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Economic Implications of a US-Egypt FTA

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Starting from very high barriers to trade, Arab countries in the 1980s began to remove quantitative restrictions and lower tariffs through unilateral reforms. They also worked to deepen regional integration agreements (RIAs). Largely limited to bilateral agreements with other Arab countries, in the late 1990s they were complemented by more far-reaching agreements, such as the Greater Arab Free Trade Area (GAFTA) negotiated in 1997 under Arab League auspices. Under GAFTA, all tariffs on goods of Arab origin were to be removed, with full free trade to be achieved in 2005. Other agreements include an association agreement with the European Union, signed in 2002, which will remove all barriers to nonagricultural merchandise trade over a 12-year period; participation in the Agadir Declaration, signed in 2004, and establishing a free trade agreement (FTA) between Jordan, Morocco, Tunisia, and Egypt, with rules of origin similar to those used in the bilateral Euro-Mediterranean agreements;[1] and membership in the Common Market for East and

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1. Although free trade between these countries will be achieved through GAFTA, the Agadir Declaration aims to facilitate trade and reduce hub-and-spoke trade/investment diversion incentives through the adoption of common rules of origin allowing full cumulation.

Southern Africa (COMESA) in 2001. Once these agreements are fully implemented, trade with the European Union and the Middle East and North Africa (MENA) will have been substantially liberalized relative to trade with other regions in the world, most notably Asia and the United States.

To date, the RIAs that have been concluded have had limited effects on economic performance and growth. In part this reflects the fact that the agreements are of recent vintage, with the EU agreement not yet having started to bite. But it is also the case that trade policy in general has remained relatively protectionist, reflected in Egypt's position on implementing its GAFTA commitments: The government has indicated that it will not adhere to the 2005 timetable because it is concerned that the rules of origin that were negotiated are too liberal and are not being implemented by Arab partner countries. Much also remains to be done in transforming inefficient public enterprises and reducing the size of the public sector.[2] Related to this are governance challenges, including a lack of transparency and high transactions costs. Many complementary "behind the border" reforms that affect economic performance directly and that will determine the payoffs to (regional) trade reform have yet be carried out. These reforms include the liberalization of services sectors and measures to facilitate trade and investment. As has been argued in recent literature, absent action on this front, regional integration initiatives may have limited benefits for Egypt and may give rise to higher adjustment costs (Hoekman and Konan 2000, Konan 2003).

This chapter analyzes the potential impacts of alternative types of FTAs between Egypt and the United States, taking into account the fact that Egypt is committed to implementing bilateral free trade with the European Union and to achieving free trade with GAFTA members (in merchandise) in the near future. It first discusses the benchmark database used in the analysis, then summarizes the structure of the model. (A somewhat more technical description appears in appendix 4A.) The chapter then summarizes and discusses the alternative FTA options that are simulated and extends the analysis to consider services reforms.

Egypt's Economy and Benchmark Data

In 2003, Egypt had a population of 67.6 million, per capita income of $1,390, and gross domestic product of $93.9 billion (table 4.1 reports data on the share of output, imports, exports, and household consumption in

2. As of March 2004, 197 profitable/viable public enterprises had been privatized, including through flotation of stock on the capital market, leaving 117 in public ownership, mostly loss-making. Privatization of these entities is being pursued in the context of a new strategy that includes incentives such as transferring outstanding debt and other liabilities to a holding company as well as tax holidays (ERF 2004).

Table 4.1 Structure of the Egyptian economy, 1997

Sector	Output	Imports	Exports	Household consumption
Total (millions of dollars)	112,523	20,778	15,235	55,640
Sectors of economy (percent of total)				
Agriculture				
Crops	10.88	8.45	1.24	10.59
Animals	4.43	0.25	0.09	6.41
Cotton	1.15	0.07	1.31	0.13
Petroleum				
Mining and quarrying	0.18	0.00	0.14	0.06
Crude oil	4.09	1.41	14.68	0.04
Manufacturing				
Food industries	8.32	9.23	2.75	12.94
Beverages and tobacco	1.58	0.48	0.31	2.93
Textiles	4.33	2.19	5.31	3.66
Clothes and leather footwear	4.54	1.74	3.37	7.59
Wood and wood products	0.98	2.78	0.37	1.40
Paper and printing	1.22	2.17	0.22	1.24
Leather and leather products	0.32	0.37	0.15	0.17
Rubber products	0.15	1.26	0.04	0.13
Chemical industries	2.46	8.23	3.03	1.48
Oil products	3.19	0.94	8.35	1.12
Nonmetal industries	2.2	1.82	0.25	1.24
Metal products	0.01	6.55	0.06	0.02
Machinery	1.15	23.14	0.20	1.06
Transportation devices	1.37	9.50	0.05	1.64
Miscellaneous industries	0.62	0.83	0.66	0.23
Services				
Electricity	1.83	0.07	n.t.	0.89
Construction and maintenance	7.86	0.03	n.t.	0.00
Transportation and communication	8.26	3.48	25.85	6.90
Trade, finance, and insurance	18.41	1.58	17.47	22.68
Hotels and restaurants	1.98	n.t.	11.92	0.68
Housing and public utilities	1.52	n.t.	n.t.	3.05
Other services	6.91	13.40	2.17	11.73
Total (percent)	100.00	100.00	100.00	100.00

n.t. = not traded

Source: 1997 Input-Output Table, Ministry of Planning, Government of Egypt; Comtrade data 1997.

Egypt for 1997).[3] Agricultural production is primarily in crops (10.9 percent) and animals (4.4 percent), with cotton produced largely for export. Services account for over 46 percent of total output; important services sectors include trade, finance, and insurance (18.4 percent), transportation and communications (8.3 percent), and construction (7.9 percent). Nearly 46 percent of household consumption is devoted to services, with trade, finance, and insurance comprising 22.7 percent of the total. Food industries (13 percent) and crops (10.6 percent) also make up a significant share of household consumption.

Egypt's imports are heavily focused on manufacturing products, including machinery (23.1 percent), transport devices (9.5 percent), processed food (9.2 percent), and chemicals (8.2 percent). Services exports comprise 57 percent of total exports. Activity related to the Suez Canal explains the preeminence of transportation and communications exports (25.8 percent). Trade, finance, and insurance account for another 17.5 percent of exports. Tourism is also an important component of trade, with hotel and restaurant exports constituting 12 percent of the total. While petroleum exports are significant, at 14 percent, Egypt is far less reliant on natural resources trade than other MENA countries, such as the United Arab Emirates, Kuwait, Bahrain, and Saudi Arabia. About 25 percent of exports are manufactured goods, of which 8.6 are in the clothing and textiles industries.

