Determinants of foreign direct investment in developing countries: A comparative analysis

EE 462 Development Macroeconomics

Reference: Mottaleb, K. A., & Kalirajan, K. (2010). Determinants of foreign direct investment in developing countries: A comparative analysis. *Margin: The Journal of Applied Economic Research*, *4*(4), 369-404.

Summary

- What is the motivation of this paper?
- What is the research question?
- Scope of study
- Main conclusion

Table 1 Trends in FDI Inflows, 1997–2005 (billion USD)

Year	*World*	*Developed World*	*Developing World*	*Share of the Developing World (%)*
1997	481.91	269.65	193.22	40.09
1999	1,079.08	824.64	229.29	21.25
2001	823.83	589.38	209.43	25.42
2003	632.59	442.16	166.34	26.29
2005	958.69	611.28	316.44	33.01
2007	1,833.32	1,247.64	499.75	27.25

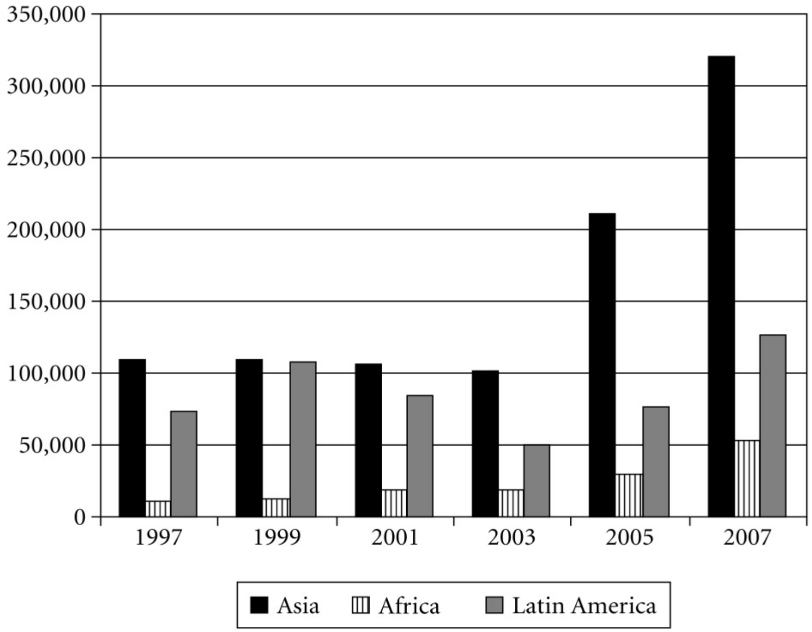
Source: UNCTAD (2003, 2005, 2009).

Table 2 Major FDI-Receiving Countries by Continent

Sample Highest and Lowest FDI-receiving Country by Region	*FDI Inflow (Million USD)*	*% Share in World Inflows*	*% of Total Inflow to all Developing Countries*	*% Share in the Region*
Asia				**% share in Asia**
China	83,521	4.56	16.71	26.06
Nepal	6.0	0.0003	0.001	0.002
Africa				**% share in Africa**
Nigeria	12,454	0.68	2.49	23.51
Comoros	1.0	0.00	0.000	0.002
Latin America				**% share in Latin America**
El Salvador	1,526	0.08	0.31	1.21
Haiti	75.0	0.004	0.015	0.06

Sources: UNCTAD (2009).

Figure 1 Trends in FDI Inflow in Developing Countries in Asia, Africa and Latin America



Sources: UNCTAD (2003, 2005, 2009).

Q: What's the trend in FDI inflow in developing countries?

Q: Which region has the highest FDI inflow?

Conceptual Framework

- $\Pi = f(P, Q, TC)$
- What determines TC?

Hypotheses

- H1:
- H2:
- H3:

Variables (Which variables are used to capture these effects?)

