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**EFFECTIVE PROTECTION AND
INVESTMENT INCENTIVES IN EGYPT AND
JORDAN DURING THE TRANSITION TO
FREE TRADE WITH EUROPE**

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ABSTRACT

Effective Protection and Investment Incentives in Egypt and Jordan During the Transition to Free Trade with Europe*

This paper assesses the possible impact of a Euro-Mediterranean Agreement (EMA) on Egypt and Jordan and identifies policy options that will increase the benefits of free trade with Europe. The extent to which these countries will benefit from an EMA depends greatly on the investment response and thus on improvements in the investment climate. The latter will be determined by many factors. Three factors that can be affected by an EMA are the modalities of the tariff reduction strategy that will be pursued, the extent to which transaction costs are reduced, and the upgrading of the quality and the lowering of the costs of intermediate service inputs through greater competition. Many of the policy and institutional changes that are required are not or are only in part subject to the coverage of the EMA.

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NON-TECHNICAL SUMMARY

This paper assesses the possible impact of a Euro-Mediterranean Agreement (EMA) on Egypt and Jordan and identifies policy options that will increase the benefits of such an agreement. The basic objectives of the EMA are to achieve free trade between the EU and Mediterranean countries in most manufactured goods, and preferential access for agricultural products on a reciprocal basis; to establish conditions for gradual liberalization of trade in services and capital; and to encourage the economic integration of Mediterranean countries. Agreements have already been concluded with Morocco and Tunisia; Egypt, Jordan and Lebanon are in the negotiation process with the EU.

The extent to which Egypt and Jordan will benefit from an EMA depends greatly on the investment response that is induced. A free trade agreement with the EU will give rise to greater competition in product markets and a more efficient allocation of productive resources. The extensive provisions in the EMA for technical cooperation aimed at harmonization and mutual recognition of regulatory procedures (e.g. in the area of customs clearance, product standards) will help reduce transaction costs associated with trade. Such factors will generally help to improve the investment climate by reducing the costs of business and improving the efficiency of the economy.

Much depends on the specific contents of the EMA, however. One factor is the design of the tariff liberalization programme. This has implications for investment incentives, adjustment costs, and national welfare over the transition. If Egypt and Jordan emulate Tunisia by lowering tariffs on imports of intermediate inputs and capital goods first, leaving tariff reductions on final consumer goods until the end of the transition period, domestic industries will be granted some up-front compensation for the adjustment costs that must be incurred later, and are given time in which to restructure. Such a tariff liberalization strategy also ensures that tariff revenues will initially decline slowly, giving more time to mobilize alternative tax bases. But the backloaded nature of the tariff reductions may reduce the incentives to initiate rapid restructuring, and may create problems in implementing tariff reductions in the future. The analysis of this paper suggests that in Egypt a 'Tunisian' strategy may increase the effective rate of protection for some sectors and thus cause a welfare loss. Such losses will be compounded if the increase in effective protection – both absolute and relative to the average – induces additional investment in the sectors concerned.

Benefits from the EMA will be enhanced if complementary actions are pursued to improve the functioning of the economy. Upgrading the quality and reducing the costs of services is particularly important in this connection. Foreign direct investment can be particularly beneficial in the services area, as establishment often remains the best way to contest a market. Efficient services are crucial in terms of being able to participate in the global economy and attract foreign direct investment: telecommunications, information technology, port services, financial intermediation and business support services are all key elements underlying the ability to compete on world markets. The EMA does not require liberalization of service markets nor guarantee investors of national treatment and a general right of establishment. In this there is a difference with the agreements that were concluded between the EU and the Central and East European countries in the early 1990s. There is nothing constraining either Egypt or Jordan, however, from making commitments in these areas as part of the negotiation of the EMA.

Effective Protection and Investment Incentives in Egypt and Jordan: Implications of Free Trade With Europe

I. Introduction

The governments of Egypt and Jordan have been pursuing economic reform, including trade liberalization, since the late 1980s. Both the average level and dispersion of tariffs were reduced substantially, and most quantitative restrictions eliminated. Each country is engaged in multi-year structural adjustment efforts that will further reduce average tariffs substantially. A recent major policy initiative in this connection is the negotiation of a free trade agreement with the European Union (EU). The decision to pursue free trade with the 15 member states of the EU provides an unambiguous signal to investors that there is a strong commitment to opening the economy. However, full liberalization of trade with the EU will have significant implications for many industries and workers that have become accustomed to protection. Given the extensive role of the public sector in the economies of both countries, the free trade objective may not be perceived as fully credible by potential investors and may be opposed by interest groups in the future.

The adjustment and stabilization efforts that have been pursued since the late 1980s have led to great improvements in macro-economic indicators. Inflation in both countries declined from double digit levels in the later 1980s to less than 9 and some 3 percent in Egypt and Jordan, respectively, in 1995. The fiscal deficit in Egypt was reduced from 17 percent of GDP to some 2 percent in 1995. Private (mostly portfolio) capital inflows into Egypt over 1987-93 totalled \$31.5 billion, as investors sought to benefit from higher real interest rates. At the end of 1995, Egypt had foreign reserves equivalent to some 2 years of imports, up from an average of only 2 months in 1989. Although the stabilization programs have had impressive results, unemployment rates in both countries remain high (around 15 percent), and per capita income growth performance has been weak. Total factor productivity growth in both economies remains far below that achieved in dynamic developing countries. Less than 15 percent of capital inflows into Egypt have taken the form of foreign direct investment (FDI). Trade barriers remain high, complemented by extensive administrative and procedural transactions costs.

The aim of this paper is to assess the possible impact of a Euro-Mediterranean Agreement (EMA) for Egypt and Jordan and identify policy options that will increase the benefits of free trade

with Europe. The paper is organized as follows. Section II briefly discusses the potential benefits of preferential liberalization with the EU, and the contents of the EMAs that already have been negotiated with Morocco and Tunisia. Section III provides a qualitative assessment of the likely impact of free trade with Europe. Very much depends in this connection on the investment response. Although both foreign and domestic investment is important, foreign direct investment is a key factor in enhancing economic growth opportunities. Sections IV and V discuss what Egypt and Jordan could do in this connection, both in the context of the EMA itself and going beyond the EMA. Issues that are emphasized are the implications of alternative tariff reduction strategies on the effective rate of protection across industries (Section IV) and the opportunity to increase the contestability of domestic markets through granting of the right of establishment, pursuing privatization and opening access to service sector activities (Section V). Section VI concludes.

