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Morocco's Economic Performance under the FTA

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Upon its inauguration in 2006, the Morocco-US Free Trade Agreement (FTA) was hailed as a model US free trade agreement. It would not only advance US interests in establishing a US–Middle East Free Trade Area (MEFTA) but also bolster Morocco's status as an emerging-market economy on a course of economic and political reform.

The US ambition to forge the MEFTA is clearly a long-term goal. But the mutual US-Moroccan objective of strengthening the foundations of Morocco's emerging-market status is a tangible metric whose success can already be at least preliminarily assessed. This chapter presents such an assessment, reviewing Morocco's recent economic performance and its progress in implementing reforms under both the Morocco-US FTA and the country's own development strategy. Where possible, the assessment draws on comparisons of the recent economic performance and policies of other US FTA partners, particularly Chile and Jordan, that are economically comparable to Morocco. This chapter also offers an empirical analysis of the actual-to-potential merchandise trade and inward foreign direct investment (FDI), of Morocco with the United States and the world, using a standard gravity model.

Economic Performance

With a population of just over 31 million in 2007, Morocco is among the largest bilateral FTA partners of the United States in terms of human re-

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sources (table 2.1). Its per capita output, however, is only about $2,400, placing the country at the lowest level of economic development among current US FTA partners. But Morocco's recent per capita growth has been fairly robust—3.1 percent per annum during the five-year period ending in 2007.

Although agriculture contributes much to the domestic economy (13 percent), industry and services are the dominant sectors, at 29 and 58 percent of GDP, respectively. These two sectors are particularly important because of their potential, in conjunction with appropriate manufacturing and information technologies, to employ many Moroccans. Furthermore, the two sectors are supported to a considerable degree by inward FDI, which in 2007 amounted to 44 percent of GDP. This figure compares very favorably with the average 35 percent of domestic output among all US FTA partners[1] and the 30 percent average for developing countries.

Merchandise Trade

The recent growth of Morocco's trade, measured in nominal US dollars, with both the United States and the world has been fairly strong, especially with respect to imports. During the 2000s, Morocco's imports have increased at an equal if not greater pace than the imports of US FTA partners on average—at about 15 percent per annum with the world and 19 percent with the United States (table 2.2). The performance of Morocco's exports has been somewhat less distinguished during this period: Exports to the world increased at only 8 percent per annum, compared with 12 percent for all US FTA partners. However, Morocco's exports to the United States grew at 11 percent per annum, faster than the rate of other US FTA partners (8 percent). Moreover, it is apparent that Morocco's exports to the United States have enjoyed very strong annual growth since 2006, the year the Morocco-US FTA was launched, rising by nearly 20 percent in both 2006 and 2007 and over 40 percent in 2008.

Table 2.3 reveals that the robust expansion of Moroccan exports to the United States in recent years started from a small base. Morocco's exports to the United States in 2007 amounted to just $0.3 billion, only 2.5 percent of Morocco's exports to the world. Like Chile, Morocco's exports to the United States are principally ores and metals (41 percent); the remainder are manufactures (32 percent) and, to a much lesser extent, agricultural goods (15 percent) and fuels (13 percent). In comparison, US FTA partners on average export predominantly manufactures (62 percent) and fuels (20 percent) to the United States. Given the keen interest and emphasis of policymakers and their advisors in diversifying Morocco's production

1. This figure is calculated using a GDP weighted average of inward FDI stocks as a percent of GDP.

Table 2.1 Economic indicators for the United States and its FTA partners, 2007

		National output (GDP)						Trade and foreign investment			
					Structure, 2005 (percent of GDP)			Goods and services trade, 2005 (billions of US dollars)			
Partner	**Population** (millions)	**Level** (billions of US dollars)	**Per capita** (US dollars)	**Per capita growth, 2003–07** (percent)	**Agriculture**	**Industry**	**Services**	**Exports**	**Imports**	**Total trade** (percent of GDP)	**FDI inward stock** (percent of GDP)
US FTA partners	373.5	5,119.7	13,708	3.0	6.5	30.7	62.8	1,643.5	1,576.7	78.7	35.3
Australia (2004)	20.7	921.7	44,435	2.1	3.3	26.8	69.9	126.0	143.0	39.9	33.9
Bahrain (2006)	0.8	19.7	26,140	4.5	n.a.	n.a.	n.a.	11.7	8.7	127.0	65.8
Canada (1994)	32.9	1,420.0	43,191	1.7	n.a.	n.a.	n.a.	428.8	385.9	72.0	36.7
Chile (2004)	16.6	164.5	9,890	3.9	4.4	42.4	53.3	48.8	38.7	74.0	64.2
Colombia	46.2	165.8	3,592	3.8	12.4	34.3	53.3	26.4	27.5	43.8	33.9
CAFTA–DR (2008)	47.1	132.8	2,817	2.9	12.8	28.4	58.8	38.1	51.0	89.4	27.8
Israel (1985)	6.9	159.7	23,051	2.5	n.a.	n.a.	n.a.	57.6	57.6	87.7	37.5
Jordan (2001)	5.9	16.3	2,748	3.0	3.1	28.9	68.0	6.6	11.9	146.6	89.4
Mexico (1994)	106.5	889.2	8,349	2.4	3.8	26.0	70.2	230.2	242.0	61.5	29.9
Morocco (2006)	31.2	73.7	2,362	3.1	13.3	29.0	57.6	18.7	22.3	69.4	44.1
Oman (2009)	2.6	40.5	15,614	6.0	n.a.	n.a.	n.a.	19.5	11.1	99.2	14.5
Panama	3.3	19.9	5,944	5.9	8.0	18.3	73.6	11.6	10.6	143.5	73.5
Singapore (2004)	4.4	156.1	35,196	5.5	0.1	32.7	67.2	285.1	250.7	447.3	159.9
South Korea	48.2	939.7	19,487	3.9	3.4	40.3	56.3	334.5	315.8	82.2	12.7
United States	309.8	13,816.0	44,594	1.8	1.2	22.8	76.0	1,303.1	2,019.8	26.8	15.1

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Table 2.1 Economic indicators for the United States and its FTA partners, 2007 *(continued)*

		National output (GDP)						Trade and foreign investment			
					Structure, 2005 (percent of GDP)			Goods and services trade, 2005 (billions of US dollars)			
Partner	**Population** (millions)	**Level** (billions of US dollars)	**Per capita** (US dollars)	**Per capita growth, 2003–07** (percent)	**Agriculture**	**Industry**	**Services**	**Exports**	**Imports**	**Total trade** (percent of GDP)	**FDI inward stock** (percent of GDP)
Memorandum items:											
World	6,671.2	54,273.9	8,136	2.4	3.2	27.9	69.0	12,254.6	12,254.6	54.2	28.0
Developing countries	5,358.9	14,055.2	2,623	5.3	10.8	35.8	53.4	3,258.9	3,052.9	63.7	30.2
Developed countries	1,010.3	38,436.5	38,046	1.9	1.5	26.2	72.3	9,048.2	9,294.6	52.2	27.2

n.a. = not available (not reported by source)

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Sources: UNCTAD (2009a, 2008); World Bank (2009).

Table 2.2 Growth of merchandise trade by US FTA partners with the United States and world, 2000–2008 (percentages at annual rates)

	Exports						Imports					
Partner	2005	2006	2007	2008	2005–2008	2000–2008	2005	2006	2007	2008	2005–2008	2000–2008
						United States						
US FTA partners	5.6	10.2	7.3	16.4	9.9	8.0	8.8	29.3	23.2	10.3	17.9	10.8
Australia (2004)	–3.0	11.5	4.8	22.2	8.9	8.1	10.5	12.8	8.0	16.9	12.0	7.8
Bahrain (2006)	5.4	43.8	0.1	–12.9	9.1	11.9	16.6	40.0	20.5	40.3	29.3	13.3
Canada (1994)	12.4	5.4	3.2	7.0	7.0	6.2	12.6	8.9	7.9	5.0	8.6	5.5
Chile (2004)	37.3	38.2	–4.9	–8.2	15.6	13.0	43.4	30.6	22.4	45.5	35.5	18.4
Colombia	21.3	4.3	2.1	37.9	16.4	9.6	20.2	23.9	27.6	33.6	26.3	14.6
CAFTA–DR (2008)	2.3	3.1	1.2	3.2	2.4	2.8	7.0	16.5	14.3	13.3	12.8	8.3
Israel (1985)	15.8	13.3	8.7	7.3	11.3	9.9	5.8	12.7	18.7	11.3	12.1	7.9
Jordan (2001)	15.3	12.7	–6.7	–14.7	1.7	63.1	16.5	1.0	31.8	9.8	14.8	14.9
Mexico (1994)	9.3	16.3	6.2	2.4	8.5	8.1	8.4	11.8	1.8	11.0	8.2	6.9
Morocco (2006)	–14.2	17.9	18.7	43.2	16.4	11.0	0.8	66.0	53.4	13.1	33.3	19.1
Oman (2009)	32.5	61.3	13.2	–17.6	22.4	22.6	79.9	43.9	24.1	33.6	45.4	27.8
Panama	4.1	15.8	–3.4	2.8	4.8	0.5	19.2	24.8	38.2	31.4	28.4	13.8
Singapore (2004)	–1.3	17.4	3.5	–13.5	1.5	–0.9	5.3	19.6	6.5	9.6	10.2	6.9
South Korea	–4.8	4.6	3.5	1.0	1.1	5.6	5.1	17.3	6.9	0.3	7.4	5.4

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Table 2.2 Growth of merchandise trade by US FTA partners with the United States and world, 2000–2008 (percentages at annual rates)*(continued)*