- Size and growth potential
- Openness and linkages with the global market
- Role of foreign aid
- Labour quality
- Resources and infrastructure
- Business environment, regulation framework, &macro stability
- Inflation

Table 3 Relationship between FDI Inflow, Size of the Host Economy and its Linkages/Openness with the Global Market, 2005–07

	FDI	*GDP*	*GDP Growth Rate*	*Trade*	*Aid*	*Industrial Value-added*	*Growth Rate of Industrial Value-added*
FDI	1.00						
	[204]						
GDP	0.74***	1.00					
	(0.00)	200					
	[200]						
GDP growth rate	0.25***	0.11	1.00				
	(0.00)	(0.12)	[204]				
	[204]	[200]					
Trade	0.04	0.13*	0.03	1.00			
	(0.61)	(0.06)	(0.69)	[193]			
	[193]	[189]	[193]				
Aid	0.23***	0.33***	0.05	0.09	1.00		
	(0.00)	0.00	(0.45)	(0.21)	[203]		
	[203]	[199]	[203]	[192]			
Industrial value-added	0.31***	0.27***	0.16**	0.27***	0.36***	1.00	
	(0.00)	(0.00)	(0.03)	(0.00)	(0.00)	[187]	
	[187]	[183]	[187]	[187]	[186]		
Growth rate of industrial value-added	0.16**	0.03	0.65***	0.11	0.05	0.12*	1.00
	(0.03)	(0.65)	(0.00)	(0.15)	(0.50)	(0.10)	[186]
	[186]	[182]	[186]	[181]	[185]	[181]	

Source: Authors.

Note: *p*-values are in parentheses. *, ** and *** represents significance at the 10, 5 and 1 per cent levels, respectively.

Which variables have correlation with FDI inflow?

Table 4 Relationship between FDI Inflow and Total Labour Force and Infrastructure in Host Economy, 2005–07

	FDI	*Labour Force*	*Internet User (Per 100 People)*	*Fixed and Mobile Phone Subscribers (Per 100 People)*
FDI	1			
	[204]			
Labour force	0.93***	1		
	(0.00)	[204]		
	[204]			
Internet user (per 100 people)	0.20***	0.12*	1	
	(0.00)	(0.08)	[198]	
	[198]	[198]		
Fixed-line and mobile phone	0.18	0.09	0.76***	1
subscriber (per 100 people)	(0.01)	(0.23)	(0.00)	[184]
	[184]	[184]	[181]	

Source: Authors.

Note: *p*-values are in parentheses. *, ** and *** represent significance at the 10, 5 and 1 per cent levels, respectively.

Which variables have correlation with FDI inflow?

Table 5 Relationship between FDI Inflows and the Business and Economic Environment in Host Economies, 2005–07

	FDI	*Days Required to Start a Business*	*Time to Prepare and Pay Taxes*	*Inflation*	*Asian Countries*	*Lower-middle Income Countries*
FDI	1.00					
	[204]					
Days required to start a business	–0.04	1.00				
	(0.56)	204				
	[204]					
Time to prepare and pay taxes	0.37***	0.03	1.00			
	(0.00)	(0.71)	192			
	[192]	192				
Inflation	–0.06	0.07	0.01	1.00		
	(0.36)	(0.34)	(0.86)	204		
	[204]	204	192			
Asian countries	0.18***	–0.03	–0.09	0.03	1.00	
	(0.01)	(0.64)	(0.23)	(0.67)	204	
	[204]	[204]	192	204		
Lower-middle income countries	0.14**	–0.12*	0.05	–0.09	0.27***	1.00
	(0.05)	(0.08)	(0.48)	(0.19)	(0.00)	204
	[204]	[204]	192	204	204	

Source: Authors.

Note: *p*-values are in parentheses. *, ** and *** represent significance at the 10, 5 and 1 per cent levels, respectively.

Which variables have correlation with FDI inflow?