II. Potential Benefits and Basic Elements of an EMA

It is well known that preferential liberalization is generally economically inferior to unilateral liberalization. By granting preferential treatment to the EU, trade *diversion* may occur—the elimination of tariffs may induce consumers and firms to source from European suppliers that are less efficient than those located in non-EU countries. Trade diversion is likely to be significant for both Egypt and Jordan, as imports from the EU account for 40 and 55 percent of total imports; average tariffs are relatively high; and both countries already have duty-free access to EU markets.¹

There are a number of potential benefits associated with an EMA that will to a greater or lesser extent offset possible trade diversion losses. These include trade *creation*—a shift from domestic sourcing by firms and consumers in favor of imports of goods produced by more efficient EU suppliers after the elimination of trade barriers; a possible investment stimulus induced by the credibility that is gained from liberalization in the context of an EMA; a reduction in trade-related transactions costs ("red tape"); erosion of monopoly power, forcing firms to price closer to marginal costs; more secure access to European markets; and financial transfers from the EU. Of these various factors, the reduction in trade costs may well be among the most important (Konan and Maskus, 1996; Rutherford et al. 1995). An EMA involves some harmonization of regulatory regimes and

administrative requirements relating to product standards, testing and certification procedures, common documents for customs clearance (e.g., the EU's Single Administrative Document). The negotiation of mutual recognition agreements (e.g., for inspection and certification of goods) and coordination and cooperation on a wide variety of regulatory issues is an objective of the agreement. Cooperation and harmonization of standards and customs clearance procedures can do much to reduce the administrative costs of trade. Such benefits are particularly important because trade diversion losses may not occur if cost-increasing barriers are eliminated. Indeed, some administrative barriers may not differentiate between sources of imports. If these barriers are reduced or removed in the context of an EMA, they will also reduce the costs of trade with non-EU countries. This will further increase the gains from an EMA. Recognition and cooperation in the area of product and environmental standards may also help to improve the security of access to EU markets by reducing the threat of arbitrary rejection of Egyptian or Jordanian exports (e.g., because of purported violation of health or product safety standards).

The extent to which such potentially offsetting benefits are sufficient to ensure a welfare gain for Egypt and Jordan is an empirical matter. Very much depends on the contents of the agreement that is negotiated, the magnitude of the additional financial and other types of transfers that are associated with the agreement, and the longer-term trade strategy of the government. The probability that an EMA will be welfare enhancing increases the smaller are trade diversion losses; the more the EMA goes significantly beyond existing WTO disciplines;² and the greater is progress in the area of trade facilitation—customs procedures, documentary requirements, product testing and certification.

Basic Elements of an Euro-Mediterranean Agreement³

The basic objectives of an EMA are to achieve free trade between the EU and Mediterranean countries in most manufactured goods and preferential access for agricultural products on a reciprocal basis; establish conditions for gradual liberalization of trade in services and capital; and encourage the economic integration of Mediterranean countries. The first EMA, negotiated with Tunisia, was initiated in April and signed in July 1995. An agreement with Morocco followed in October 1995. Negotiations are ongoing with Egypt, Jordan and Lebanon. In terms of what the EU is willing to

offer, there is likely to be very little variance across EMAs. However, partner countries have substantial discretion in determining how much to commit to doing with respect to investment and services. The EMA has six major elements: (1) free movement of goods; (2) right of establishment and supply of services; (3) payments, capital, competition and other economic provisions (e.g., safeguards); (4) economic, social and cultural cooperation; (5) financial cooperation; and (6) political dialogue.

Trade. Free trade in goods is to be achieved over a 12-year transition path, with EU partner countries having great leeway in implementing tariff cuts. Little will change as far as agricultural trade is concerned. Negotiations to improve on existing agricultural concessions are to be initiated after January 1, 2000. The inability of the EU Commission to significantly expand export opportunities was an important stumbling block for Morocco in reaching agreement with the EU. The relative importance of agriculture varies significantly across Mediterranean countries. It is least important to Jordan, where it accounts for 8 percent of GDP, and most important in Egypt where it contributes some 20 percent of GDP.

Establishment and Services. The right of establishment (i.e., freedom to engage in foreign direct investment and be treated as a national) is an objective in the EMA. No specific language is devoted to this subject in the Tunisian EMA; no time path or target date is mentioned for its realization. This contrasts with the Europe Agreements concluded by the Central and Eastern European countries (CEECs), where the EU granted free entry and national treatment to firms from partner countries from 1992 on, except in air and inland water transport and maritime cabotage. The CEECs also granted free entry and national treatment to EU firms, with transitional periods for a limited number of sectors/activities. Liberalization of services is also simply an objective to be pursued by the Association Council.

Competition Policy, State Aids and Government Procurement. The EMA requires the adoption of the basic competition rules of the EU, in particular with respect to collusive behavior, abuse of dominant position, and competition-distorting state aid (Articles 85, 86, and 92 of the Treaty of Rome), insofar as they affect trade between the EU and each EMA partner country. Until implementing rules are agreed, GATT rules with respect to countervailing of subsidies will apply.

The Association Council is to adopt rules to enforce competition policy and subsidy disciplines after an initial 5 year period. Antidumping remains applicable to trade flows between partners, despite the agreement to apply EU competition disciplines. Liberalization of government procurement is an objective of the EMA to be realized in the future.

Economic and Financial Cooperation One-third of the Articles of the Tunisian EMA deal with cooperation in economic, social and cultural matters. The various Articles are largely oriented towards upgrading Tunisian infrastructure broadly defined (both physical and regulatory) and providing support for restructuring of the economy. This support is not just reflected in technical assistance and advice, but is supported by financial assistance as well. Under the EMA, the EU envisages earmarking a total amount of assistance—grants and loans—for all the Mediterranean partner countries. Individual allocations out of this total will in part be endogenous—depending on country performance, including the implementation of the EMA. The EC Commission initially requested a total of ECU 5.5 billion for the region for a four year period; ECU 4.7 billion was approved by the Council. An equivalent amount is to be provided by the European Investment Bank.

III. Economic Implications of an EMA

Quantification of the impact of an EMA on the Egyptian and Jordanian economies is not straightforward, in part because many effects are not readily measurable, and in part because it depends greatly upon the extent to which regulatory regimes pertaining to services and investment are affected. The economic impact of trade liberalization is conventionally broken down into two types, static and dynamic. The static impact is determined by the induced reallocation of existing resources; the dynamic effect takes into account the impact on the rate of capital accumulation (investment). Various types of dynamic effects may arise. One is a consequence of the static allocative efficiency gain. For the given initial stocks of labor and capital, the increase in income following liberalization increases per capita savings, which in turn gives rise to greater investment (Baldwin, 1994). A second effect consists of an increase in investment stimulated by the decline in transactions costs and the improvement of the incentives regime. Both of these effects arise in the medium-run. The third impact relates to the long-term effect on the rate of accumulation of factors of production (knowledge,

human capital).

Allocative Efficiency Effects

The static welfare impact of trade liberalization is generally relatively small because the efficiency gains that result from bringing domestic prices closer into line with world prices are offset by the loss in tariff revenue. Its magnitude depends on numerous variables, including the structure of domestic markets before opening of the economy, the extent of competition, and the existence of economies of scale in production. The greater the market power of domestic firms and the less competition that prevails, the greater the increase in welfare resulting from liberalization. Much also depends on the type of trade barriers that are removed. Although all barriers raise the domestic price of goods above world levels, some trade barriers are sources of real resource costs that benefit no industry. The net welfare gains from removing such trade barriers are larger than is the case for rent-creating barriers such as tariffs or quotas.