	Exports						Imports					
Partner	**2005**	**2006**	**2007**	**2008**	**2005–2008**	**2000–2008**	**2005**	**2006**	**2007**	**2008**	**2005–2008**	**2000–2008**
						World						
US FTA partners	18.5	13.9	13.8	n.a.	15.4	11.7	17.2	14.0	18.3	n.a.	16.5	12.2
Australia (2004)	25.8	16.3	11.4	n.a.	17.8	12.8	17.9	11.6	18.0	n.a.	15.8	13.1
Bahrain (2006)	35.8	14.7	16.9	n.a.	22.4	12.6	45.8	–1.4	25.4	n.a.	23.3	14.8
Canada (1994)	17.7	9.8	12.2	n.a.	13.2	11.4	17.4	12.6	8.6	n.a.	12.9	9.5
Chile (2004)	25.9	46.4	17.7	n.a.	30.0	21.9	30.4	18.2	25.8	n.a.	24.8	16.8
Colombia	26.2	14.2	22.3	n.a.	20.9	12.2	16.1	23.2	25.4	n.a.	21.5	14.3
CAFTA–DR (2008)	28.9	–11.1	56.7	n.a.	24.8	12.3	19.7	6.0	30.6	n.a.	18.8	12.8
Israel (1985)	5.2	7.7	11.7	n.a.	8.2	9.6	11.3	6.5	18.4	n.a.	12.1	9.5
Jordan (2001)	11.7	12.0	10.0	n.a.	11.2	18.3	25.1	10.1	18.8	n.a.	18.0	19.0
Mexico (1994)	18.6	13.3	7.2	n.a.	13.0	10.5	14.8	13.8	10.2	n.a.	12.9	9.3
Morocco (2006)	10.7	10.0	17.8	n.a.	12.9	8.1	17.1	11.7	35.2	n.a.	21.3	15.0
Oman (2009)	41.6	13.6	11.5	n.a.	22.2	18.2	–2.8	23.7	48.8	n.a.	23.2	16.9
Panama	9.1	5.1	9.4	n.a.	7.8	5.9	n.a.	16.5	38.3	n.a.	27.4	–7.1
Singapore (2004)	21.4	20.1	13.7	n.a.	18.4	16.8	21.0	20.1	15.7	n.a.	18.9	14.6
South Korea	16.3	15.9	15.1	n.a.	15.8	11.9	21.5	22.1	17.6	n.a.	20.4	17.6

n.a. = not available (not reported by source)

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA–DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. FTA partner exports to the United States are based on US general imports (c.i.f. values). FTA partner imports from the United States are based on US total exports (f.a.s. values). All underlying trade data are measured in nominal US dollars. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Sources: USITC (2009) for trade with the United States and WITS (2009) for trade with the world.

Table 2.3 Merchandise trade of the United States and its FTA partners by major product category, 2007

	Exports						Imports					
		To the United States (percent of total)						From the United States (percent of total)				
Partner	Total to world (billions of US dollars)	Total (billions of US dollars)	Agriculture	Ores and metals	Fuels	Manufactures	Total from world (billions of US dollars)	Total (billions of US dollars)	Agriculture	Ores and metals	Fuels	Manufactures
US FTA partners	972.7	379.1	8.5	4.9	20.4	61.5	1,020.5	279.2	9.6	3.5	6.2	78.5
Australia (2004)	108.9	4.7	35.1	6.8	3.1	50.7	89.0	10.1	4.1	1.1	1.0	93.3
Bahrain (2006)	13.4	0.4	0.1	19.6	0.0	80.3	9.6	0.1	10.4	0.6	0.5	88.5
Canada (1994)	275.4	2,12.9	8.3	5.9	25.3	55.3	219.6	114.0	7.8	3.6	4.9	80.9
Chile (2004)	61.6	7.5	34.6	46.1	2.2	12.3	30.9	5.1	7.6	2.3	24.4	65.5
Colombia	27.0	10.2	17.9	0.6	63.6	15.6	20.5	6.1	16.8	1.0	4.6	77.5
CAFTA-DR (2008)	16.7	6.1	39.5	2.4	3.3	51.9	31.8	10.0	15.5	0.8	15.0	67.0
Israel (1985)	35.2	14.4	1.0	0.6	0.0	87.0	40.9	4.3	7.0	1.9	4.1	84.6
Jordan (2001)	4.7	1.2	0.3	0.0	0.0	99.6	10.1	0.4	35.2	2.8	0.1	55.1
Mexico (1994)	124.2	96.5	5.4	1.9	15.4	73.4	150.4	89.6	11.2	3.7	7.7	74.9
Morocco (2006)	12.2	0.3	14.7	41.0	12.5	31.8	23.6	1.6	48.9	0.4	13.6	37.1
Oman (2009)	22.0	0.1	2.0	2.3	0.0	94.2	9.2	0.4	6.1	1.1	0.2	92.3
Panama	1.1	0.4	93.0	1.5	0.1	3.0	4.8	1.3	17.0	1.0	11.8	67.9
Singapore (2004)	121.4	7.2	0.9	0.4	2.0	95.1	124.7	14.0	1.5	1.8	3.4	90.7
South Korea	148.9	17.3	1.5	0.6	9.1	88.9	255.5	22.1	12.6	7.1	2.6	77.8
United States	624.4	…	…	…	…	…	1,235.6	…	…	…	…	…

… = not applicable

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Source: WITS (2009).

base and exports, and particularly expanding its production and exports of labor-intensive manufactures (World Bank 2006), the concentration of Morocco's exports to the United States in extractive natural resources may be a disappointment. Yet the Morocco-US FTA might still share credit for boosting Morocco's exports to third countries, if recent US FDI stimulated by the FTA involves the manufacture of products destined principally for the European Union or neighboring Maghreb markets.

Morocco's imports from the United States in 2007 amounted to only $1.6 billion, about 7 percent of the country's imports from the world. And unlike the imports of other US FTA partners, Morocco's imports from the United States are predominantly farm commodities (49 percent), followed by manufactures (37 percent). Indeed, Morocco's concentration of agricultural imports from the United States is the highest among all US FTA partners (followed at some distance by Jordan, 35 percent). From a policy perspective, this high ratio of agricultural imports could reflect a repression of economic incentives for efficient domestic agriculture.[2] Or it may be that simple comparative advantage favors exports of US food and other agricultural exports to Morocco, or that Moroccan harvests are poor because of occasional droughts.

Trade in Services

Limited data are available for Morocco's trade in services for comparison with other US FTA partners. In 2005 Morocco's exports of services to the world totaled $8.1 billion and imports $3.9 billion (table 2.4). Although the components of Morocco's services exports are not shown in the table, Morocco's services imports are principally transportation services (41 percent), other business services (19 percent), and government services (19 percent).[3] The details of Morocco's services trade with the United States are not available, including from the Bureau of Economic Analysis of the US Department of Commerce.

Foreign Direct Investment

During 2005–07, total inward stocks of FDI in Morocco, from all sources, valued at their historical cost, increased from $23 billion to nearly $33 billion, or 43 percent (table 2.5). This increase is squarely in line with the 45 percent increase recorded for total inward FDI stocks (again from all

2. On the role of protection and disincentives to efficient agriculture and rural development in developing countries, see for instance Bautista and Valdes (1993) and, in the context of the Middle East and North Africa, DeRosa (2000).

3. Given the magnitude of the last two percentages, it is possible that the figure for "other business services" actually encompasses all business services and that the figure for government services includes personal services as well.

Table 2.4 Trade in services of US FTA partners, 2005 (percent of total)

Country	Trading partner	All services (millions of US dollars)	Transportation	Travel	Communications	Construction	Insurance	Financial services	Information services	Royalties & license fees	Other business services	Personal services	Government services
						Services exports							
Australia (2004)	World	31,018	19.9	54.3	2.0	0.3	1.7	2.5	2.9	1.8	11.1	1.4	2.2
	(US)	(5,028)	(25.4)	(28.9)	n.a.	n.a.	(0.3)	n.a.	n.a.	(5.9)	n.a.	n.a.	n.a.
Bahrain (2006)	World	1,662	41.1	55.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.6	n.a.	n.a.
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada (1994)	World	55,281	17.5	24.9	3.9	0.3	5.8	2.9	7.1	5.1	25.9	4.0	2.5
	(US)	(6,606)	(77.2)	n.a.	n.a.	n.a.	(9.8)	n.a.	n.a.	(13.0)	n.a.	n.a.	n.a.
Chile (2004)	World	7,134	0	0	0	n.a.	0	0	0	0	0	0	0
	(US)	(704)	(45.6)	(53.0)	n.a.	n.a.	(0.3)	n.a.	n.a.	(1.1)	n.a.	n.a.	n.a.
Colombia	World	2,664	29.3	45.7	8.2	n.a.	n.a.	1.2	0.8	0.4	10.2	1.6	2.8
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CAFTA-DR (2008)	World	9,944	9.5	72.9	4.4	0.4	1.2	0.4	2.7	0.0	4.9	0.0	3.2
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Israel (1985)	World	17,450	21.1	16.0	n.a.	n.a.	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	0.2
	(US)	(1,529)	(61.8)	(27.6)	n.a.	n.a.	(0.1)	n.a.	n.a.	(10.5)	n.a.	n.a.	n.a.

