

This chapter sets out the details of a methodology that can be used to calculate export supply and import demand elasticities without using econometrics. There is a long tradition in estimating trade elasticities (see Stern, Francis, and Schumacher, 1976; and Khan and Goldstein, 1985, for surveys) and the magnitude of the estimates varies widely (in some instances the signs of the estimates are contrary to theory). Most estimates in the literature are based on empirical work done on advanced economies. Many fewer studies focus on developing countries given the generally poor quality of data on trade volumes and prices in these countries, as well as the sometimes volatile behavior of economic variables.

The methodology presented below uses a well-accepted model of international trade, together with a comprehensive data set. The advantages of this methodology are (1) elasticities can be calculated with readily available data (i.e., input-output data); (2) elasticities can be calculated without using econometrics; and (3) it is possible to calculate elasticity values for developing countries—including countries for which there were no prior estimates available.

Export supply and import demand elasticities can be calculated by using results from production theory. For example, it is well known that the derivative of an economy's GDP function with respect to an output price gives the general equilibrium supply function, using Hotelling's lemma (see Kohli, 1991, for an explanation). The demand function for inputs can be obtained in a similar fashion and this approach has been used by Kee, Nicita, and Olarreaga (2008), among others, to estimate import demand elasticities. More generally, there is a large literature in international trade that uses the GDP function approach to estimate elasticities (Kohli, 1991). In this approach, the demand for imports arises from the demand for imported intermediate inputs. Even if one assumes that there is a demand for imports for consumption, this approach is still valid if one

assumes that imports for consumption arise in the production sector, considering that they have to be combined with wholesaling and retail services before they are consumed. In this sense, even imports for consumption can be thought of as an intermediate input.

The Model

Assumptions

The methodology uses a standard general equilibrium model from international trade theory, as described in Jones (1965), Dixit and Norman (1980), and Woodland (1982). The model assumes that an economy produces three goods: (1) a good that is exported, denoted by (*E*); (2) a good that competes with imports, denoted by (*M*); and (3) a nontraded good (*N*). It is assumed that there is no local demand for the exportable good. Each of these three goods is produced using labor (*L*) that is mobile across sectors, a factor (*K*) specific to each sector, and imported intermediate inputs (*I*). Because labor is assumed to be mobile across sectors, it must earn the same wage regardless of where it is employed. The return to the specific factor in each sector will, of course, differ. The price of imported intermediates is assumed to be exogenous. The output prices of all three goods are treated as parameters.

It is assumed that the output of each good is produced under constant returns to scale and zero profits. Therefore, the following conditions must hold:

$$wa_{LE} + r_E a_{KE} + p_I a_{IE} = p_E \quad (6.1)$$

$$wa_{LM} + r_M a_{KM} + p_I a_{IM} = p_M \quad (6.2)$$

$$wa_{LN} + r_N a_{KN} + p_I a_{IN} = p_N, \quad (6.3)$$

where p_E is the domestic price of exports, p_M is the domestic price of imports (inclusive of any tariff), p_N is the price of the nontraded good, a_{ij} is the amount of factor i (i = labor, capital, and imported inputs) used per unit of good j , w is the wage rate, r_j is the

return to capital in sector j , and p_I is the exogenously given price of imported intermediate inputs.

The primary factors of production—labor and capital—are assumed to be fully employed:

$$a_{KE}X_E = K_E \quad (6.4)$$

$$a_{KM}X_M = K_M \quad (6.5)$$

$$a_{KN}X_N = K_N \quad (6.6)$$

$$a_{LE}X_E + a_{LM}X_M + a_{LN}X_N = L, \quad (6.7)$$

where K_j is the amount of capital used in sector j , L is the endowment of labor in the economy, and X_j is the output of good j .

Equations 6.1–6.3 reflect the assumption that the price of each good must equal per-unit cost. That is, per-unit labor costs, plus per-unit capital costs, plus the per-unit cost of imported inputs must equal the output price of each good. This zero-profit condition implicitly assumes perfect competition (see Tokarick, 2010, for a discussion of how imperfect competition could be introduced). Equations 6.4–6.6 represent the assumption that capital is sector specific, reflecting a short- to medium-run focus. Equation 6.7 requires that the labor market clear: the amount of labor used in each sector, summed across all sectors, must equal the economy-wide endowment.