Table 6 Comparison of the Characteristics of High-Performing Lower-Middle Income Countries and Low-Performing Low-Income Countries[a]

Indicators	*Lower-middle Income Countries* B	*Low-income Countries* A	*Differences in the Sample Mean and Corresponding t-statistics* A – B
Inflow of FDI (million USD)	3,592.98	972.52	2,620.47** (1.96)
GDP (billion USD)	53.39	22.71	30.67** (2.10)
Annual GDP growth rate	6.24	5.60	0.65 (1.44)
Trade as % of GDP[a]	86.29	74.64	11.65** (–2.44)
Aid as % of GNI	6.18	10.25	–4.07*** (–4.12)
Industrial value-added (% of GDP)	31.42	24.76	6.66*** (4.36)
Growth of industrial value-added to GDP	6.59	6.30	0.29 (0.37)
Total labour (million persons)	43.59	11.28	32.31** (2.18)
Internet use (per 100 persons)	7.89	3.88	3.99*** (5.19)
Fixed phone and mobile phone use (per 100 persons)	42.29	22.99	19.29*** (5.19)
Days required to start a business	42.19	51.69	–9.45* (–1.78)
Hours required to prepare and pay taxes	338.97	319.69	19.28 (0.71)
Price inflation (GDP deflator)	7.79	9.01	–1.21 (–1.31)

(*Table 6 continued*)

Q: What are significantly different between Low-income and lower-middle income countries?

Table 7 A Comparison of the Characteristics of High-Performing Asian and Low-Performing African and Latin American Countries

Indicators	*Asian Countries* C	*African and Latin American Countries* D	*Differences in the Sample Mean and Corresponding t-statistics* C – D
Inflow of FDI (million USD)	4,607.45	1,114.00	3,493.45** (2.46)
GDP (billion USD)	60.71	22.24	33.48** (2.20)
Annual GDP growth rate	7.53	5.03	2.51*** (5.79)
Trade as % of GDP[a]	87.51	77.09	10.42** (2.11)
Aid as % of GNI	6.67	8.83	–2.16** (–2.05)
Industrial value-added (% of GDP)	30.19	27.29	2.89* (1.76)
Growth of industrial value-added to GDP	8.74	5.02	3.72*** (4.92)
Total labour (in million persons)	61.57	9.84	51.73*** (3.43)
Internet use (per 100 persons)	7.44	5.23	2.21*** (2.63)
Fixed phone and mobile phone use (per 100 persons)	30.62	37.48	6.48* (1.69)
Days required to start a business	44.89	47.47	–2.58 (–0.46)
Hours required to prepare and pay tax	308.76	342.63	–33.87 (–1.21)
Price inflation (GDP deflator)	8.61	8.19	–0.41 (–0.43)

Q: What are significantly different between Asian and African & L American?

Empirical Specification

Explain this equation (4).

$$\mathrm{FDI}_{it} = \lambda_0 + \lambda_1 X_{it} + \lambda_2 F_{it} + \lambda_3 Z_{it} + \Sigma\theta_i Y_{it} + \lambda_4 V_i ++ \lambda_5 U_i + \zeta_{it} \tag{4}$$