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Table 2.4 Trade in services of US FTA partners, 2005 (percent of total) *(continued)*

Country	Trading partner	All services (millions of US dollars)	Transportation	Travel	Communications	Construction	Insurance	Financial services	Information services	Royalties & license fees	Other business services	Personal services	Government services
						Services exports							
Jordan (2001)	World	2,334	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	0
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico (1994)	World	16,137	10.9	73.1	3.4	n.a.	9.6	n.a.	n.a.	0.4	n.a.	2.3	0.2
	(US)	(14,950)	(12.6)	(68.9)	n.a.	n.a.	(0.1)	n.a.	n.a.	(1.4)	n.a.	n.a.	n.a.
Morocco (2006)	World	8,103	0	0	0	n.a.	0	n.a.	n.a.	0	0	n.a.	0
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Oman (2009)	World	741	0	0	0	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Panama	World	3,144	56.5	24.8	2.1	n.a.	1.1	6.3	0.6	n.a.	7.5	n.a.	1.2
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Singapore (2004)	World	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	(US)	(4,389)	(38.0)	(10.6)	n.a.	n.a.	(0.4)	n.a.	n.a.	(0.5)	n.a.	n.a.	n.a.
South Korea	World	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	(US)	(8,183)	(57.1)	(12.6)	n.a.	n.a.	(0.1)	n.a.	n.a.	(0.5)	n.a.	n.a.	n.a.

		Services imports											
Australia (2004)	World	30,498	35.3	36.9	2.0	n.a.	2.2	1.3	2.6	6.6	8.5	2.5	2.0
	(US)	(9,692)	(9.6)	(27.3)	n.a.	n.a.	(1.6)	n.a.	n.a.	(13.1)	n.a.	n.a.	n.a.
Bahrain (2006)	World	977	47.8	42.4	n.a.	n.a.	3.5	n.a.	n.a.	n.a.	6.4	n.a.	n.a.
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Canada (1994)	World	65,319	22.2	27.9	3.1	0.3	7.0	3.6	2.7	10.5	18.4	3.1	1.3
	(US)	(39,655)	(15.9)	(28.6)	n.a.	n.a.	(4.8)	n.a.	n.a.	(12.8)	n.a.	n.a.	n.a.
Chile (2004)	World	7,755	53.3	13.5	2.0	n.a.	6.0	3.3	0.9	4.5	13.4	0.7	2.4
	(US)	(968)	(39.5)	(43.6)	n.a.	n.a.	(5.6)	n.a.	n.a.	(11.4)	n.a.	n.a.	n.a.
Colombia	World	4,766	44.2	23.6	3.2	n.a.	6.1	3.0	2.5	2.5	12.6	0.9	1.4
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CAFTA-DR (2008)	World	6,984	48.6	28.1	1.2	0.7	6.8	0.8	0.3	2.0	8.0	0.1	2.5
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Israel (1985)	World	13,718	34.3	21.1	n.a.	n.a.	3.0	n.a.	n.a.	n.a.	n.a.	n.a.	1.6
	(US)	(2,170)	(43.4)	(49.5)	n.a.	n.a.	(1.7)	n.a.	n.a.	(5.4)	n.a.	n.a.	n.a.

(table continues next page)

Table 2.4 Trade in services of US FTA partners, 2005 (percent of total) *(continued)*

Country	Trading partner	All services (millions of US dollars)	Transportation	Travel	Communications	Construction	Insurance	Financial services	Information services	Royalties & license fees	Other business services	Personal services	Government services
						Services imports							
Jordan (2001)	World	2,542	52.8	23.0	n.a.	n.a.	21.2	n.a.	n.a.	n.a.	n.a.	n.a.	3.0
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico (1994)	World	21,440	12.7	35.4	0.6	n.a.	40.6	2.6	n.a.	0.5	3.9	1.3	2.4
	(US)	(22,489)	(15.7)	(37.5)	n.a.	n.a.	(1.0)	n.a.	n.a.	(7.0)	n.a.	n.a.	n.a.
Morocco (2006)	World	3,854	41.1	15.9	1.1	n.a.	2.1	n.a.	n.a.	1.2	19.3	n.a.	19.3
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Oman (2009)	World	3,052	34.4	21.1	1.4	n.a.	9.8	n.a.	n.a.	n.a.	33.3	n.a.	n.a.
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Panama	World	1,729	54.4	15.7	1.3	n.a.	3.1	9.1	n.a.	2.4	10.7	n.a.	3.3
	(US)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Singapore (2004)	World	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	(US)	(6,976)	(10.9)	(8.2)	n.a.	n.a.	(0.6)	n.a.	n.a.	(42.6)	n.a.	n.a.	n.a.
South Korea	World	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	(US)	(12,375)	(22.8)	(34.5)	n.a.	n.a.	(1.1)	n.a.	n.a.	(17.0)	n.a.	n.a.	n.a.

n.a. = not available (not reported by source)

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Trade in services with the United States are statistics for 2006, based on US as reporter country. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Source: UNSD (2009).

Table 2.5 Inward stocks of foreign direct investment (FDI) in US FTA partners, 2005–07 (billions of US dollars)

	Total FDI stocks			US FDI stocks		
Partner	**2005**	**2006**	**2007**	**2005**	**2006**	**2007**
US FTA partners	1,248.4	1,415.6	1,807.0	510.6	521.6	580.1
Australia (2004)	210.9	246.2	312.3	75.7	68.5	79.0
Bahrain (2006)	8.3	11.4	12.9	0.2	0.1	0.1
Canada (1994)	356.9	385.2	520.7	231.8	230.0	257.1
Chile (2004)	73.6	80.7	105.6	11.1	11.4	12.6
Colombia	36.7	44.8	56.2	4.3	4.6	5.6
CAFTA-DR (2008)	24.2	27.3	36.9	4.7	6.4	7.5
Israel (1985)	36.3	47.5	60.0	8.0	9.4	10.1
Jordan (2001)	5.1	16.3	14.5	0.0	0.0	0.1
Mexico (1994)	209.6	228.6	265.7	73.7	83.2	91.7
Morocco (2006)	22.8	29.8	32.5	0.2	0.1	0.2
Oman (2009)	4.0	3.9	5.9	n.a.	n.a.	n.a.
Panama	9.9	12.8	14.6	4.8	4.7	6.2
Singapore (2004)	186.9	210.1	249.7	76.4	78.4	82.6
South Korea	63.2	71.0	119.6	19.8	24.6	27.2
United States	1,625.7	1,789.1	2,093.0	…	…	…
Memorandum items						
World	10,129.7	11,998.8	15,210.6	2,241.7	2,454.7	2,791.3
Developing countries	2,757.0	3,155.9	4,246.7	…	…	…
Developed countries	7,117.1	84,539.0	10,458.6	…	…	…

… = not applicable; n.a. = not available (not reported by source)

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Sources: UNCTAD (2008); BEA (2009).

sources) of all US FTA partners (from $1.2 trillion to $1.8 trillion). During the same period, US FDI stocks in Morocco were virtually flat, at $0.2 billion. However, after declining to $0.1 billion in 2006 for reasons that include a possibly declining climate for US FDI in Morocco relative to other countries, they rebounded to $0.2 billion in 2007, the year following the inauguration of the Morocco-US FTA.

The distribution of world and US FDI across Moroccan industries is not reported by US or international data sources. Moreover, based on available statistics, it is not possible to determine the extent to which the Morocco-US FTA may have stimulated FDI from third countries whose

multinational firms wished to gain duty-free access for their exports to the United States.[4]

Economic Policy Environment

As in other countries, the performance of Morocco's economy is conditioned by its economic policy and institutional environment, and the more open and transparent this environment, the greater the foreign trade and investment, domestic output, employment, and growth. Thus, for the last decade or more, Morocco has sought to undertake economic and political reforms to strengthen its status as an emerging-market economy, with the overarching objective of bettering economic and social conditions. It became a member of the World Trade Organization (WTO) in 1995 and in 2002 initiated a significant economic and political reform agenda, with important support from the World Bank and bilateral donor agencies. In subsequent years, Morocco negotiated bilateral FTAs with several important trading partners, including the European Union and the United States.[5]

The present policy environment of Morocco can be assessed initially in terms of the country's openness to foreign trade and investment. Notwithstanding its bilateral FTAs, the country's general openness to international trade and foreign investment will govern its overall volume of trade and attractiveness to multinational firms and foreign long-term investors.

Recent WTO statistics on tariff protection in member countries, presented in table 2.6, indicate that Morocco is one of the most protected countries among US FTA partners. Whereas US FTA partners impose tariffs at an average ad valorem rate of 18 percent on agricultural products and 8 percent on nonagricultural products, Morocco's rates are 39 and 25 percent, respectively. Several individual product categories in table 2.6 correspond to important inputs to production for domestic and foreign manufacturing firms operating in Morocco—for example, petroleum (30 percent import tariff), chemicals (16 percent), and transport equipment (17 percent). High tariff rates in a number of input product categories would seem to work against Morocco's objective of attracting producers of high-value and labor-intensive manufactures within the country's borders.

Beyond the general structure of Morocco's tariff protection against merchandise imports, the latest *National Trade Estimate Report on Foreign Trade*

4. Although, broadly speaking, protection is minimal in the United States, high tariffs and quantitative protection measures still exist for many products in the US tariff schedule; open access to the US market for goods produced in Morocco and accommodation of the rules of origin under the Morocco-US FTA are thus very attractive for "footloose" manufacturers.

5. Morocco is party to six regional trade agreements: Morocco-EU, Morocco-EFTA, Morocco-Turkey, Morocco-US, the Agadir Agreement, and the Greater Arab Free Trade Area (WTO 2009).