An EMA should significantly reduce the average price of many tradable goods, giving industries access to lower cost inputs and consumers to lower cost goods. The average nominal tariff on imports is currently some 29 percent in Egypt and 20 percent in Jordan. Although collected tariff revenue is substantially less in both countries (around 20 and 15 percent, respectively) because of exemptions, studies of the trade regime have concluded that cost-raising administrative barriers are significant (World Bank, 1994a; 1995a,b). A simulation study analyzing the static effects of preferential liberalization vis-a-vis the EU for Egypt suggests that much of the welfare gain from an EMA is associated with a reduction in administrative barriers.⁴ Free trade with the EU—elimination of tariffs on EU imports combined with an assumed one percent increase in the export prices of Egyptian exports because of reduced incidence of testing and certification costs in the EU, as well as an 8 percent increase in export prices of agricultural produce and clothing—results in a welfare gain of only 0.2 percent of GDP. This low figure reflects the impact of trade diversion. However, if it is assumed that the EMA also reduces administrative costs incurred by traders in Egypt—due to customs procedures, quality control, "red tape"—and that this reduction applies to all trade (not just the EU), the welfare gains rise to 1.8 percent of GDP.⁵

Hosoe (1996) suggests that there are also significant opportunity costs associated with preferential liberalization for Jordan. Preferential liberalization of trade with Europe is expected to reduce welfare relative to the base scenario by some 0.9 percent of GDP. Such losses can be offset both through the reduction of transactions costs on trade and by a reduction in MFN tariffs. The latter does not necessarily have to imply a move to full free trade with the rest of the world. Greater uniformity of tariffs combined with a substantial reduction in the average level will already do much to improve resource allocation and welfare. For example, in the case of Egypt, Konan and Maskus estimate that a uniform, non-discriminatory tariff of 10 percent would increase welfare by 30 percent relative to the EMA alone. This illustrates the gains that can be obtained by extending the EMA gradually over time to the rest of the world and by reducing the dispersion of tariffs.⁶

In evaluating the importance of trade diversion costs associated with preferential liberalization, account must be taken of the feasibility of reducing the incidence of administrative barriers in the absence of an EMA. To the extent that administrative barrier reduction is a major component of the EMA and cannot be achieved without it, the importance of any trade diversion is reduced. Nonetheless, the fact remains that both Egypt and Jordan will suffer a terms of trade loss because of trade diversion. What matters then is the extent to which efforts are made to realize these alternative sources of welfare gains.

Medium-Term Dynamic Impacts

Increased trade openness may affect growth through its impact on the incentives to invest in human and physical capital and on its effect on the rate at which firms innovate and improve their total factor productivity. Little empirical evidence exists on the long-term growth effects of preferential liberalization. Much is likely to depend on the extent to which an inflow of foreign direct investment is induced. The experience of Portugal and Spain following accession to the European Community illustrates the possibility of significant medium-term investment effects if the macroeconomic environment is suitable. FDI in Portugal rose four-fold during the mid-1980s, while that in Spain more than doubled. In both countries FDI centered on finance, real estate and business service sectors, as well as on more traditional export-oriented sectors (such as textiles and clothing).⁷

Attracting FDI is important for a number of reasons: it is a source of know-how and technology, creates employment, and fosters trade. It has become increasingly recognized that FDI and trade are often complements. Export development will to a certain extent depend on the ability of a nation to attract FDI.

To what extent will an EMA change the incentives to locate production facilities in Egypt or Jordan? A preferential trade agreement with the EU creates offsetting incentive effects for investment. On the one hand, the reduction in trade costs and enhancement of competition will make the economy more efficient, increasing the demand for goods and services and providing firms that invest in these countries greater opportunities to exploit geographical and other advantages. On the other hand, the reduction in trade barriers also reduces the incentive for inward FDI. As tariffs and other barriers to imports are eliminated, European firms no longer have a policy-induced reason to produce locally. The greater the economies of scale in production, the greater the incentive may be to concentrate production in an EU location where a firm has access to many complementary service providers. The fact that an EMA is simply a bilateral free trade agreement worsens matters, as locating in an EU member (the "hub") gives duty-free access to all countries with which the EU has concluded free trade agreements—virtually all its neighbors (sometimes called "spokes"). As neither Egypt nor Jordan has free trade agreements with all the countries in the region, and given the high transactions and transport costs that apply to intra-regional trade, firms that rely on imported inputs and export a significant part of their output confront a cost in locating in Egypt or Jordan. Tariffs on non-EU goods will continue to prevail, and goods of Arab origin will continue to face tariffs outside the EU.

One implication of this is that it is very important that trade barriers are lowered with as many countries as possible, and with neighboring countries in particular. Another implication is that opening up the service sector to foreign direct investors is important. Many services cannot be traded across frontiers, so that the investment diversion incentives do not prevail. Foreign providers that wish to sell services in Egypt or Jordan will generally have to establish and invest. As efficient services are also an important dimension of raising the productivity of the economy, encouraging such investment should be a priority.

Improvements in total factor productivity growth (TFP) are another source of dynamic gains. TFP may increase not only as a result of the adjustment of domestic enterprises to the opening of the economy, but the rate of TFP growth may also increase. Historically, Egypt has achieved relatively high rates of TFP growth, averaging around 2 percent over the 1960-90 period, while in Jordan TFP growth was only slightly above zero (Page and Underwood, 1995). More recently, however, TFP growth in Egypt has been much lower, averaging 0.3 percent during 1982-92 (World Bank, 1994). The agreement with the EU may help achieve higher growth in TFP by facilitating the acquisition of technology. This may occur through a number of avenues: investments in new capital equipment as tariffs are eliminated; new inflows of foreign direct investment;⁸ technology licensing agreements (which may be stimulated in part through the adoption of stronger intellectual property protection); and more informal transfers of technology and know-how as linkages between European and Arab firms are facilitated. The last avenue may in part be attained through greater use of outsourcing arrangements, where goods are processed in Egypt or Jordan and re-exported to the EU.⁹ The reduction in administrative red tape and transactions costs that should emerge as the agreement is implemented should increase the ability of enterprises to pursue such contracting.

Improving the Investment Climate

Summing up, the likelihood of significant welfare gains resulting from the EMA increases the greater are associated administrative and related transactions cost reductions. This is necessary to offset trade diversion, and perhaps more important, to attract FDI and to increase the rate of investment (i.e., realize dynamic benefits). A key question then is what the EMA will do to foster FDI, and what could be done to enhance the effect of the EMA. Critical issues in this connection include the modalities of tariff reduction, the extent to which services are opened to greater competition, the policy stance towards foreign investment, and the level of the trade barriers that are maintained against the rest of the world. More general policies will be important as well. In addition to macro-economic stability, privatization and regulatory/institutional reform are perhaps the most significant in this connection.