Table 4.2 provides a decomposition of Egyptian imports and exports by primary trading partners. Egypt's trading patterns are relatively diverse, with no one country or region having a majority share of overall trade. Of the key regions, EU trade comprises the dominant share, with 36 percent of the country's imports originating in the European Union and 35 percent of its exports going there. Egypt relies heavily on the European Union for imports of livestock (83 percent of total animal products), glass (63 percent), chemicals (63 percent), and minerals (62 percent). Meanwhile, the European Union is an important export destination for cotton spinning (72 percent), base metals (68 percent), petroleum refining (59 percent), and mining (57 percent).

Egyptian trade links within the region are primarily in exports to other MENA countries, accounting for about 20 percent of all Egyptian exports. Many light manufacturing goods are exported to MENA. Egypt is relatively less reliant on imports from the region. With the exception of

3. The base year used in the model is 1997, as this is the year for which we have a detailed social accounting matrix. Trade, tax, and other policy variables are therefore also based on 1997 data. While this is clearly not desirable, there has been little change in the structure or pattern of trade since the late 1990s (ERF 2004). However, there have been policy reforms, especially in trade policy. These imply that the results obtained for unilateral trade liberalization discussed below will already to some extent be realized in coming years.

Table 4.2 Shares of Egyptian trade, 1995 (percent of trade)

	United States		MENA		European Union	
Trade sector	**Imports**	**Exports**	**Imports**	**Exports**	**Imports**	**Exports**
Agriculture						
Crops	47.9	1.5	2.2	63.5	11.7	27.0
Animals	0.0	2.3	9.6	53.0	82.7	35.2
Cotton	16.5	13.4	1.2	14.1	36.9	49.3
Petroleum						
Mining and quarrying	14.8	9.2	3.5	21.4	17.7	56.8
Crude oil	7.0	4.6	24.4	1.0	52.0	30.6
Manufacturing						
Food processing	10.6	4.5	2.3	49.3	40.3	20.1
Beverages	16.3	0.0	28.5	87.6	41.7	1.2
Tobacco	27.4	0.7	2.5	45.3	27.0	0.4
Cotton spinning	7.1	10.9	3.7	6.1	33.4	72.4
Clothing	0.9	49.1	19.1	8.6	12.4	34.7
Leather	0.9	1.5	13.8	30.9	25.7	48.8
Shoes	2.9	1.9	12.0	60.5	16.0	20.5
Wood	1.4	0.1	0.4	86.1	39.8	1.5
Furniture	34.7	10.6	1.4	58.5	57.0	14.9
Paper	17.1	0.8	2.9	91.7	46.8	1.6
Chemicals	12.2	3.5	7.9	39.4	62.6	31.3
Petroleum refining	6.2	0.6	28.9	7.2	48.4	58.5
Rubber and plastics	20.4	0.7	9.8	45.3	42.8	41.3
Porcelain	7.8	1.5	11.5	32.4	47.4	42.2
Glass	5.3	5.5	3.6	62.1	63.3	9.3
Minerals	3.8	2.0	2.2	80.9	61.6	4.8
Base metals	11.8	1.9	9.0	24.3	35.5	68.3
Machinery	17.4	3.9	2.4	58.0	59.4	9.5
Transportation	12.1	0.3	0.7	89.8	33.8	3.6
Other	11.2	3.2	3.5	62.5	47.6	25.4

Notes: MENA excludes Israel. European Union includes Turkey.

Source: Maskus and Konan (1997).

beverages, petroleum, and refining, imports from the region make up less than 20 percent of imports in any one sector. US goods account for 17 percent of imports, primarily in agriculture: 48 percent of imported crops are from the United States. While only 7 percent of Egyptian exports go to the United States, 49 percent of clothing exports are shipped there. Other nonreported trading partners—countries in Asia or Africa, among others—are significant in certain areas, such as exports of petroleum and imports of transport equipment.

The major components of Egypt's tax structure are given in table 4.3. While Egypt has taken considerable steps to reduce trade barriers, nominal rates remain well above those in most developing countries. Tariffs on

Table 4.3 Tax rates in Egypt, 1997 (percent, ad valorem)

Sector taxed	Goods tariffs/services nontariff barriers	General sales tax
Agriculture		
Crops	8.6	0.0
Animals	5.1	10.0
Cotton	8.6	10.0
Petroleum		
Mining and quarrying	5.4	10.0
Crude oil	5.0	0.0
Manufacturing		
Food industries	6.9	0.0
Beverages and tobacco	89.4	60.0
Textiles	28.0	10.0
Clothes and leather footwear	46.6	0.0
Wood and wood products	62.2	5.0
Paper and printing	17.1	0.0
Leather and leather products	31.1	10.0
Rubber products	11.8	10.0
Chemical industries	12.1	5.0
Oil products	11.8	5.0
Nonmetal industries	16.1	5.0
Metal products	16.1	10.0
Machinery	15.3	10.0
Transportation devices	45.6	25.0
Miscellaneous industries	18.1	10.0
Services		
Electricity		2.5
Construction and maintenance	3.0	10.0
Transportation and communication	50.0	10.0
Trade, finance, and insurance	6.0	10.0
Hotels and restaurants	3.0	5.0
Housing and public utilities	10.0	5.0
Other services	3.0	5.0

Note: Tariffs are trade-weighted.

Source: Egyptian Ministry of Finance and authors' estimates.

beverages (89 percent), wood products (62 percent), clothing (47 percent), transportation devices (46 percent), and leather (31 percent) act as significant import barriers. Effective rates of protection are quite high, as intermediate goods tariffs tend to be lower than those placed on final consumer goods (Refaat 2000). In 2004, Egypt implemented a tariff reform that reduced the number of tariff bands from 27 to 6 and removed import fees and surcharges. Government reports indicated that the reforms lowered the weighted average import tariff from 14 to 9 percent and implied a reduction in tariff collections of some 3 billion Egyptian pounds (LE)

(American Chamber of Commerce 2004). ERF (2004) argues that the net effect of these reforms was in part offset by a revaluation of the exchange rate used for customs valuation purposes. However, the recent reforms suggest that the benchmark level of tariff protection used in the model is too high and that to some extent the simulated effects of unilateral reforms discussed below will be realized in the coming years.[4]

The 2004 tariff reforms followed the 2003 decision to allow the pound to float, following a cumulative devaluation of over 40 percent between 2001 and 2003 (ERF 2004, IMF 2004). These developments helped move the current account into surplus, as from 2001 to 2004, when exports expanded by 25 percent while imports showed little change (in nominal terms).