Table 2.6 Applied MFN tariffs in the United States and its FTA partners by product group, 2007 (simple averages, percent)

Product	All WTO members	United States	FTA partners combined	Australia (2004)	Bahrain (2006)	Canada (1994)	Chile (2004)	Colombia
Agricultural	6.4	8.5	18.3	1.6	9.1	33.4	6.0	17.5
Animal products	n.a.	2.7	23.9	0.4	3.4	28.8	5.7	24.3
Dairy products	n.a.	24.1	46.0	4.1	5.0	242.4	6.0	26.1
Fruit, vegetables, plants	n.a.	5.1	15.4	1.6	3.3	3.5	6.0	15.2
Coffee, tea	n.a.	3.9	15.2	1.0	3.1	10.4	6.0	17.9
Cereals & preparations	n.a.	4.0	22.0	1.3	3.5	23.2	6.0	20.5
Oilseeds, fats & oils	n.a.	5.0	11.1	1.6	4.9	5.1	6.0	16.1
Sugars & confectionery	n.a.	19.0	14.1	1.9	3.8	5.1	6.0	16.8
Beverages & tobacco	n.a.	15.6	26.0	3.6	53.6	7.3	6.0	18.6
Cotton	n.a.	4.3	2.4	0.0	5.0	0.5	6.0	10.0
Other	n.a.	1.3	7.3	0.3	4.9	7.4	6.0	9.6
Nonagricultural	7.5	3.2	8.3	4.1	4.6	4.2	6.0	13.0
Fish & fish products	n.a.	1.0	13.1	0.0	3.3	0.9	6.0	19.0
Minerals & metals	n.a.	1.6	6.4	2.8	4.9	1.7	6.0	10.0
Petroleum	n.a.	2.3	7.4	0.0	5.0	2.7	6.0	10.1
Chemicals	n.a.	2.8	4.5	1.8	4.4	2.8	6.0	8.0
Wood, paper, etc.	n.a.	0.5	8.3	3.4	4.7	1.1	6.0	13.2
Textiles	n.a.	7.9	8.3	6.8	5.0	6.6	6.0	17.8

(table continues next page)

Table 2.6 Applied MFN tariffs in the United States and its FTA partners by product group, 2007 (simple averages, percent) *(continued)*

Product	All WTO members	United States	FTA partners combined	Australia (2004)	Bahrain (2006)	Canada (1994)	Chile (2004)	Colombia
Nonagricultural *(continued)*								
Clothing	n.a.	11.7	16.2	15.4	5.0	16.9	6.0	20.0
Leather, footwear, etc.	n.a.	3.9	9.4	5.5	5.0	5.3	6.0	13.7
Nonelectrical machinery	n.a.	1.2	4.6	3.1	4.8	1.5	6.0	8.7
Electrical machinery	n.a.	1.4	6.2	3.2	4.0	2.5	6.0	10.4
Transport equipment	n.a.	2.3	7.6	5.9	4.0	5.8	5.5	13.7
Manufactures, nes	n.a.	2.3	7.3	1.4	4.7	3.0	6.0	11.2

	CAFTA-DR (2008)	Israel (1985)	Jordan (2001)	Mexico (1994)	Morocco (2006)	Oman (2009)	Panama	Singapore (2004)	South Korea
Agricultural	12.6	20.2	18.2	27.3	39.0	11.8	15.8	0.2	44.1
Animal products	18.1	31.0	13.0	40.6	105.5	21.2	20.3	0.0	22.1
Dairy products	26.3	108.3	15.5	39.1	62.5	5.0	36.6	0.0	67.5
Fruit, vegetables, plants	12.4	20.7	22.4	17.3	41.5	3.3	11.1	0.0	57.8
Coffee, tea	14.1	0.7	20.8	37.2	24.2	3.1	20.6	0.0	53.9
Cereals & preparations	11.1	11.0	12.9	22.4	44.2	3.5	14.4	0.0	133.7
Oilseeds, fats & oils	6.0	6.5	9.9	17.9	26.0	6.0	9.8	0.0	40.0
Sugars & confectionery	18.5	2.0	8.6	56.4	32.4	3.8	24.1	0.0	17.8
Beverages & tobacco	15.6	16.7	69.5	27.3	36.5	61.6	13.3	2.1	31.7

Cotton	0.0	0.0	0.0	6.5	0.0	5.0	0.0	0.0	0.0
Other	4.3	4.8	9.1	8.6	17.2	5.6	7.9	0.0	16.6
Nonagricultural	6.8	6.8	13.3	13.0	24.8	4.6	7.6	0.0	7.3
Fish & fish products	10.4	28.1	20.0	16.6	47.0	3.3	12.9	0.0	15.8
Minerals & metals	4.0	3.2	11.8	9.1	19.4	4.9	7.1	0.0	4.6
Petroleum	7.9	4.1	18.3	6.1	30.4	5.0	3.9	0.0	4.6
Chemicals	2.4	1.7	1.4	7.3	15.5	4.4	1.9	0.0	5.9
Wood, paper, etc.	6.5	5.2	14.5	9.7	38.0	4.7	7.7	0.0	2.2
Textiles	8.7	6.4	5.5	12.2	23.4	5.0	3.7	0.0	9.1
Clothing	15.6	11.7	23.3	35.0	48.4	5.0	11.7	0.0	12.6
Leather, footwear, etc.	8.2	5.2	15.7	15.6	29.1	5.6	8.9	0.0	7.9
Nonelectrical machinery	1.6	4.1	6.1	7.0	6.4	4.8	4.9	0.0	6.0
Electrical machinery	3.5	3.8	13.8	9.2	12.3	4.0	8.0	0.0	6.2
Transport equipment	5.4	3.3	10.1	16.0	16.9	4.0	10.8	0.0	5.5
Manufactures, nes	7.7	4.7	19.0	11.6	11.0	4.7	10.0	0.0	6.7

MFN = most favored nation
nes = not elsewhere specified
n.a. = not available (not reported by source)

Notes: Dates in parentheses denote the commencement date of the US FTA. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Source: WTO (2008).

Barriers, prepared annually by the Office of the US Trade Representative (USTR 2008), raises concerns about the openness of Moroccan markets for selected US goods and services and for FDI against the backdrop of the Morocco-US FTA. With regard to US merchandise exports, the concerns are mainly about the ease of entry of US agricultural goods to Moroccan markets, given almost 50 percent of Moroccan imports from the United States are in agriculture. The provisions of the Morocco-US FTA guarantee US access to markets in Morocco for beef, poultry, wheat, almonds, and apples under specially agreed tariff-rate quota schedules. But US exporters have complained that their commodities have not been accorded proper treatment by Moroccan customs authorities. In addition, there are reports that Morocco continues to ban biotechnology-based seeds and certain other agricultural goods.

Although Morocco adheres to the WTO Agreement on Technical Barriers to Trade and is improving the transparency of government rule-making in setting standards and regulations for products entering the domestic market, it is not a signatory to the WTO Agreement on Government Procurement. The lack of formal commitment to this agreement leaves room for irregularities, bribery, and corruption in government procurement, even though the Morocco-US FTA requires the government to treat such offenses as a criminal matter.

In principle, the Morocco-US FTA opens Morocco's services sector to entry by US services firms, with few exceptions. Some US insurance firms, however, object to Moroccan regulations that effectively prevent head-to-head competition in all lines, with the exception of new insurance products introduced to the local market.

With respect to FDI, US and other foreign firms operating in Morocco enjoy protections under bilateral investment treaties (BITs) struck by Morocco with nearly 30 countries (the Morocco-US BIT has been in force since 1991; UNCTAD 2009b). FDI under BITs also enjoy strong intellectual property protections for trademarks, copyrights, and patents,[6] enhanced under Moroccan law in compliance with the terms of the Morocco-US FTA. Arguably inhibiting greater US FDI in Morocco, however, are adverse business conditions that result from complex restrictive economic policies and regulations that inhibit the operation of free markets.

The overall attractiveness of Morocco for greater business activity, international trade, and long-term foreign investment is not only subject to a broad array of economic, social, and institutional factors but also ham-

6. This is not to be mistaken with the discussion below of general property rights in Morocco, which are considered still poor. Poor protection of property rights inhibits overall private investment and growth in an economy and can even limit FDI covered by BITs, depending upon the extent to which long-term foreign investment plans look either to serve host country markets or to source produced inputs from the host country.

pered by government policies that limit the ease of economic exchange both at the border and within the country. The Heritage Foundation–Wall Street Journal Index of Economic Freedom (IEF) (Miller and Holmes 2009) quantifies the attractiveness of countries for general commerce and trade in terms of several components, each assessed on a scale from zero (worst) to 100 (best). As seen in table 2.7, the 2009 IEF assigns Morocco the lowest overall score among the US FTA partners, 57.7. This is about the average score of all developing countries in the index (56.2) but is appreciably lower than that of the next lowest ranked US FTA bilateral partner, Jordan (65.4) (Colombia's and Panama's scores are lower but FTAs with those two countries have not yet been ratified by the US Congress).[7]

Consistent with the discussion above, the IEF finds that Morocco is the most highly protected US FTA partner, with a trade score of only 68.0 versus 80.2 for all US FTA partners on average. Other weak components of economic freedom for Morocco relate more directly to its domestic economic and institutional environment. Financial freedom (50.0) is low in comparison to all US FTA partners (65.2) because the government retains large shares in a number of the country's banks and because relatively high costs of credit discourage private-sector borrowing for investment, especially by small-scale enterprises. Property rights (35.0) are judged to be only weakly protected in Morocco, especially intellectual property rights. Freedom from corruption (35.0) also poses an important challenge for business in Morocco. Based on the reports underlying Transparency International's Corruption Perceptions Index for 2007, submitted by domestic and foreign firms operating in Morocco, corruption is widespread at several levels of government, including the judicial branch. Finally, Morocco receives its lowest score (30.8) for a firm's freedom to manage labor relations. Owing to the country's labor laws and regulations, the nonsalary cost of employing a worker is high, and it is particularly difficult to lay off workers. These factors work as disincentives to greater employment in the Moroccan economy and hinder the mobility and productivity of the country's labor force.