The role of the State in the economies of both Egypt and Jordan is very large. In Egypt the

public sector accounts for some 50 percent of GDP and 35 percent of total employment. Figures for Jordan are 30 percent of GDP and 45 percent of employment. Average wages in the public sector are some 20 to 40 percent above those in the private sector (Diwan, 1995). In comparison to Egypt, the role of the central government in Jordan is larger in employment and smaller in GDP, reflecting the more pervasive role of public enterprises in Egypt. The size of the public sector imposes a large burden on the economy. If maintained, it also reduces the credibility of the EMA-based liberalization program, as without significant restructuring and contraction, greater competition from imports will lead to greater public enterprise losses, fiscal pressures, and the possibility of macroeconomic problems. Given the importance of public enterprises (accounting for 30 percent of GDP and 45 percent of nonagricultural value added), this is an issue that is particularly relevant for Egypt.¹⁰ Both countries are pursuing privatization programs. Privatization will not only provide a signal to international financial markets that there are substantial investment opportunities, but enhance the credibility of the liberalization program.¹¹

Perceptions of foreign investors of the business climate in Egypt and Jordan are not very good. Risk ratings are high, and in 1994 were almost double those for countries such as India, Hungary, Argentina or Mexico (World Bank, 1995b). This is partially due to political risk and recurring conflicts, but as important are the costs of doing business (including financial intermediation, tax burdens, tax administration, problems of contract enforcement, and the burden imposed by regulatory regimes). The regulatory burden on business in Egypt is high. Entry into a market or expansion (including new product development) may be restricted and require many approvals from different authorities; exit is often made more expensive because of labor legislation. Surveys indicate that some 30 percent of managers time is devoted to regulatory compliance (Anderson and Martinez, 1995). Similar factors apply in Jordan, although the magnitude of the costs imposed appears to be less than in Egypt. To some extent such regulatory constraints can be reduced through the implementation of an EMA (see below).

IV. Design of Tariff Reductions

There are a number of options regarding the design of tariff reduction under an EMA. One is

the approach chosen by Tunisia, which gives priority to the reduction of tariffs on capital goods and intermediate inputs and delays the liberalization of consumer goods imports.¹² An advantage of the Tunisian approach is that it provides domestic industry with a breathing space, and at the margin may provide greater incentives to invest in industries that continue to be guaranteed protection during the first phase of the transition.¹³ The problem is that this is likely to give rise to welfare losses (in an opportunity costs sense) as the dispersion in protection will remain high. Another option is to follow an across-the-board approach, cutting all tariffs uniformly by a certain amount each year. A major advantage of this alternative is that it is simple and transparent, and that highest tariffs are reduced the fastest in absolute terms. In contrast to the Tunisian model, this approach is guaranteed to improve welfare over the transition period (Dixit, 1985). A third option is the so-called concertina approach under which the highest tariff band is lowered first (to the next highest band), followed by a reduction in this band to the next lowest, and so forth. Such a steady compression/reduction of the maximum tariff is likely to reduce effective rates of protection more rapidly than a proportionate approach. However, it will only guarantee a welfare increase over the transition to the zero tariff if goods are net substitutes, which in practice is unlikely to be the case.¹⁴

In what follows the two most likely options to be adopted are compared. It is assumed for illustrative purposes that Egypt and Jordan would pursue either an approach identical to the Tunisian one, or a proportional (linear) reduction in nominal tariffs over 12 years. The focus will be on a measure of effective protection as this provides a useful indicator of the change in incentive regime for industries.¹⁵ It is well known that the ERP is not a very useful measure of the cost of protection, as all it does is provide information on differences in the level of protection across industries without taking into account the quantity of output that is protected (industry size) or divergences between private and social costs for each marginal unit of output (Corden, 1984). General equilibrium models are required to evaluate the welfare costs of protection, as these take into consideration quantities and interaction effects. Indeed, with the emergence of off-the-shelf software packages that allow computable general equilibrium (CGE) modelling, ERP analyses have largely been abandoned in the literature.

Notwithstanding this, we focus on the ERP in what follows for a number of reasons. CGE

models are exercises in comparative statics that compare the status quo with the new equilibrium that emerges after a policy shock, usually making no allowance for induced changes in factor accumulation, including stimulation of foreign direct investment. In practice, trade reform in the EMA context will be implemented gradually. Depending on the reform strategy that is pursued, policy-induced distortions may rise during a period of time. Under a CGE analysis this will not be taken into account, and unless policy changes are simulated year-by-year, no information will be generated as to whether and to what extent this possibility arises. An ERP-type analysis can also be useful in providing qualitative information on the change in the investment incentive regime that is caused by trade liberalization. Moreover, an ERP framework also is useful to determine the relative sensitivity of industries to various types of domestic distortions. The most important of these in the current context are administrative ("red tape") trade costs and the implicit tax imposed by an inefficient services sector. In the CGE studies discussed previously, the impact of removal of real trade costs is modeled through assumed changes in import and export prices that are uniform across all industries. This is rather unrealistic, as industries will differ in their sensitivity to and dependence on trade cost increasing activities. An ERP approach can provide information on this. Many inputs used by industries are not traded—services are often an important example. Analogous to tariffs on traded inputs, the higher the tariff-equivalent of regulatory policies for services, the lower the effective protection for industries that use the service inputs involved. Given the importance of services in the production process—for example, transport of inputs and the goods produced, financial intermediation, insurance, business services, telecommunications—it is clearly necessary to take into account the extent to which regulatory regimes raise the costs of services, thereby imposing a tax on manufacturing and agriculture. These costs are not limited to direct price-increasing effects. Insofar as their effect is to reduce quality of services, users are also confronted with an implicit increase in prices.

In Egypt the average nominal (unweighted) tariff in Egypt is currently 29 percent (Table 1). The import-weighted average—which provides a much more accurate view of nominal protection—is virtually identical (26 percent for goods of EU origin; 29 percent for the rest of the world). At 30 percent, the average economy-wide ERP does not differ significantly from the average nominal rate

(Table 1). If an attempt is made to allow for the fact that service inputs used by Egyptian industry are less efficient and more costly than they might be (because of lack of competition), the magnitude of the ERP is likely to decline for manufacturing and natural resource-based industries. A problem in this connection is that no reliable and comprehensive data are available to allow estimation of the appropriate "tariff equivalents." Survey data for Egypt suggest that services are significantly more expensive and of lower quality than in comparator countries (World Bank, 1994b; 1995a,b). For illustrative purposes it is assumed in what follows that the "tariff equivalents" for construction, communications, financial services, business and professional services are 20 percent; for distribution, transport, storage: 40 percent.¹⁶ For a number of industries this makes the ERP become negative, implying that tariffs on imported intermediate inputs combined with the implicit tariffs on service inputs outweigh the tariff protection on the goods produced. That is, the regulatory regime results in the effective taxation of Egyptian industry. This is the case for 8 industries, mostly agricultural processing and natural resource-based activities (oil/gas and other extractive activities). As a result, the manufacturing average ERP falls to 14 percent (Table 1).¹⁷

In Jordan, the nominal average tariff was 23 percent in 1994 (Table 2). The average ERP, without considering any services inefficiencies, was 9 percent. If account is taken of higher service costs in Jordan, the average ERP falls to 7 percent.¹⁸ For a number of industries the effective rate is negative, implying that tariffs on imported intermediate inputs combined with the implicit tariffs on service inputs outweigh the tariff protection on the goods produced. The industries affected are mostly agricultural and natural resource-based activities (phosphate, potash, chemicals, oil refining) (Table 2).