An important source of revenue for the government is collections from the general sales tax (GST) (table 4.3, column 2). While tobacco and alcoholic beverages are highly taxed for social reasons, most taxes are set at 5 and 10 percent (the GST was extended to wholesale and retail trade in 2001). Transportation equipment (automobiles) and certain durables such as TVs, cameras, VCRs, air conditioners, freezers, and refrigerators are exceptions, with GST rates of 25 percent. Food crops, processed foods, clothing, and printing sales are not taxed.

Model Structure

The model used in this analysis of various trade liberalization scenarios is a static competitive applied general equilibrium model of the Egyptian economy. Earlier versions of this model have been used to analyze the EU-Egypt association agreement (Hoekman and Konan 2001a, 2001b), Egypt's tax policy liberalization (Konan and Maskus 2000), shallow and deep unilateral trade liberalization (Hoekman and Konan 2000), Arab economic integration (Konan 2003), and services trade liberalization (Konan and Kim 2004). Thus, the model creates an established and well-understood representation of Egypt's economic policy landscape.

The model provides static analysis of a range of policy choices, including alternative configurations of a US-Egypt trade agreement. The primary datasets are a 32-sector input-output table and import matrix obtained from the Ministry of Planning of the government of Egypt. Production involves domestic and imported intermediates, labor, and capital

4. The import-weighted average tariff in 2004 (before the reforms announced in September of that year) was 15.4 percent; the simple average tariff was 20.5 percent (ERF 2004). As discussed below, the weighted average tariff used in the benchmark is 19.8 percent. While this is somewhat higher than the prevailing nominal tariffs in 2003 and 2004, it is unlikely to be much of an overestimate, given surcharges of up to 4 percent on imports.

(see appendix 4A). Imports and exports are distinguished by region of origin and destination, respectively. A representative household maximizes utility, given an income from primary factors, net government transfers, and a constant real current account deficit.

Egypt's trade flows are broken down across three major regions: United States, European Union, and MENA (table 4.2); all other trade flows are collected into a residual "rest of the world (ROW)." Statutory most favored nation (MFN) tariffs, scaled for consistency with reported tariff revenues, are assumed to apply to imports from each of these regions in the benchmark case (table 4.3, column 1). These tariffs are weighed across subsectors by global import shares. Sales of domestic commerce are subject to the GST (table 4.3, column 2). The GST is assumed to adjust endogenously by a constant proportion to maintain a revenue-neutral government budget in the counterfactual scenarios.

As a relatively small economy, Egypt is assumed to be a price taker on world markets. However, US market access may be liberalized under certain bilateral negotiations. Thus, several scenarios consider an improvement of Egypt's export terms of trade relative to the United States. Table 4.4 gives estimated benchmark rates of protection that the United States maintains on imports of Egyptian commodities, drawn from Galal and Lawrence (2003). Among Egypt's exports, the most important sectors by far are textiles and apparel—which are also the two sectors where barriers are highest in the United States, at 7.5 and 12 percent, respectively. (According to the Organization for Economic Cooperation and Development [OECD 2004], the ad valorem equivalent of trade restrictions on clothing in the United States is 15 percent.) The implementation of the WTO Agreement on Textiles and Clothing on January 1, 2005, greatly changes the structure of the global market by abolishing all remaining quotas on exports of the most competitive suppliers, most notably China. While this reduces the potential rents associated with duty-free access to the US market, such access nonetheless will remain valuable to preferred suppliers by providing a price advantage. Especially for countries such as Egypt that are not among the lowest-cost producers, a 12 to 15 percent price advantage could be important in safeguarding and expanding market share in the United States.[5]

Trade Liberalization: Simulations and Results

There are several options for a preferential trade agreement between the United States and Egypt. Egypt may focus narrowly on the liberalization

5. Whether and to what extent export supply restrictions on China will continue, whether "voluntary" or formal (safeguards, antidumping), remains to be seen. However, retailers have already indicated that they will continue to source from a wide variety of suppliers, in part to reduce supply uncertainty.

Table 4.4 US ad valorem rates of protection on commodity imports from Egypt, 1997 (percent)

Trade sector	Rate of protection
Agriculture	
Crops	3.9
Animals	3.9
Cotton	3.9
Petroleum	
Mining and quarrying	0.5
Crude oil	0.5
Manufacturing	
Food industries	7.0
Beverages and tobacco	1.0
Textiles	7.5
Clothes and leather footwear	12.0
Wood and wood products	1.9
Paper and printing	0.0
Leather and leather products	1.0
Rubber products	1.0
Chemical industries	2.9
Oil products	1.0
Nonmetal industries	1.0
Metal products	1.2
Machinery	1.0
Transportation devices	1.0
Miscellaneous industries	1.0

Source: Galal and Lawrence (2003).

of manufacturing tariffs; it may also use the agreement to remove or streamline nontariff barriers and associated red tape. Finally, it may pursue across-the-board nondiscriminatory trade reforms paralleling the implementation of its RIAs.

Simulations

Recognizing the range of policy choices, the model analyzes six trade liberalization scenarios (summarized in table 4.5). The scenarios begin by setting the policy context in which trade liberalization is being contemplated. Scenario 1 evaluates the recently signed EU-Egypt partnership agreement, which will be implemented in the coming decade. The EU agreement scenario is assumed to involve elimination of Egyptian tariffs on EU goods and services, as well as an improvement in Egypt's export price on EU-destined manufactured products of 1 percent for agricultural products and 2 percent for clothing products. In scenario 2,

Table 4.5 Summary of trade liberalization scenarios

Scenario	Contemplated trade liberalization
1: EU agreement only	Egypt eliminates all tariffs with the European Union. EU export price increases by 2 percent in clothing and agriculture, and 1 percent in other goods.
2: GAFTA only	Egypt eliminates all tariffs with MENA trading partners. Export price to MENA countries increases by 3 percent in goods.
3: Shallow integration	Egypt implements the EU agreement and GAFTA (scenarios 1 and 2), and eliminates all tariffs with the United States. United States gives free access to Egypt and removes tariffs in table 4.4.
4: Deep US FTA with EU agreement and GAFTA	Scenario 3 plus removal of all NTBs.
5: Nondiscriminatory tariff liberalization	Egypt implements the EU agreement and GAFTA and eliminates all tariffs unilaterally.
6: Nondiscriminatory tariff and NTB liberalization	Egypt implements the EU agreement and GAFTA and eliminates all tariffs and NTBs unilaterally.