Gravity Model Analysis

A standard gravity model is a useful means to explore the attractiveness of Morocco's general economic conditions and policy environment for international trade and FDI. The model compares Morocco's reported levels of trade and FDI with the United States and other countries in recent years to

7. Morocco does not fare much better in the World Bank comparison of economic regulations across countries (World Bank 2007b): In its *Doing Business Report 2008*, Morocco ranks 128 out of the 178 economies considered in overall ease of doing business. In comparison, US FTA partners Chile and Jordan rank 33rd and 80th, respectively.

Table 2.7 Heritage Foundation–Wall Street Journal Index of Economic Freedom for the United States and its FTA partners, 2008

Partner	Overall score	Business	Trade	Fiscal	Government	Monetary	Investment	Financial	Property rights	Corruption	Labor
US FTA partners	70.3	77.9	80.2	78.8	71.9	78.5	66.4	65.2	61.1	54.7	68.2
Australia (2004)	82.6	90.5	84.8	61.4	64.3	84.7	80.0	90.0	90.0	86.0	94.7
Bahrain (2006)	74.8	79.6	80.0	99.9	79.4	74.0	60.0	80.0	60.0	50.0	85.1
Canada (1994)	80.5	96.5	88.2	76.6	53.7	80.8	70.0	80.0	90.0	87.0	81.9
Chile (2004)	78.3	66.3	85.8	78.2	90.1	77.3	80.0	70.0	90.0	70.0	75.0
Colombia	62.3	77.4	72.4	72.9	65.9	70.6	60.0	60.0	40.0	38.0	66.0
CAFTA-DR (2008)	62.2	61.2	78.7	82.9	85.3	72.9	60.0	53.3	35.8	33.2	58.8
Israel (1985)	67.6	67.8	86.0	57.1	35.1	83.7	80.0	70.0	70.0	61.0	64.9
Jordan (2001)	65.4	68.9	78.8	83.0	56.9	80.3	50.0	60.0	55.0	47.0	74.1
Mexico (1994)	65.8	80.3	80.2	83.4	81.8	77.5	50.0	60.0	50.0	35.0	59.8
Morocco (2006)	57.7	76.2	68.0	65.1	76.5	80.5	60.0	50.0	35.0	35.0	30.8
Oman (2009)	67.0	63.3	83.6	98.5	61.1	71.4	60.0	60.0	50.0	47.0	75.0
Panama	64.7	74.5	76.2	82.6	89.8	77.9	70.0	70.0	30.0	32.0	44.1
Singapore (2004)	87.1	98.3	90.0	91.1	93.8	86.8	80.0	50.0	90.0	93.0	98.1
South Korea	68.1	90.4	70.2	70.4	72.5	80.0	70.0	60.0	70.0	51.0	46.4
United States	80.7	91.9	86.8	67.5	59.6	84.0	80.0	80.0	90.0	72.0	95.1
Memorandum items											
World	59.5	64.2	73.2	75.0	65.2	74.0	48.8	49.1	44.0	40.3	61.3
Developing countries	56.2	59.5	70.2	76.5	69.4	72.4	43.2	43.5	35.3	32.3	59.4
Developed countries	71.1	81.0	83.5	69.5	50.2	79.5	68.5	68.8	74.4	68.0	67.9

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Sources: Miller and Holmes (2009).

the levels predicted by the gravity model, taking into account the influence of a number of fundamental forces that determine trade and investment between partners.

Gravity Model and Dataset

This analysis is based on the Peterson Institute gravity model (DeRosa 2007, 2008), which has been used in a number of recent studies of the prospective trade and investment impacts of US and other FTAs, including notably those for the Maghreb region (Hufbauer and Brunel 2008). The model encompasses bilateral merchandise trade flows and inward FDI stocks among approximately 170 countries from 1976 to 2005 (with numerous gaps, mainly in the observations of bilateral FDI stocks). Table 2.8 lists the model's explanatory variables, the most familiar of which are the joint real GDP levels of partners and the distance between them. Others include geographic, political, and institutional factors that either augment or diminish the gravitational forces that promote commerce between countries. The model also incorporates indicator variables for over 500 FTAs, grouped into nine prominent individual FTAs and groups of FTAs worldwide, including the North American Free Trade Agreement (NAFTA) and those of the European Union.[8] The FTA indicators are dichotomous variables (termed dummy variables) that take a value of 1 if trade or investment partner countries are FTA members and their mutual trade agreement is in force; otherwise they take a value of 0.[9] The gravity model includes related indicator variables to assess the effect of the FTAs on the trade and investment of members with nonmember countries.[10]

Notwithstanding the large number of identified explanatory variables, the Peterson Institute gravity model also gives consideration to variables that might be missing or unobservable. To account for systemic global influences on trade, the model includes year-effect variables, essentially indi-

8. The FTAs and preferential trade agreements are grouped as follows: European Union (EU); European Free Trade Association (EFTA); EU bilateral free trade agreements (EU FTAs); North American Free Trade Agreement (NAFTA); Southern Common Market (Mercosur); Chile, Mexico, Australia, and Singapore (CMAS) FTAs, separately distinguished because these are truly free trade countries; ASEAN Free Trade Area (AFTA); South Asian Free Trade Agreement (SAFTA); and all other customs unions and FTAs.

9. To illustrate, the NAFTA indicator variable for US-Mexico trade would not take on a value of 1 until 1994.

10. The change in trade or investment between FTA members is most often measured in percentage terms. Given the log-linear specification of the gravity model, the impact of an FTA on bilateral trade or inward FDI stocks can be computed in percentage terms as $100*[\exp(b_{fta}) - 1.00]$. In this expression, b_{fta} is the estimated coefficient for the dummy variable representing the presence of an FTA, and $\exp(b_{fta})$ is the value of the natural number e raised to the exponent b_{fta}. If the coefficient b_{fta} is 0.50, then the value of $\exp(b_{fta})$ is 1.65, and the percentage expansion in bilateral commerce is estimated as 100*[1.65 – 1.00], or 65 percent.

Table 2.8 Gravity model estimates for trade and inward FDI stocks specifying major customs unions and free trade agreements, 1976–2005

Variable	Merchandise trade	Inward FDI stocks
Distance	–1.00 ***	–0.50 ***
Joint GDP	0.04 ***	–0.10 ***
Joint GDP per capita	0.08 ***	0.22 ***
Common language	0.08 ***	0.98 ***
Common border	0.27 ***	0.62 ***
Landlocked	–1.06 ***	–0.35 ***
Island	0.19 ***	0.59 ***
Land area	0.30 ***	0.16 ***
Common colonizer	–0.74 ***	–0.34 ***
Current colony	0.48 ***	–0.37 ***
Ever a colony	1.25 ***	1.74 ***
Common country	1.17 ***	2.09 ***
GSP	0.24 ***	0.19 ***
Joint FDI stocks	0.08 ***	…
Joint trade with all partners	…	0.54 ***
EU	0.22 ***	0.62 ***
EU FTAs	0.10 ***	0.17 ***
NAFTA	0.70 ***	–0.37 ***
Mercosur	0.38 ***	1.25 ***
CMAS FTAs	0.10 ***	0.52 ***
AFTA	0.77 ***	0.80 ***
Other FTAs	0.30 ***	0.07 ***
Constant	6.52 ***	–7.94 ***
R-squared	0.94	0.92
Observations (thousands)	55	36
Clusters (thousands)	5	4

GSP = Generalized System of Preferences

Notes: Dependent variables are bilateral trade and bilateral inward FDI stocks, both measured in log real terms. Distance, joint real GDP, joint real GDP per capita, joint land area, joint real FDI stocks, and joint real trade with all partners are measured in log terms. Estimates for year-effects and indicators of FTA members' trade and investment with non-member countries are not reported.

Trade agreements represented by indicator variables are: European Union (EU), European Free Trade Association (EFTA, not reported), EU bilateral free trade agreements (EU FTAs), North American Free Trade Agreement (NAFTA), Southern Common Market (Mercosur), Chile, Mexico, Australia, and Singapore bilateral free trade agreements (CMAS FTAs), ASEAN Free Trade Area (AFTA), South Asian Free Trade Agreement (SAFTA, not reported), and all other customs unions and free trade agreements (Other FTAs).

Clusters are the number of ordered country pairs in the panel dataset. ** and *** denote statistical significance at 5 and 1 percent levels, respectively.

Source: Fixed-effects estimates obtained by a multi-step method developed by Plumper and Troeger (2007).

cator variables that represent episodic global effects on international trade and investment—for example, oil shocks, fluctuations in the value of the dollar, and the extent of globalization. The model also includes indicator variables for each ordered country pair in the dataset; these variables represent the influence of unobserved economic circumstances and policies that either promote or hinder economic exchange between trade or investment partners. This indicator variable technique minimizes the possible bias in the estimated coefficients of the individually identified explanatory variables that can arise from missing explanatory variables.

Finally, the parameters of the Peterson Institute gravity model are estimated separately for bilateral trade and inward FDI stocks, using a multistep, fixed-effects method for panel datasets developed recently by Thomas Plumper and Vera Troeger (2007). This approach yields reliable coefficient estimates for both time-invariant and time-varying explanatory variables.

Estimation Results

Table 2.8 presents the gravity model's estimation results for both bilateral trade flows and inward FDI stocks.[11] A number of regularities matching the findings of other gravity models are discernible in the results. Above all, the specified explanatory variables contribute significantly to explaining variations in bilateral trade flows and inward FDI stocks, as indicated by the high R-squared statistics for the two gravity model equations.[12]

As expected, greater distance between partners reduces bilateral trade and investment, while the joint GDP of partners, expressed in either level or per capita form, expands bilateral commerce in the model, holding other forces constant.[13] The individual influence of other core explanatory variables is also sensible and generally conforms to the results of other gravity model analyses. For example, a common language or border between countries tends to expand bilateral commerce, as does being an island economy, a previous colonial relationship with a trading partner, or status as a ben-

11. The estimation results, although very similar to those in DeRosa (2008), are based on revisions to the underlying gravity model dataset that increased by about 50 percent the total number of observations available for the estimation of the model's coefficients for merchandise trade.