A comparison of Tables 1 and 2 reveals that ERPs in Egypt are much higher than in Jordan. Eight sectors in Egypt have ERPs that are 35 percent or higher, as compared to 3 in Jordan. Of these 3, the highest is 44 percent, as compared to over 90 percent in Egypt (transportation equipment). The economy-wide average ERP in Jordan is 9 percent; that in Egypt is 30 percent. Even after taking into account that the service sector is much more inefficient and higher cost than in Jordan, the ERP in Egypt remains double that in Jordan (15 versus 7 percent, respectively); and the dispersion in ERPs across sectors is some 60 percent higher.

The impact of the two alternative tariff reduction schemes ("Tunisia" versus a proportional reduction) on effective rates of protection over a 12 year transition period are summarized in Tables 3 and 4. It is assumed for illustrative purposes that nothing is done to enhance the efficiency of services (that is, the tariff equivalents noted above apply), and that MFN tariffs on the rest of the world remain constant.¹⁹

Egypt

An important difference between the two approaches for Egypt is that the average ERP in Egypt falls by almost 50 percent in 3 years under the linear reduction program, and thereafter stays relatively constant (Table 3). To a large extent this difference arises because sectors such as cotton textiles and furniture experience an almost immediate drop in ERP under the proportional reduction scheme, whereas under the Tunisian approach protection rates for these sectors actually increase. Indeed, under the Annex approach ERPs for these sectors fall significantly only at the end of the transition period. Abstracting from these sectors, the approaches differ significantly only in terms of the first three years, with ERPs for sectors such as transportation equipment, paper and printing, machinery, and food processing and chemicals experiencing deeper cuts in the ERP.

Under the Tunisian approach, the average effective rate of protection in Egypt rises slightly upon implementation of the EMA, from 14 to 16 percent. Industries that experience an increase in the ERP include cotton spinning and weaving (from 43 to 58 percent); furniture (49 to 52 percent); machinery and appliances (20 to 25 percent), and other manufacturing (17 to 26 percent). After five years—with the elimination or substantial reduction in tariffs on capital goods and many intermediates, and unchanged tariffs for many final consumer goods—the average ERP across all industries drops only 1 percentage point. A number of industries see their ERP increase further—e.g., cotton ginning and pressing, furniture and shoes. Some industries that were effectively taxed at the beginning of the transition period experience a reduction in this taxation; two industries (vegetable foodstuffs and wood products) move into the positive protection range. It is only after 6 years that the initial level of ERP declines below the current level. By the end of the ninth year, only two industries remain confronted with a negative ERP, animal products and non-mineral extractive industries. ERPs for all industries

are now below their peak. At the end of the transition process, the average ERP falls to 7 percent, or half the current rate. However, some industries continue to benefit from significant ERPs in the 10 to 20 percent range, in particular clothing, cotton spinning, furniture, leather products, ceramics, shoes, and transportation equipment. The reason for this is that MFN tariffs for these industries are high (see the data on import-weighted nominal tariffs).

Food processing, chemicals, oil refining, paper and printing, and vegetable products all move from positive to negative ERPs under the proportional reduction scheme. This is not desirable, especially as ERPs move back towards positive levels later in the transition. A proportional reduction approach may therefore require compensation of such sectors through subsidies or tax credits. Alternatively, reductions in the tariffs on the outputs of the industries concerned should be delayed. But this implies the loss of a major attraction of the proportional reduction approach—its simplicity. These considerations suggest that the costs of the Tunisian approach may not be too high, especially considering the associated political economy advantages. The backloading of liberalization of final goods should facilitate acceptance of and support for the decision to liberalize trade. By lowering tariffs on intermediates and capital goods first, domestic industries are granted some up front compensation for the adjustment costs that must be incurred later, and are given time in which to restructure. The tariff liberalization strategy also ensures that tariff revenues will initially decline slowly, giving more time to mobilize alternative tax bases. Moreover, during the first half of the transition period the backloaded nature of the liberalization program maintains an incentive for inward FDI. This may be significant in Egypt given the size of the domestic market.

The possible downside of the strategy may be significant, however. The backloaded nature of the tariff reductions may reduce the incentives to initiate rapid restructuring, and may create problems in implementing tariff reductions in the future (e.g., through pressure for safeguard protection). Insofar as the increase in the effective protection that may occur for some industries in the first part of the transition induces investment, welfare losses will be incurred. The gradual liberalization may also be too slow in terms of maintaining existing export markets and capturing new ones in the face of increased competition from former centrally-planned and Asian economies, driven by the liberalization achieved in the Uruguay Round.

If the implicit protection of the services industry is eliminated, the average ERP jumps back up from 7 percent to 13 percent (not reported) and all industries would benefit from positive ERPs after free trade with the EU. The extent to which ERPs increase depends of course on the service intensity of production. In all cases industries that were highly protected become more so. This illustrates the potential gains from reducing MFN tariffs significantly.

Jordan

In the case of Jordan, after three years, the average ERP under a proportional reduction approach declines only slightly, to 8 percent. Under the Tunisian approach, some industries, including leather, cement, non-electrical machinery, textiles, furniture experience a small *increase* in the effective rate of protection. This does not occur under the proportional reduction approach, under which all rates fall (clothing is the only exception), although because of the proportionality of the cuts the decline for many sectors is quite limited. After six years, the average effective rate of protection across all industries drops to 5 and 6 percent, under the proportional and Tunisia scenarios, respectively. In both cases, the variance in ERPs is similar. By the end of the ninth year, the average rate has fallen to 3 and 4 percent, respectively. At the end of the transition process, the average ERP falls to 2 percent, or less than a quarter of the 1994 level. However, some industries continue to benefit from significantly higher rates of effective protection. Examples include textiles (12 percent), cement (9 percent), leather products (11 percent), non-metallic minerals (12 percent), and furniture (18 percent). This largely reflects the relatively high MFN tariffs for these industries and the low initial shares of the EU in imports of these goods.

A comparison of the two approaches reveals that the proportional reduction reduces the average ERP in Jordan somewhat faster. The proportional tariff reduction results in both lower average rates of ERP and in a lower dispersion of protection rates at each period of time. The efficiency gains of liberalization are therefore reaped more rapidly. However, as the difference in average levels is slight and there are no significant differences in terms of the dispersion of protection across sectors, there do not appear to be large opportunity costs for Jordan if the Tunisian strategy is followed (i.e., frontloading reductions for capital goods and raw materials). The similarity between

the two approaches reflects the fact that many tariffs on capital goods and inputs are already relatively low in Jordan. In both cases tariffs on such goods therefore approach zero rapidly, implying that during much of the transition period all of the action concerns gradual reductions in tariffs on final goods. This is not the case for Egypt, where the dispersion of ERPs rises in the first years of the transition and some sectors see their ERP rise under the "Tunisian" approach.