GAFTA = Greater Arab Free Trade Area
MENA = Middle East and North Africa
NTB = nontariff barriers

the forthcoming implementation of GAFTA is modeled so that Egypt eliminates tariff barriers on MENA imports and, in return, has barriers on MENA exports lowered by 3 percent on goods trade. Both the EU and GAFTA agreements reflect piecemeal liberalization of tariff barriers, as the United States and other trading partners are excluded. In scenario 3, we consider how a US agreement might unwind the resulting preferential trading environment in Egypt by combining the EU and GAFTA agreements with a unilateral elimination of tariffs on US imports. This is a classic "shallow integration" scenario.

A potentially important aspect of a preferential agreement with the United States is improved access to US markets for Egypt. Significant US tariffs and quotas remain on many Egyptian products. The US International Trade Commission reports that of the top 100 products imported from Egypt (94 percent of total imports), only 16 products enter the United States duty free. Of the remaining products, 22 face tariffs of less than 5 percent, 29 face tariffs ranging from 5 to 15 percent, and 26 products face tariffs exceeding 15 percent. We assume that Egypt's export price in US markets increases by the rates given in table 4.4.

Scenario 4 attempts to evaluate the effects of going beyond shallow integration by eliminating not only tariffs but also restrictive nontariff barriers (NTBs) that apply to both goods and services sectors in Egypt. This is the most relevant scenario for this study since, as discussed in chapter 3, it models the form a US-Egypt FTA is likely to take: The United States has been particularly insistent on such "deep" liberalization in other preferential negotiations, such as NAFTA, the Central American free trade agreement (CAFTA), and the US-Jordan FTA. It is assumed further that NTBs are eliminated on a nondiscriminatory basis. That is, all traders benefit from the associated cost reductions. Zarrouk (2003) estimates NTBs of around 5 percent in goods (15 percent for MENA countries) and from 3 to 50 percent in services.[6] Along with the effects of the GAFTA and EU agreements, we remove NTBs and tariffs between Egypt and the United States. Finally, scenarios 5 and 6 consider multilateral, nondiscriminatory elimination of tariff barriers and NTBs with all trading partners.

Tariff revenues are a significant part of the government budget in Egypt, at over 15 percent of tax revenues. Their reduction or elimination generates pressure to increase other tax rates to maintain levels of government services. In all scenarios, therefore, it is assumed that Egypt's GST is adjusted proportionately to obtain a revenue-neutral policy reform.[7]

Results

As reported in table 4.6, scenario 1 (Egypt-EU) replicates the results of previous work (Hoekman and Konan 2001a, 2001b), which suggests that the limited EU agreement is likely to be welfare-reducing because of trade diversion—the importation of EU products that are more expensive than those of nonmember trading partners. The most comprehensive measure of standard of living is that of "household welfare," or the real expenditures of residents in Egypt, which we compute as the Hicksian

6. NTBs are assumed to be resource-using in nature. According to Konan (2003), services barriers are as follows: 3 percent in construction; 6 percent in trade, finance and insurance; 50 percent in transportation and communications; and 3 percent in other services. NTBs on goods trade have fallen substantially since the 1980s. The major remaining policy-based NTB is due to "quality control" measures that affect 1,351 tariff lines (ERF 2004). Transactions costs are also increased as a result on transport-related inefficiencies, high port charges, and other variables.

7. However, the GST itself is a distortionary tax instrument (see table 4.3). Certain types of capital equipment and consumer durables tend to be heavily taxed, while crops and clothing enjoy GST exemptions. If GST rates are set uniformly and then are proportionately scaled endogenously to ensure revenue neutrality, welfare gains increase (not reported). It is important to note that this tax reform does not optimize welfare. Significantly more analysis would be required to fully treat domestic tax reform issues. See Konan and Maskus (2000) for more discussion on the GST.

Table 4.6 Evaluation of trade reform scenarios for Egypt

Scenario	1	2	3	4	5	6
Macroeconomic indicators (percent change)						
Household welfare (EV)	–0.24	–0.07	0.16	**1.63**	0.61	2.10
Real GDP	1.09	0.05	1.79	**2.82**	2.56	3.62
Consumer price index	0.24	0.07	–0.16	**–1.60**	–0.60	–2.05
Real exchange rate	1.93	0.17	2.62	**3.21**	3.56	4.16
Returns to capital	–0.66	–0.10	–0.42	**0.84**	–0.13	1.16
Returns to labor	1.26	0.07	1.99	**3.00**	2.80	3.83
Tax rates (ad valorem)						
Weighted average tariff (Benchmark: 19.8 percent)	3.51	17.19	1.70	**1.57**		0.0
Weighted average GST (Benchmark: 7.7 percent)	8.61	7.76	8.87	**8.74**	9.08	8.95

GST = general sales tax

equivalent variation (EV) in the household expenditure function. In scenario 1, welfare (EV) falls by 0.24 percent, while real GDP increases by a modest 1.09 percent. Trade diversion raises the consumer price index slightly, by 0.24 percent. The EU agreement also influences the real exchange rate, defined as the change in the home price index sufficient to maintain a constant current account deficit, taking world prices as given. A rise in the real exchange rate is consistent with a depreciation of the Egyptian pound, in that the per-pound price of foreign exchange rises. In the EU agreement, the real exchange rate increases by 1.93 percent. The EU agreement benefits Egypt's abundant factor, labor, as average wages increase by 1.26 percent, at the expense of the owners of relatively scarce capital, whose returns fall by 0.66 percent.

The other RIA to which Egypt is already committed is GAFTA. Owing to the rather small volume of trade between Egypt and other MENA countries, GAFTA has limited economic impacts, as shown in table 4.6, scenario 2 (which does not take into account the EU agreement). Welfare and real GDP are nearly unchanged, with the former falling slightly as the latter increases.