12. Although the R-squared statistic is greater than 0.90 for both equations, the reported value of the statistic may be inflated by the Plumper and Troeger (2007) multistage estimation, which measures the statistic only in the last stage of the procedure.

13. The economic theory underlying the gravity model suggests that the estimated coefficient of the joint GDP–level variable should approximate unity when the dependent variable of the estimating equation is bilateral trade. The expected sign of the joint GDP per capita variable is uncertain, but in our estimation results it appears to vie with the joint GDP–level variable for statistical significance in explaining both bilateral trade flows and FDI stocks.

eficiary of the Generalized System of Preferences (GSP).[14] In addition to distance, the principal resistance factors to trade, according to the gravity model, are being a landlocked country or a member of a country pair with a common colonizer (e.g., India and Kenya, both former UK colonies).

There are also significant interrelationships between trade and foreign investment in the estimation results. The greater the joint stock of foreign investment in partner countries, the greater their mutual trade. Analogously, the greater the joint trade of partner countries with the world, the greater the level of investment of the two countries in each other's economy, presumably because of both their mutual trade and their general openness to the global economy.

Finally, as with estimates for the core explanatory variables, the coefficient estimates for the FTA indicator variables are statistically significant in most instances and predominantly bear the anticipated positive sign. The significant negative coefficient estimated for the NAFTA indicator variable in the inward FDI stocks equation is the most important anomaly. It may reflect substantial tariff-jumping investment between the United States and Canada before the implementation of NAFTA in 1994, as well as some natural unwinding of investment positions between the two NAFTA partners after 1994.[15]

Actual-to-Potential Trade and Investment

Analysts frequently use gravity models to assess potential foreign trade and investment outcomes, combining estimated coefficients with observed or expected values of the model's explanatory variables to predict bilateral trade and investment levels.

Following the gravity model approach for calculating trade potential recommended by Peter Egger (2002), this analysis computes average ratios

14. Under the GSP, a number of advanced countries extend trade preferences to less developed countries on a nonreciprocal basis. The GSP programs of major industrial and other countries are monitored by the United Nations Conference on Trade and Development (UNCTAD), including through a series of handbooks and manuals describing the individual programs (UNCTAD 2005).

15. Not reported individually in table 2.8 are estimated year effects representing global influences on trade and investment over the estimation period 1976–2005 and cross-FTA indicators that indicate the influence of the FTAs on trade and investment by member countries with nonmember countries. However, estimated coefficients for cross-FTA indicators in the gravity model equation for bilateral trade are widely positive and significant. In other words, the FTAs appear to stimulate not only intrabloc trade but also trade with countries outside the trading blocs—an unexpected result given the common conjecture that an FTA will divert trade from nonmember countries. For further discussion, see Dean A. DeRosa and Gary Clyde Hufbauer, "What Do Gravity Models Tell Us About PTAs' Impacts on Trade Flows: More Creation or More Diversion?" VoxEU.org, October 16, 2007, available at http://voxeu.org (accessed on January 15, 2009).

of actual to predicted trade and investment over 2000–2005 based on the regression results in table 2.8. The Egger approach calculates potential trade ratios on the basis of the gravity model fixed-effects estimated level for each pair of trading partners, ordered by the direction of commercial exchange between the partners (e.g., Morocco's exports to and, separately, imports from the United States). This approach avoids the possibility of misinterpreting the regression residuals, which in theory are expected to be "white noise," as indicators of meaningful surpluses or shortfalls in bilateral trade or investment. Rather, it ascribes the computed potential trade and investment ratios specifically to the fixed-effects indicators that represent the influence of forces not explicitly represented in the gravity model, including possible illiberal aspects of policy regimes restricting bilateral commerce.[16]

Table 2.9 presents the average actual-to-potential ratios for the merchandise trade and inward FDI stocks of Morocco and the other US FTA partners with the United States and the world (i.e., all partners), computed for the period 2000–2005. The results reveal that the trade and investment of US FTA partners are generally greater than predicted by the gravity model (i.e., the computed ratios in table 2.9 are nearly everywhere greater than unity). Also, the actual-to-potential ratios are uniformly greater for commerce with the United States than with the world. In other words, the bilateral trade and long-term foreign investment relations of the present US FTA partners with the world are nearly all greater than predicted by the gravity model. Moreover, the commercial relations between these partners and the United States are particularly strong by comparison with predictions from the gravity model.

The computed ratios for the merchandise trade and inward FDI stocks of Morocco stand out because they are among the lowest in table 2.9. Morocco's recent exports of goods to the world average only 60 percent of their potential, and those to the United States about 90 percent. In comparison, Chile's and Jordan's recent exports to the United States are four to five times greater than predicted by the gravity model. With respect to merchandise imports, Morocco's imports from the world and the United States are about in line with the predictions of the gravity model. However, those of Chile and Jordan are two to four times greater than predicted by the gravity model. Moreover, the actual-to-potential trade ratios reported for all US FTA partners combined—6.0 to 7.5 for trade with the world and about 25.0 for trade with the United States—place the comparatively weak trade performance of Morocco in even sharper perspective.

16. For each year t, the actual-to-potential ratio of trade (or investment) between partners (country i and country j) is computed as $\exp[\ln A_{ij} - \ln P_{ij} + FE_{ij}]$, where $\ln A_{ij}$ and $\ln P_{ij}$ are natural logarithmic levels of actual and predicted trade between the partners, respectively, and FE_{ij} is the estimated fixed effect. $\ln P_{ij}$ is inclusive of FE_{ij}, so the latter term is added back in the computation to ensure that the calculated "effective" ratio of actual-to-potential trade reflects the estimated fixed-effects component of the gravity model.

Table 2.9 Average ratios of actual-to-potential merchandise trade and inward foreign direct investment stocks of US FTA partners with the United States and the world, 2000–2005

	Merchandise trade with				Inward FDI stocks with[a]			
	United States		World		United States		World	
Partner	FTA partner exports	FTA partner imports	FTA partner exports	FTA partner imports	FTA partner "exports"	FTA partner "imports"	FTA partner "exports"	FTA partner "imports"
US FTA partners	23.9	26.2	6.1	7.4	13.8	26.5	6.6	12.1
Australia (2004)	5.9	12.8	2.6	3.3	20.2	19.0	1.7	6.1
Bahrain (2006)	…	…	…	…	…	…	…	…
Canada (1994)	12.4	7.5	1.4	1.9	11.9	17.4	9.5	4.1
Chile (2004)	5.2	4.0	2.9	1.5	20.8	39.2	2.9	5.2
Colombia	5.2	3.7	1.1	1.7	3.5	14.6	1.6	6.8
CAFTA-DR (2008)	4.3	3.8	1.2	1.9	0.2	6.4	0.6	3.6
Israel (1985)	42.9	21.0	4.8	6.3	8.7	11.6	2.3	2.6
Jordan (2001)	3.7	1.9	0.7	2.2	0.1	0.3	0.3	0.2
Mexico (1994)	8.5	6.1	2.2	7.8	3.3	20.7	1.1	6.5
Morocco (2006)	0.9	1.2	0.6	1.0	0.2	2.4	0.5	2.4
Oman (2009)	…	…	…	…	…	…	…	…
Panama	0.4	1.7	0.8	1.6	84.6	122.6	49.8	84.9
Singapore (2004)	104.2	181.0	42.8	50.1	3.3	53.4	6.3	18.6
South Korea	93.6	69.9	12.4	8.9	8.5	10.8	3.0	4.8

… = not applicable (cannot be calculated by the gravity model)

a. "Exports" refer to FDI stocks held by the FTA partners in the United States and the world. "Imports" refer to FDI stocks held by the United States and the world in the FTA partners.

Notes: Dates in parentheses denote the commencement date of the US FTA. CAFTA-DR countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua. Free trade agreements with Colombia, Panama, and South Korea have not been ratified by the United States.

Source: Author's calculations based on gravity model estimation results in table 2.8.

With respect to FDI over the same period, Morocco's inward FDI stocks (cumulated inflows) from the United States and from the world are almost two and a half times larger than predicted by the gravity model.[17] This is an encouraging finding, especially compared with the dismal ratio of actual-to-potential inward FDI stocks for Jordan (only about 0.3). However, most other US FTA partners fare much better than Morocco. Chile, for instance, enjoys a ratio of nearly 40 with respect to the inward FDI stocks from the United States and about 5.0 with respect to those from the world. In fact, Morocco is the only US FTA partner not to enjoy a greater ratio for inward FDI stocks held by US firms than inward stocks held by world firms. This finding suggests that Morocco might not be enjoying a full measure of the potential investment benefits of either its US FTA or its BITs with the United States (signed in 1991) and other partners.

Finally, it is notable that computation of the actual-to-potential ratios for both trade and investment in table 2.9 *includes* the contribution of the gravity model estimates for the individual and grouped FTAs specified in the model.[18] Thus it appears that the generally positive contributions of the simple average FTA indicators to bilateral trade and investment, identified in the gravity model, do not fully capture the enabling economic conditions and policies that contribute to the greater than predicted trade and investment of US FTA partners with the United States.