Model Solution

Totally differentiating equations 6.1 through 6.7 and putting them in proportional change form gives

$$\hat{w}\theta_{LE} + \hat{r}_E\theta_{KE} + \hat{p}_I\theta_{IE} = \hat{p}_E \quad (6.8)$$

$$\hat{w}\theta_{LM} + \hat{r}_M\theta_{KM} + \hat{p}_I\theta_{IM} = \hat{p}_M \quad (6.9)$$

$$\hat{w}\theta_{LN} + \hat{r}_N\theta_{KN} + \hat{p}_I\theta_{IN} = \hat{p}_N \quad (6.10)$$

$$\lambda_{KE}\hat{X}_E = \hat{K}_E - \lambda_{KE}\hat{a}_{KE} \quad (6.11)$$

$$\lambda_{KM}\hat{X}_M = \hat{K}_M - \lambda_{KM}\hat{a}_{KM} \quad (6.12)$$

$$\lambda_{KN}\hat{X}_N = \hat{K}_N - \lambda_{KN}\hat{a}_{KN} \quad (6.13)$$

$$\lambda_{LE}\hat{X}_E + \lambda_{LM}\hat{X}_M + \lambda_{LN}\hat{X}_N = \hat{L} - \hat{a}_{LE}\lambda_{LE} - \hat{a}_{LM}\lambda_{LM} - \hat{a}_{LN}\lambda_{LN}. \quad (6.14)$$

In the above equations, θ_{ij} is the share of good j 's cost accounted for by factor i , λ_{ij} is the proportion

of the supply of factor i used in sector j , and a “ \wedge ” denotes proportional change, for example,

$$\hat{p} = \frac{dp}{p}. \text{ As a result of the assumed structure,}$$

the following relationships must hold:

$$1. \sum_i \theta_{ij} = 1, \text{ for each sector } j \quad (6.15)$$

$$2. \sum_j \lambda_{ij} = 1, \text{ for each factor } i. \quad (6.16)$$

Each a_{ij} , the factor demands per unit of output, depends on the input prices:

$$a_{ij} = a_{ij}(w, r_j, p_I).$$

Each \hat{a}_{ij} can also be related to the elasticity of substitution between labor, capital, and imported inputs in each sector j . Assuming that the elasticity of substitution among all three factors is the same, the following relationships hold for each sector j , using the definition of the elasticity of substitution, σ_j :

$$\sigma_j = \frac{\hat{a}_{Kj} - \hat{a}_{Lj}}{\hat{w} - \hat{r}_j}, \text{ or } \sigma_j(\hat{w} - \hat{r}_j) = \hat{a}_{Kj} - \hat{a}_{Lj} \quad (6.17)$$

$$\sigma_j = \frac{\hat{a}_{Kj} - \hat{a}_{Ij}}{\hat{p}_I - \hat{r}_{Kj}}, \text{ or } \sigma_j(\hat{p}_I - \hat{r}_{Kj}) = \hat{a}_{Kj} - \hat{a}_{Ij} \quad (6.18)$$

$$\sigma_j = \frac{\hat{a}_{Lj} - \hat{a}_{Ij}}{\hat{p}_I - \hat{w}}, \text{ or } \sigma_j(\hat{p}_I - \hat{w}) = \hat{a}_{Lj} - \hat{a}_{Ij}. \quad (6.19)$$

Cost minimization requires that:

$$\theta_{LE}\hat{a}_{LE} + \theta_{KE}\hat{a}_{KE} + \theta_{IE}\hat{a}_{IE} = 0 \quad (6.20)$$

$$\theta_{LM}\hat{a}_{LM} + \theta_{KM}\hat{a}_{KM} + \theta_{IM}\hat{a}_{IM} = 0 \quad (6.21)$$

$$\theta_{LN}\hat{a}_{LN} + \theta_{KN}\hat{a}_{KN} + \theta_{IN}\hat{a}_{IN} = 0. \quad (6.22)$$

