – dummy	0.112	2.21	0.027	0.013	0.211

<sup>1</sup>log-transformed variable

CP – crop production

Source: Own elaboration

<https://doi.org/10.17221/385/2024-AGRICECON>

Supplementary Table S3. Model 3: Estimation results of PAI instruments effects on organic growth, system GMM model, 2005–2016

Group of variables	Variable name	Coefficient	z-value	$P >  z $	95% CI		
Farm size	crop production value <sup>1</sup>	0.004	1.27	0.204	-0.002	0.010	
Performance	farm growth	$\Delta$ crop production value <sup>1</sup>	-0.150	-1.89	0.058	-0.305	0.005
	profitability	$\Delta$ EBITDA	-0.023	-2.24	0.025	-0.044	-0.003
	indebtedness	$\Delta$ current liquidity	0.000	-0.50	0.616	-0.001	0.001
		$\Delta$ debt-to-assets	0.104	3.20	0.001	0.040	0.167
Post-acquisition integration (PAI)	resource reallocation	$\Delta$ share of crop production	2.306	6.61	0.000	1.622	2.989
		$\Delta$ ratio of harvested to arable land	1.113	6.26	0.000	0.765	1.461
	investment/divestment – variable inputs	$\Delta$ seeds <sup>1</sup>	0.003	0.19	0.852	-0.031	0.038
		$\Delta$ fertilisers <sup>1</sup>	0.007	0.73	0.466	-0.012	0.027
		$\Delta$ other material costs <sup>1</sup>	0.014	1.50	0.133	-0.004	0.031
	investment/divestment – fixed assets & labour	$\Delta$ depreciation <sup>1</sup>	0.009	1.31	0.189	-0.005	0.023
		$\Delta$ land area <sup>1</sup>	0.828	8.90	0.000	0.645	1.010
		$\Delta$ labour units in CP <sup>1</sup>	-0.014	-0.40	0.689	-0.085	0.056
	investment/divestment – services	$\Delta$ 3 <sup>rd</sup> party services <sup>1</sup>	0.018	2.09	0.037	0.001	0.034
		$\Delta$ SG&A <sup>1</sup>	0.001	0.18	0.855	-0.008	0.010
resource redeployment	$\Delta$ land rent payment <sup>1</sup>	-0.007	-0.63	0.529	-0.029	0.015	
	$\Delta$ salary <sup>1</sup>	-0.004	-0.28	0.783	-0.032	0.024	
Control variables	restructuring dummy	0.114	2.35	0.019	0.019	0.209	
	acquired from another agrohholding – dummy	0.089	1.44	0.150	-0.032	0.210	

<sup>1</sup>log-transformed variable

CP – crop production; EBITDA – earnings before interest, taxes, depreciation, and amortisation; SG&A – selling, general, and administrative

Source: Own elaboration

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Supplementary Table S4. Model 4: Estimation results of lagged farm characteristics effects on organic growth, system GMM model, 2005–2016

Group of variables	Variable name	Coefficient	z-value	$P >  z $	95% CI		
Performance	farm growth	crop production value change <sup>1</sup>	-0.228	-6.50	0.000	-0.297 -0.159	
	resource	share of crop production	-0.170	-1.09	0.276	-0.477 0.136	
	reallocation	ratio of harvested to arable land	-0.716	-4.62	0.000	-1.020 -0.413	
	investment/ divestment – variable inputs	material costs <sup>1</sup>	0.109	3.53	0.000	0.049 0.170	
	Post-acquisition integration (PAI)	investment/ divestment – fixed assets & labour	depreciation <sup>1</sup>	-0.030	-3.61	0.000	-0.046 -0.014
			labour units in CP <sup>1</sup>	0.138	2.28	0.023	0.019 0.258
		investment/ divestment – services	3 <sup>rd</sup> party services <sup>1</sup>	-0.023	-2.75	0.006	-0.039 -0.007
resource redeployment		land rent payment <sup>1</sup> salary <sup>1</sup>	-0.047 -0.029	-1.92 -1.65	0.055 0.099	-0.096 0.001 -0.064 0.005	
	$n$ of years after the acquisition	-0.052	-4.27	0.000	-0.077 -0.028		
Control variables	acquired from another agroholding – dummy	0.067	0.87	0.384	-0.084 0.219		