It is against the backdrop of these two agreements that the addition of US trade liberalization must be considered. Table 4.6, scenario 3 captures the interaction of the EU and GAFTA agreements with a shallow agreement, in which Egypt eliminates tariff barriers with the United States. While the EU agreement and GAFTA are estimated to decrease welfare if conducted in isolation, when combined with each other and a US agreement, they all have a slightly positive effect, increasing welfare and real GDP by 0.16 and 1.79 percent, respectively. In other words, including

the United States in Egypt's free trade arrangements is desirable because it offsets some of the detrimental trade diversion introduced by the EU and GAFTA arrangements.[8]

While the macroeconomic changes of the joint set of shallow agreements —European Union, GAFTA, and the United States—are rather limited, the impact on tariff collections is more substantial. The trade-weighted average tariff falls from an initial rate of 19.8 percent to a postreform rate of 1.7 percent. As the GST is a broad-based tax, recovering lost tariff revenues requires an increase in the weighted average rate from 7.7 to 8.9 percent. Because the GST varies across sectors, with some sectors exempt from taxation, and because the endogenous adjustment in the tax is applied on a proportionate basis, the GST increase is approximately equivalent to a 15 percent increase in marginal rates.

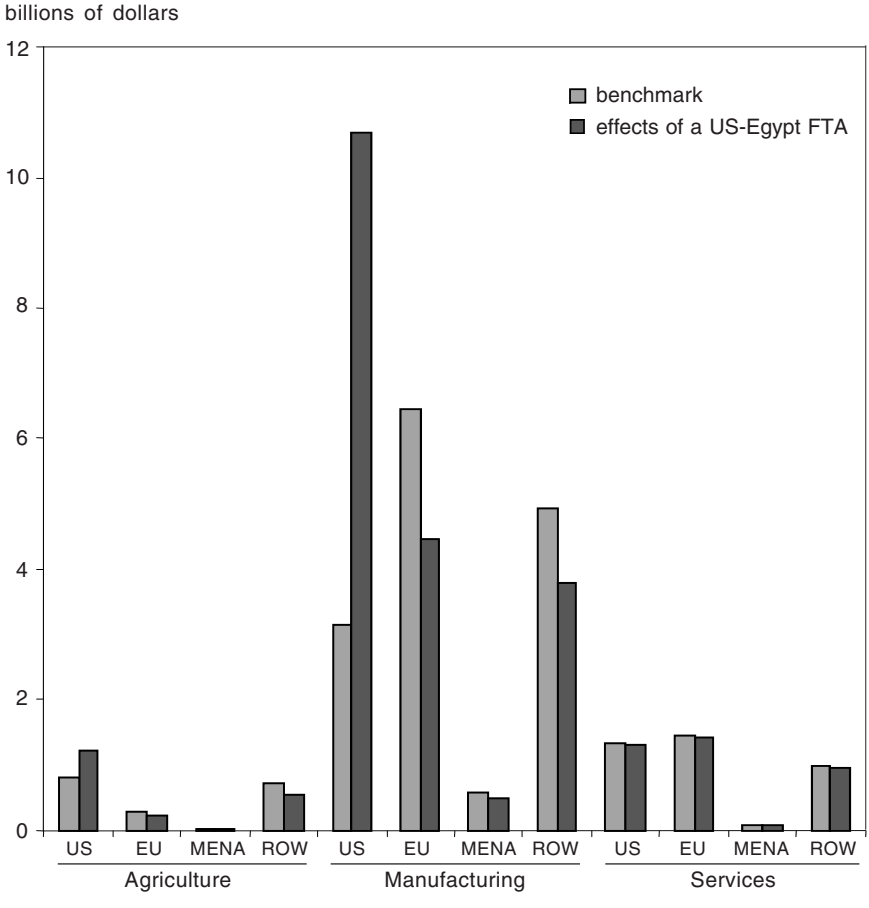
Figure 4.1 plots the impacts on Egypt's imports by major partner region under the benchmark scenario (i.e., no trade agreements) and a standalone shallow FTA with the United States—that is, ignoring the EU agreement and the GAFTA. This illustrates the potential trade diversion and trade creation effects of such bilateral trade arrangements. Relative to the benchmark, the value of imports from the United States nearly doubles in agriculture, from $797 million to $1.23 million, and triples in manufacturing, from $3.15 billion to $10.70 billion. This expansion of US imports comes at the expense of imports from other regions. Purchases from the European Union, other Arab countries, and the rest of the world decline sharply. Hence, it appears that, like an EU-Egypt FTA, a US-Egypt FTA leads to trade diversion and thus diminished welfare, if implemented in isolation and not coupled with other reform measures.

Scenario 4, a deep US-Egypt FTA, simulates the elimination of NTBs barriers on trade in goods and services and a reciprocal removal of Egyptian and US tariffs. It is assumed that NTBs are eliminated with all trading partners, rather than primarily with the United States, as internal regulatory procedures converge with global practices. This deeper FTA has a positive impact on welfare. Household EV increases 1.63 percent. Output also increases, by 2.82 percent in value added or real GDP. The consumer price index falls by 1.6 percent as the cost of imports and regulatory costs decline and the real exchange rate increases by 3.21 percent. The FTA, combined with regulatory reform, benefits capital owners with returns up 0.84 percent. Returns for labor are up 3 percent.[9]

8. A standalone shallow integration agreement limited to the unilateral elimination of Egypt's tariffs on the United States would have similar results (not reported), in that welfare would fall slightly, by 0.2 percent over benchmark levels, indicating that trade diversion losses are significant enough to outweigh other sources of gain.

9. Note that this deep integration scenario is limited to the abolition of NTBs and does not extend to domestic regulatory reforms that result in improved efficiency of domestic services markets. As discussed below, previous research suggests that the latter will generate large additional gains.

Figure 4.1 Modeled Egyptian imports, trade creation, and diversion by region



MENA = Middle East and North Africa

ROW = rest of world

The last columns of table 4.6 report the results of trade liberalization scenarios conducted on a multilateral basis. To compare, a shallow nondiscriminatory (most favored nation) removal of tariff barriers only (scenario 5) increases welfare by 0.6 percent. If, in addition to MFN tariff liberalization, nontariff barriers are also removed on an MFN basis, welfare rises by 2.1 percent. Real GDP increases by 3.6 percent and consumer prices fall by 2.1 percent. Both factors of production gain in real terms,

with returns to capital increasing by 1.2 percent and to workers by 3.8 percent. Because of the expansion in economic production, the increase in the GST rate required to make up the elimination of tariff revenues is similar to that implied by the shallow integration scenario, with rates increasing from a weighted average of 7.7 percent to some 9 percent under the unilateral reform.