Equations 6.17–6.22 can be used to solve for each \hat{a}_{ij} , as a function of the factor prices; the elasticity of substitution between labor, capital, and imported inputs in each sector; and the relevant cost shares (Jones, 1965). Using the above relationships, the solutions for each \hat{a}_{ij} are

$$\hat{a}_{LE} = -\sigma_E(\hat{w} - \hat{r}_E)\theta_{KE} - \theta_{IE}\sigma_E(\hat{w} - \hat{p}_I) \quad (6.23)$$

$$\hat{a}_{KE} = \sigma_E(\hat{w} - \hat{r}_E)\theta_{LE} + \theta_{IE}\sigma_E(\hat{p}_I - \hat{r}_E) \quad (6.24)$$

$$\hat{a}_{IE} = \sigma_E(\hat{w} - \hat{p}_I)\theta_{LE} + \theta_{KE}\sigma_E(\hat{r}_E - \hat{p}_I) \quad (6.25)$$

$$\hat{a}_{LM} = -\sigma_M(\hat{w} - \hat{r}_M)\theta_{KM} - \theta_{IM}\sigma_M(\hat{w} - \hat{p}_I) \quad (6.26)$$

$$\hat{a}_{KM} = \sigma_M(\hat{w} - \hat{r}_M)\theta_{LM} + \theta_{IM}\sigma_M(\hat{p}_I - \hat{r}_M) \quad (6.27)$$

$$\hat{a}_{IM} = \sigma_M(\hat{w} - \hat{p}_I)\theta_{LM} + \theta_{KM}\sigma_M(\hat{r}_M - \hat{p}_I) \quad (6.28)$$

$$\hat{a}_{LN} = -\sigma_N(\hat{w} - \hat{r}_N)\theta_{KN} - \theta_{IN}\sigma_N(\hat{w} - \hat{p}_I) \quad (6.29)$$

$$\hat{a}_{KN} = \sigma_N(\hat{w} - \hat{r}_N)\theta_{LN} + \theta_{IN}\sigma_N(\hat{p}_I - \hat{r}_N) \quad (6.30)$$

$$\hat{a}_{IN} = \sigma_N(\hat{w} - \hat{p}_I)\theta_{LN} + \theta_{KN}\sigma_N(\hat{r}_N - \hat{p}_I). \quad (6.31)$$

Equations 6.23–6.31 show how each factor demand (per unit of output) responds to changes in input prices.

Substituting equations 6.23–6.31 into equations 6.8–6.14, it is possible to solve for all the endogenous variables (\hat{w} , \hat{r}_E , \hat{r}_M , \hat{r}_N , \hat{X}_E , \hat{X}_M , \hat{X}_N) as a function of the exogenous variables (\hat{L} , \hat{K}_E , \hat{K}_M , \hat{K}_N , \hat{p}_E , \hat{p}_M , \hat{p}_I).

Because the objective is to determine values for the export supply elasticity and the import demand elasticity, two relationships are of interest:

$$1. \text{ Export supply elasticity} = \frac{\hat{X}_E}{\hat{p}_E}, \text{ which can be}$$

obtained from the equation for the output of the exportable good: $\hat{X}_E = F(\hat{L}, \hat{K}_E, \hat{K}_M, \hat{K}_N, \hat{p}_E, \hat{p}_M, \hat{p}_I)$. The coefficient of the term \hat{p}_E gives the export supply elasticity:

$$\frac{\hat{X}_E}{\hat{p}_E} = \frac{\lambda_{LE}\sigma_E\theta_{KM}\theta_{KN}\theta_{IE}\sigma_E}{\lambda_{LE}\sigma_E\theta_{KM}\theta_{KN}(1-\theta_{IE}) + \lambda_{LM}\sigma_M\theta_{KN}(1-\theta_{IM})\sigma_E(1-\theta_{KE}) + \lambda_{LN}\sigma_N\theta_{KE}\theta_{KN}(1-\theta_{IM}) + \lambda_{LN}\sigma_N\theta_{KM}(1-\theta_{IN})\sigma_E(1-\theta_{KE}) + \lambda_{LN}\sigma_N\theta_{KE}\theta_{KM}(1-\theta_{IN})}. \quad (6.32)$$