V. **Right of Establishment and Services**

The need to stimulate investment, and foreign direct investment in particular, is of great importance if Egypt and Jordan are to maximize the gains from an EMA. The EMA provides a good instrument through which to signal that foreign direct investment is welcome. The most straight forward way this can be done is to commit to a general right of establishment, stating that foreign investors will be treated identically to nationals, without any limitations as regards maximum equity stakes or operations. Alternatively, if the Government desires to safeguard particular sectors or activities it could impose exceptions to right of establishment by adding a negative list to the EMA. Clearly the longer such a list becomes, the weaker the signal being sent to foreign investors. The Central and Eastern European countries fully exploited the opportunity of committing to the right of establishment in their agreements with the EU. Most activities were opened rapidly, others were subject to a transitional period, and a very small set of activities excluded. By indicating the fact that they are open to FDI and willing to lock this in, the Central and Eastern European countries increased the incentives for foreign firms to establish and transfer much needed know-how. A similar approach could be emulated by Egypt and Jordan.

FDI inflows into the Czech Republic, Hungary, and Poland have been significant. Between 1992-94, these countries received \$2.1, 5.0 and 4.3 billion, or 3, 7, and 4 percent of GDP, respectively (World Bank, 1996). Comparable figures for Egypt and Jordan reveal that FDI is less important, and tends to be concentrated in very few activities (oil/tourism in Egypt; mining in Jordan). FDI flows into Egypt averaged \$1.1 billion during 1985-89, but this fell to less than \$500 million during 1990-93. FDI in Jordan is very small, averaging little more than \$20 million per year in the early 1990s. Granting a general right of establishment and guaranteeing national treatment,

while an important signal, will not of course be sufficient in terms of improving the investment climate. It is clear from the surveys of the private sector in these countries that other impediments must also be addressed. These include the cost of financial intermediation, the tax burden, and regulatory regimes. But locking in the right of establishment will help create the preconditions for greater investment, especially if an active privatization program is pursued as well.

Fostering greater competition in service industries should be a priority. This is closely associated with the promotion of foreign direct investment. Upgrading the efficiency of the economy requires an efficient service sector. Services provide the infrastructure for production and trade, and service-related bottlenecks can prohibit manufacturing or food-processing industries from exploiting their comparative advantage. Clearly foreign investors are not the only source of efficiency gains. Of greatest importance is to stimulate competition and provide industries and traders with access to lower cost, higher quality services. Numerous studies have illustrated the drag on efficient product and export expansion that is imposed by high service and transactions costs. These range from excessive insurance fees to high port service costs; from losses caused by unnecessary wastage and breakage of goods due to low quality transport and storage to unavailability or excessive costs of value added telecommunications services (World Bank, 1994a,b; 1995a,b). Allowing entry into service activities should help offset these various costs. Although the Government may not be willing to open all services to foreign competition, it may wish to consider to liberalize access to a number of major sectors where foreign investment is likely to materialize. Examples include trade and distribution, business and professional services, telecommunications, and financial services. In some of these sectors the large investments required to improve output (both quantity and quality) will probably require private participation.

An important factor underlying the rapid export growth by Central European nations after the demise of central planning was the ability of firms to exploit sub-contracting opportunities and engage in intra-industry trade (Hoekman, 1995). Such outward processing trade greatly facilitates the penetration of European markets, as EU partners generally take care of distribution and quality control. Processing activities are frequently time-sensitive. Under just-in-time management practices, the availability of adequate service links (e.g., transport, harbor services, customs operations,

telecommunications) become fundamental for the decision on where to outsource. Geography suggests that both Egypt and Jordan could become a competitive location for outsourcing by European companies if access to efficient producer services is made available. However, significant changes in regulatory regimes and investment policies are required to improve the efficiency of service providers. Greater competition will do much to reduce price-cost margins and upgrade quality. But this requires that such competition is not only allowed but is encouraged.

FDI can do much to stimulate both labor-intensive and more skilled activities, be they in services or manufacturing, but it will only materialize if the regulatory and institutional environment is conducive to private sector investment. Indeed, in the absence of improvements in the legal and regulatory framework, opening up to trade with the EU may result in greater competition from imports without much in the way of new investment. If so, the political viability of EMA implementation will decline. Much is likely to depend in this connection not only on how far-reaching is the coverage of the EMA, but also on the pursuit of privatization and on the use of EU financial assistance. There may be a high payoff for using EMA related transfers from the EU to fund worker compensation schemes to facilitate downsizing of the public sector and privatization (Diwan, 1995). Privatization of state-owned enterprises is being pursued by both Egypt and Jordan. This will generate revenue, expand investment opportunities, and limit future claims on the budget.

VI. Conclusions

A free trade agreement with the EU will give rise to greater competition in product markets and a more efficient allocation of productive resources. The extensive provisions in the EMA for technical cooperation aiming at harmonization and mutual recognition of regulatory procedures (e.g., in the area of customs clearance, product standards) will help reduce transactions costs associated with trade, and improve the investment climate. Much clearly depends on the contents of the EMA. One factor is the design of the tariff liberalization program, which has implications for investment incentives, adjustment costs, and national welfare over the transition. By lowering tariffs on intermediates and capital goods first, domestic industries will be granted some up front compensation for the adjustment costs that must be incurred later, and are given time in which to restructure. Such

a tariff liberalization strategy also ensures that tariff revenues will initially decline slowly, giving more time to mobilize alternative tax bases. But the possible downside of the strategy is that the backloaded nature of the tariff reductions may reduce the incentives to initiate rapid restructuring, and may create problems in implementing tariff reductions in the future, especially if investment is induced in the sectors concerned. The estimates suggest that in Egypt a "Tunisian" strategy may increase the ERP for some sectors and the dispersion of ERPs across sectors, thus causing welfare losses (in part by distorting investment incentives).

The ERP analysis suggests that benefits will be enhanced if complementary actions are pursued to improve the functioning of the economy. Upgrading the quality and reducing the costs of services is particularly important in this connection. Foreign direct investment is especially important in the services area, as establishment often remains the best way to contest a market. Efficient services are crucial in terms of being able to participate in the global economy: telecommunications, information technology, port services, financial intermediation, and business support services are all key elements underlying the ability to compete on world markets.

The benefits of the liberalization associated with the EMA will be enhanced if trade and investment barriers are reduced in a nondiscriminatory manner. A question that arises concerns the sequencing of such reforms and the ultimate policy objective. Increasingly, governments have been deciding that their goal is to achieve free trade in the medium term. An example is the intention of Asian-Pacific governments to achieve free trade by 2020. Even if this is not politically feasible in the Middle East, the gains from reducing the dispersion of tariffs are significant. As important are the dynamic gains from nondiscriminatory liberalization, as hub-and-spoke induced investment diversion incentives are reduced. Geography is also a factor to be considered in this connection. Trade barriers against regional trading partners should be eliminated as rapidly as possible to encourage investment by domestic and foreign firms that are interested in servicing regional markets.