Table 8 Determinants of FDI Inflows into Lower-Middle Income Countries

Dependent Variable	ln(FDI)					
Column	(2)	(3)	(4)	(5)	(6)	(7)
ln(GDP)	1.14***	1.14***	1.10***	1.10***	1.10***	1.04***
	(2.61)	(9.30)	(10.93)	(9.69)	(9.97)	(10.16)
ln(GDP growth rate)	0.27	0.27	0.29	0.26	0.22	0.16
	(1.10)	(1.12)	(1.50)	(1.44)	(1.29)	(0.88)
ln(trade)	1.28***	1.28***	1.12***	1.01***	0.95***	0.84***
	(3.48)	(3.32)	(4.18)	(3.82)	(3.91)	(2.99)
ln(aid)	0.30*	0.30*	0.28**	0.29**	0.29**	0.31**
	(1.65)	(1.78)	(2.33)	(2.36)	(2.40)	(2.47)
ln(days required to start a business)	–0.34*	–0.33*	–0.33*	–0.35**	–0.36**	–0.33*
	(–1.75)	(–1.68)	(–1.90)	(–2.04)	(–2.08)	(–1.91)
ln(growth of industrial value-added to GDP)	0.31*	0.32*	0.24**	0.23***	0.24***	0.27***
	(1.79)	(1.80)	(2.56)	(2.59)	(2.60)	(2.90)
ln(telephone and mobile user per 100 people)	0.10	0.10	0.10	0.11	0.09	0.29
	(0.27)	(0.47)	(0.46)	(0.49)	(0.43)	(1.25)
ln(internet user per 100 people)	0.14	0.14	0.12	0.12	0.13	
	(1.01)	(1.04)	(0.92)	(0.83)	(0.90)	
ln(inflation)	0.03	0.03	–0.015	–0.03		
	(0.19)	(0.20)	(–0.10)	(–0.18)		
ln(industrial value-added to GDP)	–0.47	–0.47	–0.52			
	(–1.11)	(–1.01)	(–1.37)			
ln(days required prepare and pay tax)	–0.09	–0.09				
	(–0.48)	(–0.43)				
ln(total labour force)	0.002					
	(0.00)					
Asian dummy	–0.38	–0.38	–0.37	–0.38	–0.39	–0.27
	(–1.28)	(–1.43)	(–1.40)	(–1.45)	(–1.50)	(–0.99)
Year 2006 dummy	–0.12	–0.12	–0.10	–0.10	–0.13	–0.09
	(–0.60)	(–0.69)	(–0.66)	(–0.66)	(–0.81)	(–0.58)
Year 2007 dummy	0.05	0.05	0.129	0.136	0.12	0.08
	(0.30)	(0.34)	(1.08)	(1.10)	(0.92)	(0.66)
Constant	–0.92	–0.90	–0.27	–1.23	–0.92	–0.94
	(–0.15)	(–0.31)	(–0.13)	(–0.74)	(–0.55)	(–0.59)
No. of observations	66	66	72	72	73	76
Hausman test fixed over random effect Chi-square	7.68	7.99	8.96	11.19	7.11	8.28
Prob>chi2 =	0.91	0.84	0.71	0.43	0.71	0.51

Note: Numbers in parentheses are z-statistics based on standard errors corrected for clustering of observations at the country level.
*, ** and *** indicate significance at the 10, 5 and 1 per cent levels, respectively.