2. Import demand arises from the demand for imported intermediate inputs. Total demand for imported inputs in the economy (M_I) is

$$M_I = \sum_{Ij} M_{Ij} \text{ where } M_{Ij} = a_{Ij}X_j.$$

Therefore,

$$\hat{M}_I = \lambda_{IE}\hat{M}_{IE} + \lambda_{IM}\hat{M}_{IM} + \lambda_{IN}\hat{M}_{IN} \text{ and } \hat{M}_{Ij} = \hat{a}_{Ij} + \hat{X}_j.$$

Using the solutions for \hat{a}_{Ij} and \hat{X}_j , it is possible to solve for \hat{M}_I as a function of \hat{p}_I . Therefore, the import

demand elasticity = $\frac{\hat{M}_I}{\hat{p}_I}$, which equals

$$\frac{\hat{M}_I}{\hat{p}_I} = \frac{1}{\lambda_{LE}\sigma_E\theta_{KM}\theta_{KN}(1-\theta_{IE}) + \lambda_{LM}\sigma_M\theta_{KE}\theta_{KN}(1-\theta_{IM}) + \lambda_{LN}\sigma_N\theta_{KE}\theta_{KM}(1-\theta_{IN})} \quad (6.33)$$

$$\left[\begin{aligned} & -\lambda_{IE}[\sigma_E\lambda_{LE}\sigma_E\theta_{KM}\theta_{KN} + \sigma_E\lambda_{LM}\sigma_M\theta_{KN}(1-\theta_{IM}-\theta_{LE}) \\ & + \sigma_E\lambda_{LN}\sigma_N\theta_{KM}(1-\theta_{IN}-\theta_{LE})] \\ & -\lambda_{IM}[\sigma_M\lambda_{LE}\sigma_E\theta_{KN}(1-\theta_{IE}-\theta_{LM}) + \sigma_M\lambda_{LM}\sigma_M\theta_{KE}\theta_{KN} \\ & + \sigma_M\lambda_{LN}\sigma_N\theta_{KE}(1-\theta_{IN}-\theta_{LM})] \\ & -\lambda_{IN}[\sigma_N\lambda_{LE}\sigma_E\theta_{KM}(1-\theta_{IE}-\theta_{LN}) \\ & + \sigma_N\lambda_{LM}\sigma_M\theta_{KE}(1-\theta_{IM}-\theta_{LN}) + \sigma_N\lambda_{LN}\sigma_N\theta_{KE}\theta_{KM}] \end{aligned} \right]$$

Effects of Changes in Parameters on Elasticity Values

This discussion reviews how the calculated elasticities are affected by the underlying parameters: (1) the elasticity of substitution between factors (σ_j), (2) the cost share of factor i in the production of good j (θ_{ij}), and (3) the proportion of the total supply of factor i used in the production of good j (λ_{ij}).

- Changes in the elasticities of substitution between factors (σ_j): Increases in σ_j will increase the magnitude of both the export supply and import demand elasticities, regardless of the sector. The reason is that a higher value for σ_j makes it easier to alter factor proportions, that is, factor usage, in each sector. Therefore, regarding export supply, a higher σ_j will make it easier to increase output and will thus increase the export supply elasticity. Regarding the demand for imported intermediate inputs, a higher value for σ_j will make it easier for firms to substitute between labor and imported intermediates. Firms can alter factor usage more easily; therefore, the import demand elasticity will be larger.
- Changes in the factor cost shares, (θ_{ij}): Under model assumptions, capital is assumed to be fixed by sector, while labor can move freely across sectors. Similarly, firms can freely alter the amounts of imported intermediate inputs they use. Therefore, larger values for (θ_{Lj}) and (θ_{Ij}), and thus smaller values for (θ_{Kj}), will increase the magnitude of the export supply elasticity. The larger (θ_{Kj}) is, the more difficult it will be for firms to increase output in response to a price change because capital stocks are fixed by sector.
- Changes in the distributive shares, (λ_{ij}): The effect of changes in the distributive shares can either raise or lower the magnitudes of the elasticities.

Calculation of Elasticities

Equations 6.32 and 6.33 give the elasticities of interest and can be calculated for values of σ_p , θ_{ij} , and λ_{ij} . This discussion explains how values for these parameters can be obtained.