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Notes

1. See Panagariya (1995) and Schiff (1995) for in depth analyses of the determinants of gains and losses arising from EMA-like integration schemes.
2. See Hoekman and Kostecki (1995) for a discussion of the WTO.
3. See Hoekman and Djankov (1996) for a more detailed discussion of the contents of the Tunisian EMA.
4. Konan and Maskus (1996). The simulation uses a 38-sector computable general equilibrium model of the Egyptian economy. A similar conclusion is reached for Tunisia by Rutherford et al. (1995).
5. It is assumed that administrative barriers impose costs equivalent to a 5% ad valorem tax on imports of goods, a 10% tax on exports, and a 15% tax on imported or exported services. These estimates are likely to be conservative as no account is taken of domestic distortions in service markets that raise the effective costs of Egyptian manufacturing.
6. Other numerical simulation studies for Tunisia and Morocco come to similar conclusions. See, e.g. Brown, Dearnorff and Stern (1995) and Rutherford, Rutstrom and Tarr (1993, 1995).
7. Bajo-Rubio and Sosvilla-Rivero (1994) in an econometric analysis of the Spanish case find a positive relationship between EU accession and FDI inflows.
8. As noted in the literature, however, there is not necessarily a positive relationship between increases in FDI and increases in the rate of total factor productivity growth. See, e.g., Haddad and Harrison (1993). Many factors will play a role in this connection, including the initial level of openness of the economy and the historical growth performance.
9. This has been an important avenue of export growth for Central and Eastern European countries. Of the countries of the Middle East and North Africa, only Morocco and Tunisia have begun to exploit this export development channel. Egypt and Jordan appear to make almost no use of such mechanisms (Hoekman, 1995).
10. Anderson and Martinez (1995). But even in Jordan the public enterprise sector is not small, generating some 15 percent of GDP.
11. Until the end of 1994 little progress had been made. In Egypt only a handful of transactions had been completed, in Jordan even less (World Bank, 1995b).
12. See Hoekman and Djankov (1996) for a detailed description of the Tunisian program.
13. This is a complex issue, as much depends on the expectations of investors regarding the commitment of the government to implement the EMA, adjustment costs and the time profile of the reforms that are agreed, including the speed at which administrative "red tape" costs are reduced relative to the reduction in tariffs on inputs and the output of each industry.
14. Lopez and Panagariya (1990). In most developing countries imports of intermediate inputs will not compete with domestic production, there often being none. It should be noted that the theoretical work on the welfare implications of alternative tariff reform techniques assumes that all trade is affected. In the EMA context this is not the case, so that these results do not necessarily apply.

15. A simple formula for calculating the effective rate of protection (ERP) is: $(V-V^*)/V^*$, where V is the domestic value added per unit of the good at domestic (tariff inclusive) prices, and V^* is valued added at world prices (zero tariffs). Value added per unit is defined as the gross value of output minus the cost of inputs used in production, i.e., $V = P_j - \sum t_i P_i X$, where t_j and t_i are the tariffs on a good and its inputs, P_j and P_i are the prices, and X is the amount of inputs used to produce a unit of the good. Value added at world prices is simply $V^* = P_j^* - P_i^* X$, as tariffs in this case do not exist. For more on the concept of effective protection, see Corden (1971; 1984).

16. Although assumed, these figures are probably conservative. Surveys have revealed that the costs for Egyptian businesses of services are substantially higher than in comparator countries. For example, the Egyptian telephone company is significantly overstaffed, with 34 lines per employee as compared to 192 in high income countries. Restrictive entry and monopoly supply of certain port services results in handling costs per container in Alexandria that are almost triple those in Turkey (World Bank, 1995b). The assumed 40% rate of "taxation" of distribution and transport services also reflects the administrative trade costs referred to earlier, relating to customs clearance, enforcement (sometimes abuse) of product standards, etc.

17. Because the effective rate of protection calculations are based on input-output tables they should be regarded as indicative only, providing information on relative order of magnitudes across industries only. Subsidies and taxes of various kinds are ignored.

18. It is assumed that the implicit tax on construction, communications, financial, business and professional services is 10 percent, and that the "tax" on distribution, storage and transport is assumed to be 15 percent. Survey data suggest that service sector inefficiencies in Jordan are less than in Egypt. For example, the Jordan telephone operator has 80 lines per employee compared to 34 in Egypt; port handling costs are less than half than in Alexandria. However, these assumed "taxes" are still likely to be conservative. The average wait for a phone line in Jordan is still better expressed in years than days (it was more than 5 years in 1992), and the number of unsuccessful telephone calls was over 50 percent (World Bank, 1995b).

19. The data that are used have been adjusted to take into account the fact that extensive exemptions are granted to importers for imports of capital goods and certain intermediate inputs. The vector of nominal tariffs was adjusted downward for such goods by the proportion with which actual collected total tariff revenue falls short of "predicted" tariff revenue, i.e., what would be collected in the absence of exemptions. Alcoholic beverages and tobacco products are excluded in the analysis given the high nominal rates of protection/taxation in both countries and the likelihood that these will remain in place. The most recent input-output table was used, adjusted to reflect 1994 aggregate output. Trade data for 1994 were obtained from the UN Comtrade database. To allow for the fact that over time the share of the EU in total imports will rise as the EMA is implemented, tariff reductions incorporate a demand elasticity effect (the elasticity was set at 2). As a result, the EU share increases from 42 percent in 1994 to 64 percent at the end of the transition in Egypt, and from 53 to 74 percent in Jordan. In both cases it is assumed that the current trade policy stance against Arab countries and the rest of the world remains unchanged.

Table 1: Protection in Egypt, 1994

	EU Share of imports	Nominal tariff	Current effective rate including services protection	Current effective rate assuming zero tariff equivalents for services
Animal products	83%	6%	-2%	3%
Chemicals and products, excl. petroleum	63%	13%	11%	26%
Clothing	12%	75%	43%	64%
Cotton ginning and pressing	40%	12%	13%	31%
Cotton spinning and weaving	57%	66%	43%	73%
Crude petroleum and natural gas	63%	41%	-6%	4%
Food processing	26%	49%	-2%	2%
Furniture	59%	25%	49%	56%
Glass and products	35%	24%	13%	32%
Iron, steel, other base metals	18%	9%	17%	36%
Leather products excl. shoes	62%	25%	47%	54%
Machinery and appliances	52%	11%	20%	29%
Mineral products, n.e.i.	48%	27%	9%	21%
Other extractive industries	47%	18%	-26%	9%
Other manufacturing	48%	11%	17%	31%
Paper and printing	45%	60%	9%	17%
Petroleum refining	43%	22%	-6%	1%
Porcelain, china, pottery	16%	72%	31%	39%
Rubber, plastic and products	34%	58%	9%	21%
Shoes	37%	24%	36%	44%
Transportation equipment	33%	33%	42%	92%
Vegetable products, foodstuffs	12%	4%	-2%	21%
Vegetable products, non-foodstuffs	37%	9%	-2%	17%
Wood, wood products, excl. furniture	40%	11%	-8%	9%
MEAN	42%	29%	14%	30%

Source: UN Comtrade; EUROSTAT COMEXT database; CAPMAS I-O table for 1992.