Table 9 Determinants of FDI Inflows into Low-Income Countries

Dependent Variable	*ln(FDI)*					
Column	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
ln(GDP)	0.81**	0.85***	0.91***	0.99***	0.97***	0.98***
	(1.99)	(5.53)	(6.11)	(7.29)	(6.83)	(6.91)
ln(GDP growth rate)	0.41*	0.42**	0.41**	0.42**	0.40**	0.40**
	(1.89)	(2.00)	(1.99)	(2.12)	(2.22)	(2.22)
ln(trade)	1.10*	1.10**	1.10**	1.30***	1.42***	1.41***
	(1.80)	(1.96)	(2.22)	(3.13)	(3.40)	(3.39)
ln(aid)	0.59**	0.59**	0.67***	0.61***	0.58***	0.59***
	(2.17)	(2.49)	(2.79)	(2.68)	(2.58)	(2.66)
ln(days required to start a business)	–0.86***	–0.84***	–0.79***	–0.72***	–0.72***	–0.71***
	(–3.91)	(–3.45)	(–3.77)	(–3.71)	(–3.90)	(–4.05)
ln(growth of industrial value-added to GDP)	0.03	0.04	0.02	0.05	0.03	0.03
	(0.18)	(0.21)	(0.14)	(0.27)	(0.20)	(0.22)
ln(telephone and mobile user per 100 people)	0.26	0.27	0.24	0.36	0.35	0.33
	(0.80)	(0.84)	(0.81)	(1.45)	(1.36)	(1.38)
ln(internet users per 100 people)	0.03	0.01	0.04	–0.04	–0.04	
	(0.21)	(0.07)	(0.26)	(–0.36)	(–0.34)	
ln(inflation)	–0.06	–0.06	–0.07	–0.03		
	(–0.41)	(–0.42)	(–0.46)	(–0.22)		
ln(industrial value-added to GDP)	0.46	0.46	0.67			
	(0.87)	(0.87)	(1.42)			
ln(days required prepare and pay tax)	0.19	0.17				
	(0.47)	(0.43)				
ln(total labour force)	0.03					
	(0.09)					
Asian dummy	0.81**	0.78**	0.62**	0.57**	0.59**	0.61**
	(2.47)	(2.20)	(2.20)	(2.23)	(2.36)	(2.24)
Year 2006 dummy	0.21	0.21	0.19	0.16	0.14	0.14
	(1.10)	(1.08)	(1.00)	(0.87)	(0.74)	(0.78)
Year 2007 dummy	0.20	0.20	0.19	0.12	0.11	0.12
	(0.63)	(0.65)	(0.62)	(0.41)	(0.40)	(0.45)
Constant	–3.74	–3.27	–3.29	–2.83	–3.26	–3.24
	(–0.67)	(–1.08)	(–1.40)	(–1.19)	(–1.44)	(–1.43)
No. of observations	66	66	67	67	70	70
Hausman test fixed over random effect Chi-square	8.97	8.88	9.69	7.18	6.18	11.88
Prob>chi2 =	0.83	0.78	0.64	0.55	0.80	0.22

Table 10 Determinants of FDI Inflows into Asian Countries

Dependent Variable	*Ln(FDI)*					
Column	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
ln(GDP)	1.72***	1.58***	1.28***	1.23***	1.25***	1.22***
	(3.76)	(10.08)	(8.49)	(8.47)	(8.72)	(8.55)
ln(GDP growth rate)	0.01	0.04	0.14	0.15	0.20	0.13
	(0.03)	(0.14)	(0.39)	(0.44)	(0.63)	(0.40)
ln(trade)	2.17***	2.10***	1.31***	1.19***	1.12***	0.99**
	(3.77)	(4.04)	(3.05)	(2.85)	(2.77)	(2.29)
ln(aid)	0.81***	0.79***	0.52**	0.51**	0.54***	0.56***
	(3.92)	(4.22)	(2.51)	(2.36)	(2.62)	(2.75)
ln(days required to start a business)	–0.27	–0.26	–0.35	–0.38	–0.38	–0.36
	(–1.07)	(–1.05)	(–1.37)	(–1.38)	(–1.39)	(–1.45)
ln(growth of industrial value-added to GDP)	0.34*	0.33	0.26	0.21	0.17	0.21
	(1.68)	(1.48)	(1.11)	(0.94)	(0.67)	(0.94)
ln(telephone and mobile users per 100 people)	–0.19	–0.13	0.09	0.05	0.08	0.29
	(–0.49)	(–0.41)	(0.28)	(0.17)	0.26)	(0.98)
ln(internet users per 100 people)	0.19*	0.22**	0.09	0.11	0.13	
	(1.69)	(2.32)	(0.77)	(0.94)	(1.07)	
ln(inflation)	0.16	0.13	0.19	0.16		
	(1.12)	(1.00)	(1.39)	(1.24)		
ln(industrial value-added to GDP)	–0.80**	–0.76**	–0.41			
	(–2.33)	(–2.13)	(–1.26)			
ln(days required prepare and pay tax)	0.40	0.36				
	(1.28)	(1.40)				
ln(total labour force)	–0.12					
	(–0.36)					
Lower-middle income country dummy	0.12	0.10	–0.08	–0.19	–0.22	–0.06
	(0.32)	(0.28)	(–0.19)	(–0.50)	(–0.59)	(–0.17)
Year 2006 dummy	0.14	0.12	0.07	0.08	0.08	0.12
	(0.53)	(0.51)	(0.34)	(0.35)	(0.38)	(0.52)
Year 2007 dummy	0.42	0.38	0.30	0.31	0.30	0.26
	(1.63)	(1.58)	(1.35)	(1.42)	(1.47)	(1.36)
Constant	–6.26	–4.28	–2.22	–2.10	–2.38	–4.40
	(–1.28)	(–1.33)	(–1.23)	(–1.12)	(–1.01)	(–1.13)
No. of observations	52	52	55	55	55	57
Hausman test fixed over random effect Chi-square	8.17	8.98	8.18	8.75	4.53	4.46
Prob>chi2 =	0.88	0.77	0.77	0.65	0.92	0.88