Data on θ_{ij} and λ_{ij} for 87 countries and regions are available from the Global Trade Analysis Project (GTAP) database for 1997 and 2001. Data are available for 2004 for 113 countries and regions. The GTAP database contains information on value added by sector, as well as its components (primary inputs), given that it is based on country input-output tables. The GTAP database is described in Dimaranan (2006). The countries and regions in the database include a mix of developed and developing economies—24 and 63, respectively—in both the 1997 and 2001 vintages:

Developed economies: Australia, New Zealand, China, Hong Kong SAR, Japan, Republic of Korea, Canada, United States, United Kingdom, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and Switzerland.

Developing economies: Rest of countries in Oceania, Taiwan Province of China, rest of East Asia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, rest of Southeast Asia, Bangladesh, India, Sri Lanka, rest of South Asia, Mexico, rest of North America, Columbia, Peru, Venezuela, Andean Pact countries, Argentina, Brazil, Chile, Uruguay, rest of South America, Central America, countries of the Caribbean, countries of the Free Trade Area of the Americas, rest of European Free Trade Association, rest of Europe, Albania, Bulgaria, Croatia, Cyprus, Czech Republic, Hungary, Malta, Poland, Romania, Slovak Republic, Slovenia, Estonia, Latvia, Lithuania, the Russian Federation, rest of former Soviet Union, Turkey, rest of the Middle East, Morocco, Tunisia, rest of North Africa, Botswana, South Africa, rest of Southern African Customs Union, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe, Madagascar, Uganda, rest of Southern African Development Community, and the rest of sub-Saharan Africa.

To apply the methodology described above, the following strategy was adopted:

- The GTAP database contains data on labor, capital, and imported inputs for 57 sectors. Starting from the full database, the 57 sectors in each economy were aggregated into three sectors per economy (exportable, importable, and nontradable) using sectoral data on trade flows. If exports or imports from a sector were 10 percent of value added or less, the sector was classified as nontradable. A sector was considered exportable if exports exceeded imports and exports exceeded 10 percent of value added. A sector was importable otherwise.
- The GTAP database contains a value for the elasticity of substitution among factors used in the 57 sectors for each economy. The values are taken from various econometric studies. The GTAP assumes that these elasticities are the same for all 87 economies. The elasticities are aggregated from the 57 sectors into the 3, using data on value-added shares in each sector. Both short- and long-run elasticities of substitution are available.
- Once the sectors were classified into three categories, λ_{ij} (distributive shares) and θ_{ij} (factor shares) were calculated for each economy. Then, using the elasticities of substitution, equations 6.32 and 6.33 were used to calculate the elasticities.

Import demand and export supply elasticities were calculated using the procedure described above. There are several types of elasticities:

- Both a short- and a long-run import demand and export supply elasticity were calculated. The short-run elasticities correspond to a set of short-run elasticities of substitution among inputs (σ_{j-SR}), while the long-run elasticities correspond to a set of long-run elasticities of substitution (σ_{j-LR}). In general, the long-run σ_{j-LR} are higher in magnitude, compared with the short-run σ_{j-SR} .
- Import demand and export supply elasticities are calculated for two sets of assumptions: (1) elasticities are computed with respect to their own price (the standard definition of elasticities, holding everything else constant); and (2) elasticities are computed including general equilibrium effects, where they take into account

changes in both the own price and the price of other traded goods. For example, the own export supply elasticity measures how export supply changes as the price of exports changes, holding all other prices constant. A devaluation, for instance, increases the prices of imported intermediate inputs, which will reduce the export supply response to the extent that exports use imported inputs. The mathematical formulas for the general equilibrium elasticities are presented in Tokarick (2010).

Elasticity values are reported in Tables 6.1 and 6.2. Table 6.1 reports estimated import demand elasticities from various studies, as well as from the method described above. Kee, Nicita, and Olarreaga (2008) estimated import demand elasticities using a GDP function approach similar to the one used in this chapter. Senhadji (1997) estimated import demand elasticities using what might be termed the traditional approach: regressing imports on relative prices and real income. GTAP 2001 refers to the data from version 6 of the GTAP database (data for 2001), while GTAP 2004 refers to data from version 7 of the GTAP database (data for 2004). For each of these two data sets, a set of short-run (SR) and long-run (LR) elasticities are reported. The short run is defined to be about six months to a year at the most, while long run refers to three years or more. In addition, a set of both short-run and long-run elasticities are reported that take into account general equilibrium effects. The columns on the far right of the table show the average elasticities calculated for 2001 and 2004.