Table 2: Protection in Jordan, 1994

Sector	Nominal Tariff	Effective Rate of Protection, with service estimates	Effective Rate of Protection, without services estimates	EU Share of Imports
Animal Feed	11	-1	0	44
Clothing	44	17	18	22
Cement, plaster	43	35	38	53
Confectionery	41	28	30	79
Cosmetics	9	-4	-3	75
Dairy	18	2	4	83
Electrical Machinery	25	10	11	66
Fabricated Metals	16	1	3	60
Fertilizers	11	1	2	69
Food Processing	11	-3	0	56
Grain Milling	16	4	5	10
Leather	47	32	35	49
Livestock	13	2	5	24
Meat Industry	22	11	17	48
Metal Industry	17	3	5	47
Mining and Quarrying	4	-10	-6	74
Non-electrical Machinery	16	1	3	79
Other Chemical Industry	12	-4	0	65
Other Foodstuffs	14	0	2	65
Other Manufactures	16	0	2	51
Other Nonmetallic Minerals	43	23	26	34
Paint	14	2	3	79
Paper	18	5	8	38
Petroleum Refining	6	-6	-3	46
Pharmaceuticals	11	-3	-1	70
Phosphate	11	-2	4	58
Potash	8	-3	-2	0
Pottery, Ceramics, Glass	28	17	20	7
Printing and Publishing	12	-3	-2	27
Rubber and Plastics	29	16	17	45
Textiles	29	16	21	27
Transportation Equipment	30	14	16	42
Vegetables and Fruits	12	0	5	21
Wood Products, Furniture	51	41	44	17
MEAN	23	7	9	n.a.

Source: Authors' estimates based on World Bank data UN Comtrade and the 1992 input-output for Jordan.

Table 3: Effective Protection in Egypt Under Alternative Tariff Reduction Approaches

Sector	Effective Rates of Protection over Time, including constant tariff equivalents for services							
	Current ERP	T+3, Tunisia	T+3 Linear	T+6 Tunisia	T+6 Linear	T+9 Tunisia	T+9 Linear	In 12 years
Animal Products	-2%	-2%	-5%	-2%	-4%	-2%	-2%	0%
Chemical Products, excl. Petroleum	11%	7%	-3%	6%	-2%	5%	1%	3%
Clothing	43%	35%	28%	29%	26%	24%	22%	15%
Cotton Ginning and Pressing	13%	21%	-1%	24%	4%	21%	8%	10%
Cotton Spinning and Weaving	43%	56%	28%	53%	24%	45%	20%	18%
Crude Petroleum and Natural Gas	-6%	-4%	-11%	-2%	-9%	1%	-4%	1%
Food Processing	-2%	7%	-3%	9%	1%	6%	3%	4%
Furniture	49%	55%	34%	53%	31%	45%	28%	27%
Glass Products	13%	10%	6%	8%	5%	5%	4%	2%
Iron and Steel, Other Base Metals	17%	10%	9%	7%	7%	5%	6%	3%
Leather Products, Excl. Footwear	47%	37%	38%	31%	30%	23%	23%	17%
Machinery and Appliances	20%	14%	6%	8%	6%	5%	4%	2%
Mineral Products, n.e.i.	9%	6%	4%	6%	2%	5%	1%	4%
Other Extractive Industries	-26%	-17%	-22%	-13%	-14%	-8%	-3%	-3%
Other Manufacturing	17%	21%	16%	14%	12%	11%	10%	8%
Paper and Printing	9%	7%	-4%	5%	-2%	2%	0%	1%
Petroleum Refining	-6%	4%	-8%	7%	-8%	6%	-7%	3%
Porcelain, China and Pottery	31%	22%	25%	18%	21%	14%	16%	13%
Rubber and Plastics	9%	7%	3%	5%	3%	2%	3%	2%
Footwear	36%	33%	31%	32%	28%	25%	24%	18%
Transport Equipment	42%	35%	26%	28%	23%	21%	20%	12%
Vegetable Products, Foodstuffs	-2%	2%	-9%	4%	-6%	5%	3%	5%
Vegetable Products, Non-foodstuffs	-2%	-2%	-7%	-1%	-3%	2%	2%	4%
Wood, Wood Products	-8%	3%	8%	4%	8%	2%	7%	1%
Mean Value	14.8	15.3	7.8	13.9	7.4	11.3	7.3	6.8
Standard Deviation	20.4	18.4	16.5	16.6	13.6	13.6	10.1	7.5

Source: Authors estimates based on World Bank data.

Table 4: Effective Protection in Jordan Under Alternative Tariff Reduction Strategies

Sector	Effective Rates of Protection over the Transition Period (constant tariff equivalents for services)							
	Current	T+3, Linear	T+3, Tunisia	T+6, Linear	T+6, Tunisia	T+9, linear	T+9, Tunisia	T+12
Animal Feed	-1	-1	-2	-1	-1	-1	-1	-1
Clothing	17	18	17	13	14	9	10	6
Cement, plaster	35	30	36	24	27	17	19	9
Confectionery	28	22	24	17	18	11	13	6
Cosmetics	-4	-4	-3	0	0	0	0	0
Dairy	2	2	0	1	1	1	0	0
Electrical Machinery	10	9	8	5	3	3	3	1
Fabricated Metals	1	1	0	0	0	0	0	0
Fertilizers	1	1	2	1	2	1	1	0
Food Processing	-3	-3	-1	-2	4	0	0	0
Grain Milling	4	4	4	1	2	0	0	0
Leather	32	28	33	21	27	13	16	11
Livestock	2	2	1	0	1	0	1	0
Meat Industry	11	9	8	6	5	3	2	0
Metal Industry	3	3	2	2	-2	2	-1	2
Mining and Quarrying	-10	-8	-9	-6	-8	-4	-8	-3
Non-electrical Machinery	1	1	3	1	3	1	1	0
Other Chemical Industry	-4	-4	-3	-3	-2	-2	-4	-2
Other Foodstuffs	0	0	-2	0	-5	0	-3	0
Other Manufactures	0	0	0	0	0	0	0	0
Other Nonmetallic Minerals	23	21	20	17	18	14	13	12
Paint	2	1	2	1	2	1	1	0
Paper	5	5	2	3	0	1	0	0
Petroleum Refining	-6	-5	-8	-4	-8	-4	-6	-3
Pharmaceuticals	-3	-2	-2	-2	-1	-1	-2	-1
Phosphate	-2	-2	0	-1	0	0	0	0
Powsh	-3	-3	-3	-3	-4	-3	-3	-3
Pottery, Ceramics, Glass	17	14	16	12	14	8	10	7
Printing and Publishing	-3	-3	0	-1	0	0	0	0
Rubber and Plastics	16	14	10	12	13	11	12	9
Textiles	16	15	17	14	13	13	13	12
Transportation Equipment	14	13	12	11	6	8	9	8
Vegetables and Fruits	0	0	0	0	0	0	0	0
Wood Products, Furniture	41	40	42	38	31	30	21	18
Mean	7.1	6.5	6.6	5.2	5.1	3.2	3.4	2.2
Standard Deviation	12.7	11.3	12.4	9.6	9.9	7.3	7.3	5.3

Source: Authors estimates.