Economic Policy Reforms

The review and analysis to this point suggest that, notwithstanding laudable reforms since the mid-1990s, Morocco's economic policies and institutions are not sufficiently outward-oriented to take full advantage of the country's free trade agreement with the United States. Further examination of this hypothesis entails consideration of the scope of the Morocco-US FTA and Morocco's compliance to date with the economic reforms indicated not only in the agreement but also in the country's current development assistance plan with the World Bank. For comparison, we also consider the scope and terms of recent US FTAs with Chile and Jordan, two countries that are broadly similar to Morocco in economic circumstances and conditions.

Overview

Like many lower-middle-income countries, Morocco has an active development program, supported importantly by bilateral and multilateral donors,

17. Outward FDI stocks of US FTA partners in the United States and the world are not discussed here, because US FTA partners are not typically headquarters for multinational corporations with extensive foreign operations.

18. See footnote 5 for the list of these groups.

to improve and modernize the country's infrastructure and to increase the general well-being of its population. Since the mid-1990s, Morocco has particularly distinguished itself by promoting a politically open society based on a truly representative system of government, led previously by King Hassan II and currently by his son, King Mohammed VI.

In addition to general macroeconomic stability, a primary goal of Morocco's economic reforms over the last decade has been to achieve a sufficiently high growth rate to absorb the country's rapidly growing population. Thus the Kingdom has been keen to promote labor-intensive investment, including direct investment from abroad, to achieve higher rates of employment in the formal sector. To this end, reforms have been largely successfully in reducing barriers to long-term domestic and foreign investment in the country, led by the private sector.

Notwithstanding privatization initiatives, however, public enterprises and other parastatals remain a prominent feature of the Moroccan economy. Also prominent are organized labor coalitions, which are bolstered by employment laws that make workers (once hired) very costly and limit labor mobility between sectors. High levels of protection for inefficient domestic industries coupled with layers of corruption in government circles and even the judiciary have compounded the economy's inefficiencies. These elements are reflected in Morocco's latest rankings in the IEF (table 2.7).[19]

Thus, despite Morocco's comprehensive free trade agreement with the United States and less extensive preferential trading arrangements with the European Union and other countries, the overall attractiveness of Morocco to outward-oriented, labor-intensive direct investment is somewhat muted. As a consequence, more rapid growth to fully absorb new entrants to the workforce has eluded the Moroccan economy.

Reforms under the Morocco-US FTA

In 2002 US Trade Representative Robert B. Zoellick heralded the prospective Morocco-US FTA as a vehicle for supporting and accelerating Morocco's economic reform program and further solidifying the country's status as an emerging market with promise in the world economy.[20] That the Morocco-US FTA posed significant obligations for Morocco is evident in the agreement's range of topics, itemized in box 2.1, alongside the topics covered by the US FTAs with Chile and Jordan.

The three lists clearly indicate that US free trade agreements have become more comprehensive. The 2001 Jordan-US FTA covers principally

19. See appendix 2A for an analysis of the impact on economic performance of improving the score of index components.

20. Robert B. Zoellick, Globalization, Trade, and Economic Security, remarks at the National Press Club, October 1, 2002, Washington.

merchandise trade. With the addition of services trade in US FTAs, the coverage of topics in the Chile-US FTA (2004) nearly doubled and, in the Morocco-US FTA (2006), nearly tripled. The common elements of the three agreements are mostly familiar: market access and rules of origin, technical barriers to trade, sanitary and phytosanitary measures, government procurement, labor conditions, the environment, intellectual property rights, and dispute settlement procedures. But the US FTAs with Chile and Morocco, with their greater focus on services trade, include more extensive consideration of national treatment obligations, investment and commercial presence, transparency, and e-commerce.

Since Morocco is less developed than Chile, it might naturally face greater challenges to conform its policies to the terms of its FTA with the United States. But USTR and other US officials monitoring the Morocco-US FTA report that Morocco has largely met its obligations to revamp its commercial policies and procedures under the requirements of the agreement. Although Moroccan business leaders have voiced concerns about the effectiveness of the FTA in promoting greater exports and attracting more FDI, these shortcomings may reflect deficiencies in Morocco's policy regime that are beyond the scope of the free trade agreement. They may also reflect unresolved concerns among multinational firms about the political stability and security of Morocco and, more broadly, the Maghreb region.[21]

Reforms under the World Bank Assistance Program

The institutional and policy environment of Morocco's economy is a prime concern of the World Bank's assistance program, which has four principal objectives for the country: improved competitiveness and investment climate, greater access to basic services for the poor, increased efficiency of the education system, and improved management of water resources (World Bank 2005, 2006, 2007a). The first of these is clearly the most germane to the discussion here.

The details of the program's first objective address the weaknesses in Morocco's policy regime already mentioned. Of particular note is the Bank's call for transparency and efficiency in the government bureaucracy to reduce corruption, reformed labor regulations to allow greater freedom for business firms both to hire workers and to dismiss them in a downturn, and reduced time for the registration of lands for private-sector industrial projects, especially former state-owned lands.

The World Bank cites favorably Morocco's free trade agreement with the United States and other countries, but its lending program documents and the public pronouncements of its officials do not emphasize the importance of further reducing Morocco's tariffs and other protection

21. A pertinent question (not explored in this chapter) is whether Moroccan business leaders view the Morocco-EU partnership agreement with similar disappointment.

Box 2.1 Main topics covered by US free trade agreements with Morocco, Chile, and Jordan

US-Morocco FTA (2006)
Accession by new parties
Antidumping measures
Balance-of-payments measures
Commercial presence/investment
Consumption abroad
Cross-border trade in services
Denial of benefits
Dispute settlement
Domestic regulation
Ecommerce
Environment
Export duties and charges, quantitative restrictions
General exceptions
Government procurement
Import duties and charges
Institutional framework
Intellectual property rights
Labor
Market access for services
Most favored nation (MFN) clause, services trade or investment
Movement of natural persons
Mutual recognition (services)
National treatment in services trade
Negative list for liberalization modalities
Nontariff measures
Performance, local presence, management or board of director requirements
Reservations/nonconforming measures
Rules of origin
Safeguard measures, intra-RTA (regional trade agreement)
Sanitary and phytosanitary measures
Security exceptions
Subsidies and countervailing measures
Tariff rate quotas
Technical barriers to trade
Transparency
WTO safeguard measures

US-Chile FTA (2004)
Competition policy, designated monopolies, and state enterprises
Cross-border trade in services
Customs administration
Dispute settlement
Electronic commerce
Enterprises
Environment
Exceptions
Financial services
Government procurement
Intellectual property rights
Investment
Labor
National treatment and market access for goods
Rules of origin and origin procedures
Sanitary and phytosanitary measures
Technical barriers to trade
Telecommunications
Temporary entry for business persons
Trade remedies
Transparency

US-Jordan FTA (2001)
Customs-related procedures
Dispute settlement
Environment
General exceptions
Government procurement
Import duties and charges
Institutional framework
Intellectual property rights
Labor
Nontariff measures
Product exclusions
Rules of origin
Safeguard measures, intra-RTA
Sanitary and phytosanitary measures
Technical barriers to trade

Source: WTO (2009).

measures on a most favored nation basis. Elevating the importance of this element in the World Bank's program of recommended reforms for Morocco would spur the country's exports, because a higher import bill in the wake of more thoroughgoing trade liberalization would necessarily induce more exports. Additionally, as previously emphasized, adopting the precepts of an open economy would make Morocco more attractive for FDI, because multinational firms would be able to source their inputs from abroad more readily and at a lower cost.

The government of Morocco has not lost sight of the importance of greater openness for the performance of the country's economy. Its fiscal budget for 2009 includes provisions for substantially reducing maximum tariff levels (and tariff dispersion) on industrial products over a four-year period (Royaume du Maroc 2008). By 2012 the tariff liberalization program prescribes that Morocco's tariffs on imports of industrial goods should decline to maximum levels of just 2.5, 10, 17.5, and 25 percent, from maximum levels that ranged from 10 to 40 percent in 2008. If fully realized, these sharp reductions in applied tariffs for imported manufactures would be a boon to both households and firms in Morocco, including present and prospective multinational firms operating in the country.

Final Assessment

Both the United States and Morocco have regarded their joint FTA with high expectations. While the promise of economic and geopolitical benefits to both parties remains, this review and analysis reflect concerns among Moroccan business leaders that the FTA has failed to meet expectations, especially with regard to Moroccan exports to the United States and US FDI in Morocco.

During the three years since implementation of the Morocco-US FTA, both countries have met their obligations under the agreement, and evidence indicates that bilateral trade and investment have improved under the FTA, though possibly not to the heights anticipated by policymakers and business leaders in either country.

The explanation for the "unmet expectations" may lie in the terms and realities that each country brought to the agreement: The reciprocal liberalization of border measures and the domestic policy reforms called for by the Morocco-US FTA fell more heavily on Morocco than the United States, in effect requiring the opening of markets in Morocco to greater US trade and investment, whereas US markets were already relatively open to Moroccan trade and investment. Thus, among the primary benefits of the Morocco-US FTA are expanded US exports to Morocco at lower cost than before the agreement—a clear boon to US exporters and Moroccan consumers, and probably to many Moroccan businesses and local producers as well; the benefits of the FTA have so far been less evident to Moroccan exporters.

Finally, with regard to the shortcomings of the Morocco-US FTA as a lure for expanding US and other FDI in Morocco, Morocco needs to accelerate and complete domestic economic reforms on several important fronts: liberalization of the country's trade regime on a nondiscriminatory basis, improvement in transparency and elimination of corruption in government, greater and more effective legal protection for intellectual property and other property rights, and greater labor productivity and mobility. Until these improvements in Morocco's economic policy and institutional environment are put in place and Morocco approximates or exceeds the higher levels of economic freedoms that characterize other US FTA partners, it is unlikely that Morocco's officials and business leaders will realize their expectations for attracting greater FDI to their country.