Table 6.2 reports export supply elasticities estimated in the literature, as well as export supply elasticities estimated using the method described in this chapter. The format of this table follows the format of Table 6.1.

Regarding the general equilibrium elasticities, it is possible that the import demand elasticity could be positive, while the export supply elasticity could be negative. Consider the import demand elasticities. If only the price of imported inputs changes, the quantity demanded must fall, leading to a negative elasticity. When the price of exports is also allowed to change, the net quantity demanded of imported inputs could actually increase. This could occur because a devaluation raises the domestic price of exports and leads to an increase in export volume. Because the export sector uses imported inputs, this will lead to an increase in demand for imported inputs. The net impact on import volume depends on the impact of the rise in the price of imports (holding export volume constant) plus the impact through the expansion in exports. It turns out that the import demand elasticity is positive for one country, Sweden, as shown in Table 6.1.

Similarly, the general equilibrium export supply elasticity could be negative. An increase in the price of exports alone will increase export volume; thus the partial equilibrium export supply elasticity is positive. When the price of imported inputs also changes, export volume will be reduced because exports require imported inputs. Depending on the intensity with which exports use imported inputs, export volume could rise or fall on net. As shown in Table 6.2, all export supply elasticities are positive.

Table 6.1. Import Demand Elasticities

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Low-Income ¹														
Bangladesh	-1.61		-1.23	-1.69	-0.25	-0.33	-1.24	-1.71	-0.24	-0.33	-1.23	-1.70	-0.24	-0.33
Benin	-1.08	-0.54	-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Burkina Faso	-1.06		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Burundi	-1.10	-0.27	-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Cambodia			-0.97	-1.33	-0.83	-1.15	-1.82	-2.54	-1.05	-1.51	-1.39	-1.93	-0.94	-1.33
Central African Rep.	-1.04		-0.99	-1.33	-0.95	-1.29	-1.02	-1.40	-1.03	-1.41	-1.01	-1.37	-0.99	-1.35
Chad	-1.02		-0.99	-1.33	-0.95	-1.29	-1.02	-1.40	-1.03	-1.41	-1.01	-1.37	-0.99	-1.35
Comoros	-1.08		-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Congo, Dem. Rep.			-0.93	-1.25	-0.60	-0.83	-1.07	-1.45	-1.00	-1.37	-1.00	-1.35	-0.80	-1.10
Côte d'Ivoire	-1.12	-0.46	-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Eritrea			-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Ethiopia	-1.15		-0.99	-1.33	-0.95	-1.29	-1.25	-1.71	-0.63	-0.89	-1.12	-1.52	-0.79	-1.09
Gambia, The	-1.07	-0.18	-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Ghana	-1.09		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Guinea	-1.10		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Guinea-Bissau			-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Haiti		-0.56	-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
India	-1.74	-0.14	-1.04	-1.41	-0.83	-1.13	-1.28	-1.76	-0.21	-0.28	-1.16	-1.59	-0.52	-0.71
Kenya	-1.14	-0.77	-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Kyrgyz Rep.	-1.03		-1.24	-1.68	-0.90	-1.22	-1.43	-1.98	-0.64	-0.86	-1.34	-1.83	-0.77	-1.04
Lao People's Dem. Rep.			-0.97	-1.33	-0.83	-1.15	-1.04	-1.41	-0.55	-0.75	-1.00	-1.37	-0.69	-0.95
Madagascar	-1.17	-0.26	-1.22	-1.66	-1.22	-1.68	-1.08	-1.45	-0.63	-0.87	-1.15	-1.56	-0.93	-1.27
Malawi	-1.07	-0.94	-1.03	-1.37	-0.52	-0.74	-1.07	-1.42	-0.80	-1.12	-1.05	-1.40	-0.66	-0.93
Mali	-1.08		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Mauritania		-0.45	-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Mozambique			-1.13	-1.53	-0.70	-0.95	-1.12	-1.58	-0.41	-0.60	-1.13	-1.55	-0.56	-0.78
Myanmar		-0.04	-0.97	-1.33	-0.83	-1.15	-0.67	-0.87	-0.49	-0.66	-0.82	-1.10	-0.66	-0.90
Nepal	-1.13		-1.01	-1.38	-0.47	-0.62	-1.15	-1.58	-0.83	-1.15	-1.08	-1.48	-0.65	-0.88
Niger	-1.09		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Nigeria	-1.32	-0.34	-0.99	-1.33	-0.95	-1.29	-0.91	-1.23	-0.83	-1.15	-0.95	-1.28	-0.89	-1.22
Pakistan		-0.52	-1.01	-1.38	-0.47	-0.62	-1.04	-1.40	-0.80	-1.07	-1.03	-1.39	-0.63	-0.84
Papua New Guinea	-1.15	-0.27	-1.39	-1.89	-0.56	-0.75	-1.30	-1.79	-0.68	-0.93	-1.35	-1.84	-0.62	-0.84
Rwanda	-1.07	-0.12	-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Senegal	-1.09		-0.99	-1.33	-0.95	-1.29	-1.28	-1.72	-1.00	-1.32	-1.13	-1.53	-0.97	-1.30
Sierra Leone			-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Tajikistan			-1.24	-1.68	-0.90	-1.22	-1.06	-1.42	-0.87	-1.18	-1.15	-1.55	-0.88	-1.20
Tanzania	-1.31		-0.94	-1.26	-0.72	-0.98	-0.94	-1.30	-0.60	-0.87	-0.94	-1.28	-0.66	-0.92

