



BIROn - Birkbeck Institutional Research Online

Filippetti, Andrea and Frenz, Marion and Ietto-Gillies, Grazia (2016) The impact of internationalization on innovation at countries' level. The role of absorptive capacity. *Cambridge Journal of Economics* 41 (2), pp. 413-439. ISSN 0309-166X.

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/15594/>

Usage Guidelines:

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html>

or alternatively

contact lib-eprints@bbk.ac.uk.

These are the results of additional regressions for publication on the CJE website alongside the paper – see footnotes 13 and 18 in the paper. These tables do not form part of the paper.

Alternative dependent variables: PCT applications; total factor productivity and labour productivity

	PCT patents				
	(1)	(2)	(3)	(4)	(5)
Lagged DV	0.82** (0.014)	0.84** (0.014)	0.77** (0.013)	0.82** (0.019)	0.78** (0.024)
Outward FDI	41.0** (1.10)	85.6** (5.81)	64.6** (5.00)	41.4** (2.25)	43.8** (4.61)
Inward FDI	-43.3** (2.29)	-38.6** (2.54)	-26.9** (4.51)	-38.6** (3.36)	-37.1** (4.67)
Exports	78.9** (6.47)	28.3** (9.43)	-28.0* (13.4)	56.4** (8.05)	62.7** (6.89)
Imports	-76.4** (5.85)	-14.1+ (7.90)	29.3** (8.45)	-66.4** (7.67)	-96.5** (7.38)
AC	17.4** (1.42)	16.1** (1.67)	23.1** (2.45)	23.9** (5.17)	31.8** (5.47)
AC2	-11.4** (0.43)	-15.8** (1.98)	-15.1** (1.74)	-23.3** (3.65)	-36.7** (3.22)
Outward FDI * AC		-115.2** (15.5)			
Outward FDI * AC2		64.4** (9.63)			
Inward FDI * AC			-53.1** (10.8)		
Inward FDI * AC2			29.7** (6.26)		
Exports * AC				-16.2 (9.82)	
Exports * AC2				26.5** (7.55)	
Imports * AC					-39.1** (12.6)
Imports * AC2					78.1** (8.37)
Services intensity	-1.72 (1.37)	-0.87 (1.26)	-3.26+ (1.63)	-1.72 (1.41)	-0.33 (1.26)
Agriculture	39.9** (6.19)	48.5** (7.99)	36.2** (12.1)	61.1** (14.2)	84.2** (14.1)
Constant	16.1** (3.17)	10.1** (3.67)	22.7** (6.50)	19.4** (3.78)	22.6** (4.07)
Observations	497	497	497	497	497
Number of countries	40	40	40	40	40
Sargan test (p-value)	0.00	0.00	0.00	0.00	0.00
AR (1)	0.03	0.03	0.04	0.04	0.03
AR (2)	0.51	0.46	0.41	0.50	0.41

Note, as per Table 5.

	Total factor productivity				
	(1)	(2)	(3)	(4)	(5)
Lagged DV	0.78** (0.034)	0.80** (0.030)	0.76** (0.045)	0.80** (0.051)	0.88** (0.036)
Outward FDI	-0.027** (0.0035)	-0.024 (0.015)	0.020** (0.0044)	0.0067 (0.0050)	-0.0030 (0.0065)
Inward FDI	0.012* (0.0058)	0.025** (0.0064)	0.062** (0.017)	0.035** (0.0082)	0.025** (0.0078)
Exports	-0.11** (0.019)	-0.18** (0.025)	-0.36** (0.054)	-0.27** (0.042)	-0.16** (0.036)
Imports	0.12** (0.015)	0.19** (0.022)	0.34** (0.049)	0.24** (0.034)	0.098** (0.029)
AC	0.053** (0.0047)	0.048** (0.0053)	0.071** (0.011)	0.092** (0.013)	0.094** (0.012)
AC2	-0.022** (0.0016)	-0.030** (0.0044)	-0.033** (0.0042)	-0.053** (0.010)	-0.088** (0.014)
Outward FDI * AC		-0.014 (0.029)			
Outward FDI * AC2		0.025+ (0.014)			
Inward FDI * AC			-0.12** (0.027)		
Inward FDI * AC2			0.061** (0.013)		
Exports * AC				-0.099** (0.023)	
Exports * AC2				0.064** (0.020)	
Imports * AC					-0.15** (0.035)
Imports * AC2					0.20** (0.036)
Services intensity	-0.012** (0.0025)	-0.018** (0.0026)	-0.030** (0.0030)	-0.026** (0.0042)	-0.017** (0.0034)
Agriculture	0.14** (0.019)	0.12** (0.024)	0.12** (0.042)	0.19** (0.048)	0.26** (0.039)
Constant	0.24** (0.030)	0.25** (0.026)	0.32** (0.043)	0.27** (0.050)	0.18** (0.030)
Observations	497	497	497	497	497
Number of countries	40	40	40	40	40
Sargan test (p-value)	0.02	0.03	0.15	0.09	0.32
AR (1)	0.00	0.00	0.01	0.01	0.01
AR (2)	0.53	0.54	0.92	0.61	0.72

Note, as per Table 5.