Sectoral results of scenario 4 are reported in table 4.7. These comprise aggregate impacts—that is, the net flows—and thus mask underlying changes in gross flows that may have greater percentage changes and reflect a mix of trade creation and diversion. The greatest percent gains occur in clothing, transportation and communications, and hotels and restaurants (tourism). Overall, exports increase by 13 percent. For most sectors, exports do not expand significantly, the major exception being tourism-related transactions (hotels and restaurants). Egypt's limited ability to respond to enhanced terms of trade with the United States in increasing exports of manufactures appears to be attributable to domestic conditions and capacity constraints. For clothing, a sector where exports are expected to grow, before 2005, US clothing quotas on Egyptian exports were often not filled (ERF 2004, Kheir-El-Din and El-Sayed 1997, Kheir-El-Din 2000). A substantial increase in export supply therefore may be unlikely without complementary reforms within the domestic economy. Not surprisingly, imports are expected to expand substantially, since Egypt is implementing most of the liberalization associated with the FTA.

Recognizing Potential Gains from Service-Sector Reforms

The deep integration and unilateral deep reform scenarios ignore the potential effects of services reforms, while in reality, a major potential benefit of an FTA with the United States is its use as a mechanism to pursue domestic regulatory reforms in Egypt's services sectors. Reforms in service-sector policies to reduce costs in domestic production and trade are needed in their own right, but they may also have a high payoff in facilitating further liberalization of trade of goods by enhancing firms' ability to compete on world markets.

Logistics-related costs are high due to government policies and regulations that limit competition. In the mid-1990s, public monopolies in ports and port services, combined with poor infrastructure for loading and storing goods, made the costs for discharging a container two to three times higher in Alexandria than in other Mediterranean ports. Port service charges can reach up to 10 percent of the value of imported intermediate components (Cassing et al. 2000). Monopoly shipping and policies favoring national carriers result in lower-quality, lower-frequency, and higher-cost services.

Table 4.7 Sectoral impact of a deep US FTA
(millions of dollars)

Sector	Benchmark	Deep US FTA
Exports		
Agriculture	393.2	436.0
Petroleum	2,204.8	2,357.2
Processed food	456.4	528.2
Clothing	1,292.0	1,447.7
Other manufacturing	2,347.3	2,485.0
Transportation and communications	3,845.7	4,224.2
Trade, finance, and insurance	2,599.8	2,711.5
Hotels and restaurants	1,773.8	2,710.2
Other services	323.0	343.6
Total	**15,236.0**	**17,243.5**
Imports		
Agriculture	1,604.6	2,317.8
Petroleum	278.3	294.2
Processed food	1,846.4	2,530.8
Clothing	602.2	1,833.8
Other manufacturing	9,475.0	15,527.9
Utilities	15.2	14.8
Construction	6.8	6.1
Transportation and communications	723.9	670.1
Trade, finance, and insurance	329.0	319.1
Other services	2,784.9	2,690.9
Total	**17,666.2**	**26,205.6**
Output		
Agriculture	17,893.5	18,112.3
Petroleum	4,648.5	4,750.1
Processed food	10,763.0	11,264.0
Clothing	9,647.0	10,282.7
Other manufacturing	18,724.8	16,318.4
Utilities	1,987.6	1,986.4
Construction	8,551.6	8,542.1
Transportation and communications	8,983.3	9,405.6
Trade, finance, and insurance	20,015.0	19,736.0
Hotels and restaurants	2,151.9	3,223.0
Other services	9,156.8	9,096.8
Total	**112,523.2**	**112,717.3**

Note: Values evaluated at postliberalization prices.

Because services are often not tradable, service-sector liberalization involves a mix of deregulation (dismantling barriers to entry, facilitating investment, and promoting competition) and re-regulation (establishing an improved legal environment and strengthening specialized and independent regulatory agencies). The limited tradability of services implies that FDI is an important avenue to access best practices and new services.

Table 4.8 Konan and Kim model of goods and services liberalization in Egypt

Indicator	Services liberalization			Goods and services liberalization
	Border	Investment	Joint	
Macroeconomic indicators (percent change)				
Household welfare (EV)	0.78	6.90	7.66	8.35
Real returns to capital	0.76	10.73	11.45	12.77
Real returns to labor	0.66	9.48	10.11	14.41
Output share (percent)				
Agriculture (base: 16.5)	16.6	15.9	15.9	16.0
Manufacturing (base: 17.3)	17.3	16.5	16.5	15.5
Mining (base: 4.3)	4.4	3.3	3.3	3.4
Services (base: 43.0)	42.9	45.5	45.4	45.8

Source: Konan and Kim (2004).

Increasing FDI will have two effects: (1) a reduction in what Konan and Maskus (2004) call the cartel effect, the markup of price over marginal cost that incumbents are able to charge due to restricted entry, and (2) an attenuation of what they call the cost inefficiency effect, the fact that in an environment with limited competition, marginal costs of incumbents are likely to be higher than if entry were allowed. Procompetitive reforms can then have major impacts on economic performance, as many services are critical inputs into production. Moreover, in sharp contrast to what happens with merchandise liberalization, services entry (foreign or domestic investment) generates demand for domestic labor. Foreign banks, retailers, and telecommunications operators all need local labor. Thus, while deregulating entry restructures domestic industry, services reform has less far-reaching implications for sectoral turnover and aggregate sectoral employment than the abolition of trade barriers for merchandise.

A simulation analysis undertaken by Konan and Kim (2004) suggests that reforms in services are less demanding for labor adjustment than merchandise liberalization and can generate large gains for Egypt (table 4.8). Services liberalization involving cross-border trade (Mode 1 in WTO parlance) would improve welfare by 0.78 percent and real output by 1.07 percent. The gains from liberalizing the climate for foreign investment in services (Mode 3, establishment of a domestic commercial presence) would substantially increase welfare gains by 6.9 percent and output gains by 11.85 percent. Combined with goods trade liberalization, services liberalization could increase welfare by approximately 8.4 percent and real output by nearly 15 percent. These large effects of services liberalization reflect the importance of services in Egypt's economy, the

level at which they are currently protected, and the opportunities that Egypt has as a service-exporting country to the region.