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Appendix 2A Simple Quantitative Analysis of the Impacts of Institutional and Policy Reforms

Morocco's institutional and policy framework complies with the terms of the Morocco-US FTA. Nonetheless, as emphasized in the main analysis, Morocco might take strides to reform and improve its general economic policy environment with a particular view to attracting greater foreign direct investment (FDI) and expanding its international trade.

To further support this view and to illuminate its potential benefits, consider the three components of the IEF for which Morocco achieves the weakest scores relative to the other US FTA partners: property rights protection (35), corruption (35), and labor (31) (table 2.7). Morocco's low scores in these three areas are principally responsible for its total score of just 58, the lowest among the 14 current and prospective US FTA partners.

Based on the results of a simple correlation analysis, table 2A.1 illustrates the importance of these three areas for total trade (merchandise exports and imports) and inward FDI stocks in (1) the economies of US FTA partners in 2007 and (2) their per capita growth of output in 2000–07. The statistical relationships between the three components of economic freedom, on the one hand, and total IEF score, on the other, are direct and remarkably strong (with correlation coefficients of 0.83 or better). In other words, US FTA partners with higher overall IEF scores tend to enjoy better property rights, less corruption, and labor regulations that are conducive to higher workforce productivity.

The correlation results in table 2A.1 indicate other noteworthy points. Openness to foreign investment is positively correlated with the overall IEF score of US FTA partners: Greater economic freedom tends to be associated with greater FDI, which in turn tends to be directly and very strongly related to trade openness. Consistent with the general results for trading countries found by the Peterson Institute gravity model (table 2.8), openness to trade and openness to FDI go hand in hand among the US FTA partners.

In addition, the correlation results shown in table 2A.1 indicate a direct, positive relationship between trade openness and more liberal labor regulations, implying that the reform of labor laws and regulations in Morocco might further stimulate total trade in the Moroccan economy.

Also among the strongest statistical relationships in table 2A.1 is the positive correlation between per capita growth and trade openness in the US FTA partners. This result suggests that greater total trade relative to domestic output is associated with higher long-term per capita growth among US FTA partners.

The correlation results in table 2A.1 suggest the expected impacts of improving Morocco's three weakest components of economic freedom to their averages among all US FTA partners (table 2.7). The methodology is straightforward. The correlation coefficients in table 2A.1 involving the

overall IEF score, inward FDI stocks relative to GDP, total trade relative to GDP, and per capita income growth are matched by directly related estimated coefficients from ordinary least squares (OLS) regressions featuring a single correlate in each case as the explanatory variable.[22] This approach results in three parallel systems of equations relating the overall IEF score and the three indicators of economic performance (FDI openness, trade openness, and per capita income growth) to the three IEF components individually (property rights, corruption, and labor).

The results of applying these parallel equation systems to increases in the three IEF components are presented in table 2A.2, along with simple averages (rather than sums) of the computed impacts of substantially raising the levels of the three components. Use of the averages of the computed impacts is appropriate for gauging the combined impact of the separate reforms because of the highly significant positive correlation among the IEF indicators of property rights protection, transparency, and labor regulations in table 2A.1. Additionally, it should be emphasized that the quantitative analysis here is based on the statistical "association," rather than the statistically tested "causality," between variables. While "association" and "causality" are related notions in econometrics, proper representation and determination of causality among economic variables requires formal specification, estimation, and statistical testing of their relationships within the framework of a well-defined, simultaneous economic model.[23]

Raising the three indicators of economic freedom to the averages among US FTA partners involves raising Morocco's IEF component for property rights from 35.0 to 61.1 (a 75 percent increase), for corruption from 35.0 to 54.7 (a 56 percent increase), and for labor from 30.8 to 68.2 (a 121 percent increase). These reforms imply an average increase of about 83 percent in the indicators for Morocco's three weakest components of economic freedom.[24]

Higher values for the three selected IEF components would improve Morocco's overall score for economic freedom. The hypothesized economic reforms would raise Morocco's overall IEF score from 57.5 to 68.1, an increase of nearly 20 percent. As seen in table 2A.2, the liberalization of labor regulations in Morocco results in the greatest impact, followed by

22. The correlation coefficient r is directly related to the coefficient estimate $\boldsymbol{b}$ in the simple regression $Y = a + bX$, where $b = r(Sy/Sx)$ and where Sy and Sx are the standard deviations of the two correlated variables, Y and X (e.g., Johnston 1972). In the analysis here, the OLS equation for total trade relative to GDP was estimated using both inward FDI stocks relative to GDP and the labor freedom component as explanatory variables. However, only the estimated coefficient of the inward FDI stocks variable was found to be statistically significant.

23. See the discussion of simultaneous equation models in Greene (2003), Johnston (1972), or another advanced econometrics textbook.

24. The practical implications of such increases are considered in the following chapters.

the reform of property rights, and finally the reduction of government corruption.

Within the simple quantitative framework described here, the improvement in Morocco's overall index of economic freedoms would induce greater long-term direct investment from abroad. On average, inward FDI stocks relative to domestic output might rise by nearly 50 percent, from 44 percent to 66 percent, led again by the (indirect) influence of labor reforms on foreign holdings of FDI stocks. This substantial increase in FDI, amounting to about 25 percent of Morocco's GDP in 2007 or about $18.4 billion, would support a large number of new jobs in the Moroccan economy. For comparison, Gary Hufbauer and Matthew Adler (2008) report that each full-time job in US foreign-affiliate firms in Nicaragua is supported by $90,000 in US direct investment. Applying this job creation parameter to the $18.4 billion increase in FDI in Morocco yields an estimate of around 200,000 new jobs for Morocco's underemployed economy.

Furthermore, as suggested above, increased FDI in Morocco might generate greater openness to trade, presumably reflecting the integration of the operations of multinational firms attracted to Morocco in global markets for both their inputs (imports) and their finished products (exports). The solutions of the parallel regression models indicate that, on average, the openness of Morocco's economy to exports and imports combined would increase from 49 percent to 65 percent, or by about one-third. Again, the liberalization of Morocco's labor regulations to match the norms of labor policies in other US FTA partners would exercise the greatest influence on openness to international trade.

Finally, with respect to the last indicator of economic performance in table 2A.2, the hypothesized reforms to property rights, transparency, and labor regulations raise the long-term growth rate of per capita GDP in Morocco by about 8 percent on average, from 2.7 percent per annum to 2.9 percent per annum. Although seemingly modest, this impact would bring long-term per capita growth of domestic output in Morocco nearly in line with the average for all US FTA partners (3 percent) and would give the country a welcome margin of added growth each year. Assuming a social discount rate (the rate at which a society is willing to trade present for future consumption) of 4 percent (Lopez 2008), the value of the added economic benefits from the modest margin of higher per capita growth (almost 0.3 percentage points per annum) amounts to nearly $6 billion, or about $200 per inhabitant of Morocco.

The quantitative impacts of the hypothetical economic reforms presented here reinforce the conclusion that strides by Morocco to implement reforms in these three critical areas—institutions and laws governing the protection of property rights, transparency of public decisions, and labor policies—would yield appreciable benefits.

Table 2A.1 Correlation of selected economic performance and policy indicators for US FTA partners, 2007

				Index of Economic Freedom (IEF) components			
Indicator	**Per capita growth**	**Total (X+M) trade to GDP**	**Inward FDI stocks to GDP**	**Overall score**	**Property rights**	**Corruption**	**Labor**
Per capita GDP growth	1.00						
Total (X+M) trade to GDP	0.55 **	1.00					
Inward FDI stocks to GDP	…	0.77 ***	1.00				
IEF overall score	…	…	0.47 *	1.00			
Property rights	…	…	…	0.90 ***	1.00		
Corruption	…	…	…	0.93 ***	0.94 ***	1.00	
Labor	…	0.50 *	…	0.83 ***	0.71 ***	0.76 ***	1.00

Notes: Partner countries are the 14 current and prospective US FTA partners in tables 2.1 to 2.7 and table 2.9. Per capita growth refers to 2000-2007. Ellipses (…) indicate insignificant correlation coefficient. *, **, and *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Table 2A.2 Economic impacts of reforms to property rights protection, transparency, and labor regulations in Morocco

Indicator	US FTA partners	Morocco		
		Initial level	Reform level	Percentage change
	Economic performance			
Per capita GDP growth	3.0	2.7	2.9	7.7
Property rights	…	…	2.9	7.3
Corruption	…	…	2.9	5.9
Labor	…	…	3.0	9.9
Total (X+M) trade to GDP	57.9	48.5	64.6	33.2
Property rights	…	…	63.7	31.4
Corruption	…	…	60.9	25.6
Labor	…	…	69.2	42.6
Inward FDI stocks to GDP	35.3	44.1	65.5	48.4
Property rights	…	…	63.2	43.3
Corruption	…	…	59.7	35.4
Labor	…	…	73.5	66.7
	Policy indicators			
IEF overall score	70.3	57.7	68.1	18.0
Property rights	…	…	67.0	16.0
Corruption	…	…	65.3	13.1
Labor	…	…	72.0	24.7
IEF components	61.3	33.6	61.3	82.5
Property rights	61.1	35.0	61.1	74.6
Corruption	54.7	35.0	54.7	56.3
Labor	68.2	30.8	68.2	121.4

… = not applicable

Notes: Per capita growth refers to 2000-2007. Underscored impacts are simple averages of the impacts of reforming the three selected IEF components individually.

Source: Computed impacts of raising Morocco's Index of Economic Freedom (IEF) scores for property rights, corruption, and labor to the mean scores of all US FTA partners, using equivalent ordinary least squares estimates of the correlation coefficients in table 2A.1 at 2007 levels of the economic performance variables for Morocco and other US FTA partners.