	Change in total factor productivity				
	(1)	(2)	(3)	(4)	(5)
Lagged DV	-0.034 (0.036)	-0.053 (0.055)	-0.060 (0.049)	-0.024 (0.041)	-0.27** (0.057)
Outward FDI	-0.48 (0.43)	-3.12* (1.46)	-1.03 (0.65)	3.65** (0.76)	4.00** (1.16)
Inward FDI	0.12 (0.57)	1.49* (0.71)	-1.03 (0.84)	2.63* (1.07)	5.61** (1.25)
Exports	-10.8** (3.36)	-15.7** (4.21)	-9.55* (4.15)	-27.2** (3.95)	-39.1** (3.89)
Imports	11.8** (3.13)	15.3** (4.01)	10.7** (3.69)	25.2** (3.52)	25.8** (4.25)
AC	3.08** (0.60)	2.78** (0.74)	2.50** (0.69)	7.16** (1.87)	13.7** (2.69)
AC2	-1.75** (0.22)	-2.42** (0.71)	-2.65** (0.49)	-4.18** (1.17)	-12.7** (2.50)
Outward FDI * AC		4.65** (1.38)			
Outward FDI * AC2		-0.89 (0.55)			
Inward FDI * AC			2.24 (1.49)		
Inward FDI * AC2			1.28+ (0.66)		
Exports * AC				-11.0** (2.55)	
Exports * AC2				5.31* (2.03)	
Imports * AC					-30.2** (5.50)
Imports * AC2					31.7** (5.84)
Services intensity	-1.55** (0.33)	-1.94** (0.42)	-1.53** (0.39)	-2.88** (0.46)	-3.86** (0.42)
Agriculture	10.7** (2.09)	9.43** (2.94)	11.0** (2.49)	16.9** (5.67)	33.9** (7.69)
Constant	4.76** (1.09)	6.57** (1.60)	5.08** (1.32)	8.11** (1.57)	13.1** (1.80)
Observations	485	485	485	485	485
Number of countries	40	40	40	40	40
Sargan test (p-value)	0.03	0.00	0.00	0.01	0.13
AR (1)	0.01	0.00	0.00	0.00	0.02
AR (2)	0.61	0.63	0.67	0.65	0.49

Note, as per Table 5.

	Labour productivity				
	(1)	(2)	(3)	(4)	(5)
Lagged DV	1.01** (0.0053)	1.00** (0.0081)	0.97** (0.012)	1.02** (0.012)	1.01** (0.010)
Outward FDI	0.00097** (0.00018)	0.0030** (0.00039)	0.0047** (0.00027)	0.0020** (0.00030)	0.0018** (0.00025)
Inward FDI	-0.00090** (0.00023)	-0.00047+ (0.00025)	0.00061 (0.00046)	-0.00017 (0.00038)	-0.00041 (0.00037)
Exports	-0.00057 (0.0011)	-0.0043** (0.00089)	-0.011** (0.0014)	-0.0069** (0.0014)	-0.0036** (0.0013)
Imports	0.0015 (0.0011)	0.0041** (0.00084)	0.0094** (0.0013)	0.0075** (0.0013)	0.0024+ (0.0013)
AC	0.00089** (0.00011)	0.00093** (0.00021)	0.0016** (0.00030)	0.0034** (0.00057)	0.0023** (0.00065)
AC2	-0.00076** (0.000053)	-0.0013** (0.00022)	-0.0013** (0.00017)	-0.0015** (0.00039)	-0.0020** (0.00049)
Outward FDI * AC		-0.0028** (0.00083)			
Outward FDI * AC2		0.0021** (0.00050)			
Inward FDI * AC			-0.0050** (0.00064)		
Inward FDI * AC2			0.0026** (0.00043)		
Exports * AC				-0.0059** (0.00099)	
Exports * AC2				0.0017* (0.00082)	
Imports * AC					-0.0039* (0.0015)
Imports * AC2					0.0038** (0.0013)
Services intensity	-0.00043** (0.000089)	-0.00057** (0.000086)	-0.00095** (0.00015)	-0.0010** (0.00014)	-0.00072** (0.00011)
Agriculture	0.0031** (0.00047)	0.0029** (0.00079)	0.00045 (0.0017)	0.0066** (0.0021)	0.0056** (0.0017)
Constant	0.0010** (0.00031)	0.0023** (0.00041)	0.0046** (0.00063)	0.0020** (0.00054)	0.0022** (0.00052)
Observations	497	497	497	497	497
Number of countries	40	40	40	40	40
Sargan test (p-value)	0.00	0.00	0.00	0.00	0.00
AR (1)	0.00	0.00	0.00	0.00	0.00
AR (2)	0.66	0.71	0.97	0.81	0.71

Note, as per Table 5.