Note: Numbers in the parentheses are z-statistics based on standard errors corrected for clustering of observation at the country level. *, ** and *** indicate significance at the 10, 5 and 1 per cent levels, respectively.

Table 11 Determinants of FDI Inflows into African and Latin American Countries

Dependent Variable	*ln(FDI)*					
Column	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
Ln(GDP)	0.77***	0.84***	0.89***	0.94***	0.90***	0.90***
	(2.58)	(5.96)	(6.43)	(7.48)	(6.77)	(6.85)
Ln(GDP growth rate)	0.37**	0.37**	0.35**	0.37**	0.34**	0.32**
	(2.18)	(2.23)	(2.30)	(2.50)	(2.34)	(2.33)
Ln(trade)	1.04**	1.05**	1.16***	1.25***	1.19***	1.20***
	(2.44)	(2.47)	(2.99)	(3.36)	(3.41)	(3.34)
Ln(aid)	0.25*	0.26**	0.30**	0.29**	0.31**	0.30**
	(1.73)	(1.97)	(2.25)	(2.21)	(2.33)	(2.27)
Ln(days required to start a business)	–0.53***	–0.52***	–0.52***	–0.50***	–0.56***	–0.56***
	(–3.12)	(–3.04)	(–3.02)	(–3.00)	(–3.67)	(–3.69)
Ln(growth of industrial value-added to GDP)	0.09	0.09	0.12	0.12*	0.12*	0.12*
	(0.70)	(0.73)	(1.61)	(1.70)	(1.72)	(1.75)
Ln(telephone and mobile users per 100 people)	0.33	0.31	0.25	0.31	0.31	0.32*
	(0.98)	(1.07)	(0.99)	(1.41)	(1.44)	(1.77)
Ln(internet users per 100 people)	–0.02	–0.03	–0.001	–0.03	–0.02	
	(–0.11)	(–0.18)	(–0.01)	(–0.22)	(–0.13)	
Ln(inflation)	–0.20	–0.19	–0.18	–0.15		
	(–1.52)	(–1.52)	(–1.63)	(–1.29)		
Ln(industrial value-added to GDP)	0.24	0.24	0.43			
	(0.38)	(0.38)	(0.88)			
Ln(days required prepare and pay tax)	0.08	0.09				
	(0.29)	(0.32)				
Ln(total labour force)	0.06					
	(0.21)					
Lower-middle income country dummy	0.80***	0.78***	0.62**	0.66***	0.74***	0.73***
	(3.11)	(2.98)	(2.51)	(2.66)	(3.12)	(3.18)
Year 2006 dummy	0.04	0.05	0.04	0.02	–0.03	0.02
	(0.27)	(0.32)	(0.26)	(0.16)	(–0.20)	(–0.18)
Year 2007 dummy	0.09	0.10	0.08	0.05	–0.02	–0.04
	(0.29)	(0.37)	(0.34)	(0.20)	(–0.10)	(–0.19)
Constant	–3.18	–2.33	–2.90	–2.34	–2.09	–2.12
	(–0.70)	(–0.94)	(–1.31)	(–1.10)	(–1.05)	(–1.07)
No. of observations	80	80	84	84	88	89
Hausman test fixed over random effect Chi-square	7.96	7.77	8.78	5.30	6.27	5.60
Prob>chi2 =	0.89	0.89	0.72	0.92	0.79	0.78

Notes: Numbers in the parentheses are z-statistics based on standard errors corrected for clustering of observation at the country level. *, ** and *** indicate significance at the 10, 5 and 1 per cent levels, respectively.