Services reforms can have a large indirect payoff as well by generating political support for—and thus facilitating—merchandise trade liberalization:[10] Political constraints to trade liberalization may be overcome if reforms also target the services sector; lower trade-related transport, logistics, and transactions costs; and reduce the cost and increase the variety of key inputs such as finance, telecommunications, marketing, distribution, and similar services. Procompetitive reforms that facilitate entry by new firms will also create employment for skilled and unskilled workers who are either unemployed or working for government or import-competing private manufacturing—indeed, a political precondition for public-sector downsizing is that such alternative employment opportunities emerge. A major benefit of a concerted strategy toward service-sector reform is that it will, in itself, generate greater demand for labor by the private sector, whether in services or goods-producing industries (Rutherford, Markusen, and Tarr 2000).

What is the rationale for pursuing services trade and investment liberalization in an FTA? Much of what is needed could be pursued through unilateral action. But, as in other areas, the government could use an FTA with the United States to make credible commitments to a gradual reform path and thus convince manufacturing and other interest groups to invest resources and political capital in both supporting services reforms and resisting backsliding. An FTA could facilitate such credibility by creating focal points for the high-level attention and engagement of senior decision makers, political leaders, and civil society, providing a mechanism and framework to lock in a reform path.

A necessary condition for credibility, however, is that the FTA strategy addresses major political economy constraints that impede national (unilateral) reform. One of these is related to the large role of the state. Greater participation by the private sector will require privatization and abolition of entry restrictions for new firms. Government policies and procedures are also the cause of high transactions costs at the border (red tape). Thus, a major factor in determining the relevance of any FTA integration strategy will be to what extent it will commit the government to streamlining state activities, both government services and backbone infrastructure, both hard and soft. Two interest groups play a major role in this connection: government employees in general and more specifically, those responsible for enforcing regulatory policies and procedures at the border (i.e., customs) and for specific service industries (sectoral regulators).

Cross-country experience suggests the latter group can be a serious constraint to adopting more competitive policies. Sectoral ministries or

10. What follows draws on Hoekman and Messerlin (2003).

regulators who oversee service industries often will be more concerned with supporting domestic incumbents and maintaining the status quo, having little incentive to actively encourage new entry and greater competition—be it from domestic or foreign suppliers. The bureaucratic incentives confronting sectoral regulators generally imply that little weight is put on the economywide dimensions of policies. The resulting entry barriers often create significant rents for incumbents, who have a strong interest in blocking attempts to increase the contestability of "their" markets. Nevertheless, free trade cannot happen unless potential entrants can enter service markets freely and policies do not discriminate against foreign entrants. An FTA can be a focal point for reform and mechanisms to monitor progress in the removal of national entry barriers.

Conclusion

An FTA with the United States will have positive effects on the Egyptian economy, but these are not likely to be large without complementary domestic reforms. An FTA of whatever stripe, shallow or deep, would be beneficial because it unwinds some of the trade diversion created by the EU and GAFTA agreements. But benefits are limited by the fact that the FTAs jointly will continue to generate trade diversion. Noteworthy is the finding that Egyptian exporters may not be able to take full advantage of better access to the US market. In some cases (e.g., clothing), the model may underestimate the potential export and employment gains, although no account has been taken of the impact of abolishing the global quota regime as of 2005. Even abstracting from this, however, the simulations may well be realistic in terms of orders of magnitude if there continue to be supply capacity constraints, associated in part with high operating and input costs for firms located in Egypt. A good illustration of these constraints is the limited response that occurred from 2001 to 2004, during which the pound to dollar exchange rate depreciated by over 70 percent in nominal terms, but exports expanded by only 25 percent. However, the simulation results may underestimate because they fail to model the inward foreign investment that could be generated by the agreement in general, and preferential access to American markets in particular—especially for Egypt's clothing and textile industries. The potential for such investment and an associated expansion of exports of apparel is illustrated by the experience of the Jordanian qualifying industrial zone (QIZ). That said, it is obviously also important to consider that there will be greater competition from suppliers from other countries in the US market as well, due to the removal of remaining quotas in 2005 required under the WTO Agreement on Textiles and Clothing.

Much depends of course on the specifics of any FTA, including not only the extent of coverage of sectors such as services and agriculture

but also matters such as the rules of origin included in an agreement. Beginning reforms to improve the efficiency of services sectors and reduce input costs are likely to multiply the benefits that result from merchandise trade liberalization alone, especially if it is limited to partial, preferential liberalization. Rules of origin have proven to be an important determinant of the value of preferential access to markets: Recent research has demonstrated that restrictive rules of origin can have the effect of a tariff in the range of 3 to 5 percent (Brenton and Imagawa 2004).

Nondiscriminatory liberalization of goods trade will continue to be needed to remove prevailing antiexport biases. As illustrated by the results of the unilateral trade liberalization scenario, this would have a greater positive effect on aggregate real GDP than any of the FTA scenarios, ignoring services reforms. If unilateral merchandise trade reforms extend to abolishing NTBs in Egypt, the positive impacts on welfare would rise substantially relative to removal of tariffs, given that the former are resource-using. The government launched further unilateral trade reforms in September 2004; our analysis suggests that this strategy is both important and appropriate. While further regional integration, including an FTA with the United States, can help in enhancing access to markets abroad, continued lowering of import barriers on a nondiscriminatory basis offers the greatest potential for Egypt's economic growth and development.

Appendix 4A The CGE Model

The computable general equilibrium (CGE) model is extended with updated data from the model used in the study by Konan (2003), which considered alternative goods and services trade liberalization scenarios for Egypt and Tunisia including the possibility of enhanced cooperation among Arab League countries. The present paper examines sectoral level impacts, which are not otherwise available, and extends the comparative analysis. The Egyptian input-output and trade data have also been updated. The study builds upon a growing literature on trade liberalization among MENA countries including Konan and Maskus (1997, 2000, 2003, 2004); Hoekman and Konan (2001a, 2001b, 2000), Hoekman, Konan, and Maskus (1998); Maskus and Konan (1997); and Rutherford, Rusträom, and Tarr (1997).