Regressions with the more comprehensive absorptive capacity variable that includes share of business R&D

	Triadic patents				
	(1)	(2)	(3)	(4)	(5)
Lagged triadic patents	0.62** (0.012)	0.71** (0.034)	0.59** (0.029)	0.59** (0.019)	0.63** (0.019)
Outward FDI	-4.37** (0.40)	-27.6** (2.50)	-14.5** (0.85)	-2.95** (0.90)	-3.98** (1.01)
Inward FDI	-5.74** (0.40)	0.38 (1.68)	1.50 (0.90)	-6.51** (1.11)	-6.21** (0.96)
Exports	10.5** (1.12)	21.9** (3.77)	17.7** (3.41)	13.2** (1.18)	16.0** (2.24)
Imports	-5.97** (0.56)	-18.5** (2.93)	-5.51* (2.38)	-8.58** (0.60)	-14.3** (0.86)
AC	12.9** (0.32)	14.2** (0.92)	13.7** (0.73)	15.3** (1.09)	18.2** (1.22)
AC2	6.01** (0.29)	3.89* (1.65)	12.4** (0.92)	7.62** (1.16)	4.76** (1.29)
Outward FDI * AC		40.5** (4.79)			
Outward FDI * AC2		-19.3** (2.20)			
Inward FDI * AC			14.0** (2.78)		
Inward FDI * AC2			-18.6** (0.70)		
Exports * AC				-4.84* (1.91)	
Exports * AC2				-2.68 (2.09)	
Imports * AC					-14.2** (1.89)
Imports * AC2					5.41* (2.18)
Services intensity	0.15 (0.24)	-0.10 (0.66)	1.22** (0.33)	0.29 (0.32)	0.38 (0.45)
Agriculture	5.19** (1.53)	13.7+ (6.78)	5.03 (3.79)	4.86 (3.74)	14.6** (3.01)
Constant	4.13** (1.14)	4.38 (2.72)	-1.92 (1.95)	3.88** (1.31)	2.27 (2.22)
Observations	322	322	322	322	322
Number of countries	39	39	39	39	39
Sargan test (p-value)	0.82	0.96	0.92	0.71	0.75
AR (1)	0.09	0.09	0.09	0.09	0.09
AR (2)	0.17	0.18	0.16	0.17	0.17

Note, as per Table 5.

Regressions with the additional control variable on high and medium-high tech manufacturing

	Triadic patents				
	(1)	(2)	(3)	(4)	(5)
Lagged triadic patents	0.87** (0.081)	1.05** (0.14)	0.80** (0.11)	1.03** (0.20)	1.10** (0.17)
Outward FDI	3.34 (5.82)	-27.8+ (15.0)	-0.069 (9.03)	-5.32 (9.38)	-11.1 (7.56)
Inward FDI	1.33 (6.32)	12.1 (8.74)	6.63 (12.6)	12.4 (14.8)	24.6** (8.51)
Exports	2.63 (15.4)	-18.2 (21.7)	-19.3 (21.9)	0.21 (30.1)	17.5 (19.3)
Imports	-19.6 (16.2)	5.57 (22.2)	3.07 (19.7)	-24.2 (24.1)	-52.8** (17.9)
AC	9.71** (3.22)	8.64+ (4.31)	12.5* (4.58)	23.5* (8.80)	25.4** (7.29)
AC2	-4.65** (1.06)	-10.0** (3.27)	-9.96** (3.52)	-18.9+ (10.0)	-19.6** (6.19)
Outward FDI * AC		35.7* (15.2)			
Outward FDI * AC2		-8.33 (8.51)			
Inward FDI * AC			-13.9 (14.4)		
Inward FDI * AC2			16.9 (9.88)		
Exports * AC				-27.9+ (16.1)	
Exports * AC2				32.5 (20.5)	
Imports * AC					-35.2* (13.7)
Imports * AC2					41.2* (18.0)
Services intensity	-6.91* (2.67)	-11.0** (3.59)	-9.90** (3.05)	-11.7** (3.86)	-14.9** (3.79)
Agriculture	-53.0 (37.1)	-92.9+ (48.6)	-121.9* (52.7)	-53.8 (44.7)	-77.4+ (43.6)
High and medium-high tech manufacturing	-0.45 (0.31)	-0.94* (0.39)	-0.80+ (0.40)	-1.09+ (0.59)	-1.45** (0.51)
Constant	46.4* (18.7)	76.8** (24.2)	74.8** (23.8)	79.3** (25.9)	100.7** (25.8)
Observations	297	297	297	297	297
Number of countries	23	23	23	23	23
Sargan test (p-value)	0.91	0.98	0.93	0.99	0.98
AR (1)	0.08	0.08	0.08	0.08	0.05
AR (2)	0.16	0.15	0.17	0.15	0.12

Note, as per Table 5.