Table 12 Determinants of FDI Inflows into Developing Countries

Dependent Variable	*ln(FDI)*					
Column	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
ln(GDP)	1.01***	1.05***	1.10***	1.05***	1.04***	1.04***
	(3.78)	(10.17)	(11.53)	(12.31)	(11.62)	(11.36)
ln(GDP growth rate)	0.36***	0.35***	0.35***	0.35***	0.31***	0.29**
	(2.66)	(2.72)	(2.79)	(2.83)	(2.58)	(2.45)
ln(trade)	1.10***	1.11***	1.11***	1.10***	1.10***	1.07***
	(3.76)	(3.78)	(4.60)	(4.41)	(4.54)	(4.27)
ln(aid)	0.34***	0.34***	0.35***	0.35***	0.35***	0.36***
	(2.80)	(3.01)	(3.43)	(3.45)	(3.40)	(3.39)
ln(days required to start a business)	–0.39***	–0.38***	–0.39***	–0.39***	–0.39***	–0.39***
	(–3.28)	(–3.15)	(–3.28)	(–3.30)	(–3.36)	(–3.43)
ln(growth of industrial value-added to GDP)	0.18	0.18	0.16**	0.16**	0.16**	0.17**
	(1.54)	(1.55)	(2.00)	(2.07)	(2.05)	(2.15)
ln(telephone and mobile users per 100 people)	0.31	0.30	0.28	0.27*	0.26	0.28**
	(1.41)	(1.57)	(1.54)	(1.64)	(1.55)	(1.97)
ln(internet users per 100 people)	–0.02	–0.03	–0.02	–0.02	–0.002	
	(–0.16)	(–0.23)	(–0.17)	(–0.15)	(–0.03)	
ln(inflation)	–0.06	–0.06	–0.06	–0.07		
	(–0.57)	(–0.57)	(–0.63)	(–0.68)		
ln(industrial value-added to GDP)	–0.02	–0.03	–0.07			
	(–0.07)	(–0.10)	(–0.23)			
ln(days required to prepare and pay taxes)	–0.14	–0.13				
	(–0.71)	(–0.68)				
ln(total labour force)	0.04					
	(0.16)					
Asian dummy	0.03	0.03	0.03	0.03	0.03	0.05
	(0.12)	(0.14)	(0.16)	(0.16)	(0.14)	(0.27)
Lower-middle income country dummy	0.40*	0.39*	0.35	0.34	0.38*	0.38*
	(1.74)	(1.68)	(1.59)	(1.56)	(1.73)	(1.84)
Year 2006 dummy	0.08	0.08	0.07	0.08	0.05	0.06
	(0.55)	(0.63)	(0.60)	(0.63)	(0.43)	(0.56)
Year 2007 dummy	0.11	0.12	0.14	0.15	0.13	0.11
	(0.57)	(0.70)	(0.96)	(1.02)	(0.92)	(0.83)
Constant	–2.28	–1.77	–2.31	–2.39	–2.46*	–2.43*
	(–0.63)	(–0.90)	(–1.49)	(–1.62)	(–1.71)	(–1.69)
No. of observations	132	132	139	139	143	146
Chow test for structural difference between low-income and lower-middle income countries (15, 115)	2.08					
Chow test, Asia vs Africa (15, 115)	1.98					
Hausman test fixed over random effect Chi Prob>chi2 =	8.52	8.39	8.12	6.31	6.84	5.53
	0.86	0.82	0.89	0.85	0.74	0.79

Note: Numbers in parentheses are z-statistics based on standard errors corrected for clustering of observations at the country level. *, ** and *** indicate significance at the 10, 5 and 1 per cent levels, respectively.