Previous research has dealt with regional integration, domestic and international taxation, bilateral trade patterns, services liberalization, and the role of regulatory and other nontariff barriers. In the present study, Egypt's economy is modeled as a system of nonlinear equations for industry-level production, factor employment, and intermediate and final demand. Countries are assumed to be small, price-taking economies, engaged in trade with the European Union and the rest of the world (ROW). That is, domestic policy changes are deemed not to significantly alter their terms of trade with various trading partners. Among the special features of the model are the specific treatment of barriers to trade and investment in services sectors and the endogenous treatment of instruments of taxation with revenue-neutral government budgeting.

Final output in sector i, Y_i, is produced according to a nested Leontief CES (constant elasticity of substitution) production function of intermediate inputs, z_{ji} for sectors j= 1, . . ., n, and real value added V_i.

$$Y_i = \min [z_{1i}/a_{1i}, \ldots, z_{ni}/a_{ni}, V_i/a_{VA}] \tag{4A.1}$$

Value added, V_i, comprises labor, L_i, and other primary factors, K_i. For Egypt, labor is further decomposed into a CES nest of production and nonproduction labor, not shown.

$$V_i = [a_{Li} L_i^{(\sigma i-1)/\sigma i} + a_{Ki} K_i^{(\sigma i-1)/\sigma i}]^{\sigma i/(\sigma i-1)} \tag{4A.2}$$

In export sectors, the production for the domestic market, D_i, is distinguished between that for export X_i according to a two-tier nested constant elasticity of transformation (CET) frontier.

$$Y_i = [\alpha_{Di} D_i^{(\varepsilon i-1)/\varepsilon i} + \alpha_{Xi} X_i^{(\varepsilon i-1)/\varepsilon i}]^{\varepsilon i/(\varepsilon i-1)} \tag{4A.3}$$

The second-tier CET-nest aggregates total exports, X_i, from exports by destination, x_{ri}, indexed by r (EU, MENA, US, and ROW).

$$X_i = [\Sigma_r \beta_{ri} x_{ri}^{(ei-1)/ei}]^{ei/(ei-1)} \tag{4A.4}$$

Intermediate, z_{ji}, and final demand, c_j, in sector j is differentiated by country of origin. Domestic output, d_{ji}, D_{jC}, region r imports, m_{rj}, and total imports M_j are aggregated in the following nested Armington CES functions:

$$z_{ji} = [\gamma_{dj} d_{ji}^{(\eta j-1)/\eta j} + \gamma_{mj} M_j^{(\eta j-1)/\eta j}]^{\eta j/(\eta j-1)} \tag{4A.5}$$

$$c_j = [\phi_{Dj} D_{jC}^{(\psi i-1)/\psi i} + \phi_{Mj} M_j^{(\psi i-1)/\psi i}]^{\psi i/(\psi i-i)}$$

where composite intermediate and final imports, respectively M_j^{i} and M_j^{C}, are given by the following:

$$M_j = [\Sigma_r \delta_{rj} m_{rji}^{(\eta i-1)/\eta i}]^{\eta i/(\eta i-1)} \tag{4A.6}$$

$$M_j^C = [\Sigma_r \delta_{rj} m_{rj}^{C\,(\eta i-1)/\eta i}]^{\eta i/(\eta i-1)}$$

With constant returns to scale, production firms behave competitively in goods markets, implying that price, p_i, equals marginal cost, c_i, for output within sector i. The domestic policy environment is reflected by taxes and barriers that influence firm decisions, including government revenue-producing tariffs on sector j imports from region r, t_{rj}; resource-using barrier on imports in sector j, u_j, ($u_j = 0$ for nonservices sectors); a resource-using barrier on services output due to inefficiencies λ_i ($\lambda_i = 0$ for nonservice sectors); an economic rent, v_j, or markup generated from imperfectly competitive services markets ($v_j = 0$ for nonservices sectors); and a tax on primary input value added, τ_{Vi}.

$$(1 + \lambda_i) c_i Y_i = \Sigma_j (1 + v_j) p_j d_{ji} + \Sigma_j \Sigma_r (1 + u_j + t_{rj}) p_{rj}^{m} m_{rji} + (1 + \tau_{Vi})(w_K K_i + w_L L_i) \tag{4A.7}$$

In the models, private household expenditures are determined by a representative agent with a multinested CES utility function. This allows the agent to make separable multistaged budget decisions. In the top-tier budgeting decision, income elasticity is assumed to be unity with a Cobb-Douglas nested utility function ($U = \Pi_i C_i^{bi}$; $\Sigma_i b_i = 1$), and a constant share of income is spent on the composite commodity. The second budgeting stage involves the consumer deciding how much to spend on domestic versus imported commodities, equation 4A3. Finally, the share of imports from each region is determined by equation 4A4.

Private households receive income generated by returns to endowments of labor, E_L, and other value added, E_K. Households receive rent transfers from their ownership of imperfectly competitive services sectors, $v_i Y_i$. Households support a government budget deficit, D, and engage in savings through exogenously fixed investment instruments, I_i.

$$\Sigma_i \tilde{p}_i^C C_i = w_K E_K + w_L E_L + -\Sigma_i p_i I_i - D + \Sigma_i v_i Y_i \tag{4A.8}$$

The model simplifies the treatment of government and intertemporal decisions. The government is assumed to spend based on a fixed real income, with preferences reflecting those of households. A lump-sum tax adjusts endogenously in response to policy shocks to maintain a revenue-neutral government budget. Similarly, real private investment in each sector, I_i, is exogenously fixed at the benchmark level.

As noted above, import and export prices are exogenous, following the small-economy assumption. The real current account balance, B, is exogenously given at international prices, also assumed to be exogenous. That is, the volume of trade adjusts endogenously to ensure a constant real current account.

$$B = \Sigma_i \Sigma_r p_{ri}^x x_{ri} - \Sigma_i \Sigma_j \Sigma_r p_{ri}^m m_{ri}^j - \Sigma_i \Sigma_r p_{ri}^m m_{ri}^C \tag{4A.9}$$

It is important to note that key identities hold as the optimizing behavior of agents assures that income will equal expenditures. Market clearance is achieved for all commodities and factors. Household and government budgets are balanced given exogenous real benchmark transfers. The value of imports equals the value of exports, net of real capital flows. In this Arrow-Debreu type model, Walras law is satisfied and, given a numeraire, a unique set of real prices is determined in each scenario. These identities are fully documented in Konan (2003).