<sup>1</sup>log-transformed variable

CP – crop production

Source: Own elaboration

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Supplementary Table S5. Model 5: Estimation results of lagged farm characteristics effects on organic growth, system GMM model, 2005–2016

Group of variables	Variable name	Coefficient	z-value	$P >  z $	95% CI		
Farm size	crop production value <sup>1</sup>	0.038	0.71	0.478	-0.067	0.142	
Performance	farm growth	crop production value change <sup>1</sup>	-0.240	-7.30	0.000	-0.304	-0.175
	resource reallocation	share of crop production	-0.231	-1.07	0.287	-0.656	0.194
		ratio of harvested to arable land	-0.769	-3.77	0.000	-1.169	-0.369
	investment/ divestment – variable inputs	material costs <sup>1</sup>	0.076	1.86	0.063	-0.004	0.157
Post-acquisition integration (PAI)	investment/ divestment – fixed assets & labour	depreciation <sup>1</sup>	-0.027	-3.05	0.002	-0.045	-0.010
		labour units in CP <sup>1</sup>	0.155	2.39	0.017	0.028	0.282
	investment/ divestment – services	3 <sup>rd</sup> party services <sup>1</sup>	-0.028	-3.00	0.003	-0.046	-0.010
	resource redeployment	land rent payment <sup>1</sup>	-0.044	-1.70	0.089	-0.095	0.007
		salary <sup>1</sup>	-0.029	-1.55	0.120	-0.065	0.008
		$n$ of years after the acquisition	-0.056	-3.71	0.000	-0.085	-0.026
Control variables		acquired from another agroholding – dummy	0.063	0.80	0.426	-0.092	0.219

<sup>1</sup>log-transformed variable

CP – crop production

Source: Own elaboration

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Supplementary Table S6. Model 6: Estimation results of lagged farm characteristics effects on organic growth, system GMM model, 2005–2016

Group of variables		Variable name	Coefficient	z-value	$P >  z $	95% CI	
Farm size		crop production value <sup>1</sup>	0.032	0.62	0.536	-0.069	0.132
Performance	farm growth	crop production value change <sup>1</sup>	-0.173	-4.06	0.000	-0.257	-0.089
	profitability	profit margin	-0.299	-2.29	0.022	-0.555	-0.043
	indebtedness	current liquidity	0.002	1.62	0.105	-0.001	0.005
		debttoassets	0.026	0.64	0.521	-0.053	0.105
resource reallocation	share of crop production	-0.238	-0.99	0.321	-0.709	0.232	
	ratio of harvested to arable land	-0.771	-3.59	0.000	-1.191	-0.350	
Post-acquisition integration (PAI)	investment/ divestment – variable inputs	material costs <sup>1</sup>	0.107	3.75	0.000	0.051	0.163
	investment/ divestment – fixed assets & labour	depreciation <sup>1</sup>	-0.017	-2.03	0.042	-0.032	-0.001
		labour units in CP <sup>1</sup>	0.103	2.88	0.004	0.033	0.173
	investment/ divestment – services	3 <sup>rd</sup> party services <sup>1</sup>	-0.036	-3.12	0.002	-0.058	-0.013
		SG&A <sup>1</sup>	-0.017	-3.15	0.002	-0.028	-0.007
	resource redeployment	land rent payment <sup>1</sup>	-0.030	-1.17	0.242	-0.079	0.020
		salary <sup>1</sup>	-0.026	-1.42	0.157	-0.063	0.010
Control variables		$n$ of years after the acquisition	-0.039	-2.70	0.007	-0.067	-0.011
		acquired from another agroholding – dummy	0.002	0.01	0.989	-0.220	0.223

<sup>1</sup>log-transformed variable

CP – crop production; SG&A – selling, general, and administrative

Source: Own elaboration