Table 6.1 (continued)

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Togo	-1.09		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
Uganda	-1.26		-0.85	-1.13	-0.62	-0.83	-0.78	-1.05	-0.49	-0.68	-0.82	-1.09	-0.56	-0.76
Uzbekistan			-1.24	-1.68	-0.90	-1.22	-1.06	-1.42	-0.87	-1.18	-1.15	-1.55	-0.88	-1.20
Vietnam			-1.64	-2.22	-1.31	-1.80	-1.62	-2.21	-1.39	-1.90	-1.63	-2.22	-1.35	-1.85
Zambia	-1.11	-0.51	-1.08	-1.47	-0.77	-1.04	-1.11	-1.53	-0.87	-1.22	-1.10	-1.50	-0.82	-1.13
Zimbabwe	-1.11		-0.96	-1.31	-0.41	-0.56	-1.15	-1.57	-0.37	-0.51	-1.06	-1.44	-0.39	-0.54
Mean	-1.15	-0.40	-1.05	-1.42	-0.85	-1.16	-1.18	-1.60	-0.87	-1.19	-1.11	-1.51	-0.86	-1.17
Median	-1.10	-0.40	-0.99	-1.33	-0.95	-1.29	-1.15	-1.58	-0.87	-1.18	-1.15	-1.55	-0.91	-1.23
Standard deviation	0.16	0.24	0.14	0.20	0.21	0.29	0.21	0.30	0.28	0.38	0.15	0.21	0.22	0.30
Lower-Middle-Income¹														
Albania	-1.14		-1.22	-1.66	-0.57	-0.77	-1.16	-1.60	-0.71	-1.01	-1.19	-1.63	-0.64	-0.89
Algeria	-1.24	-0.06	-0.94	-1.27	-0.86	-1.16	-1.12	-1.50	-1.08	-1.46	-1.03	-1.39	-0.97	-1.31
Armenia	-1.07		-1.24	-1.68	-0.90	-1.22	-1.17	-1.65	-0.76	-1.08	-1.20	-1.67	-0.83	-1.15
Azerbaijan	-1.12		-1.24	-1.68	-0.90	-1.22	-1.57	-2.28	-1.56	-2.27	-1.41	-1.98	-1.23	-1.74
Belarus	-1.1		-1.24	-1.68	-0.90	-1.22	-1.74	-2.42	0.00	0.00	-1.49	-2.05	-0.45	-0.61
Bolivia	-1.15		-1.11	-1.51	-0.99	-1.36	-0.90	-1.22	-0.53	-0.73	-1.01	-1.36	-0.76	-1.04
Bulgaria	-1.12		-1.56	-2.12	-0.95	-1.31	-1.66	-2.27	-1.11	-1.54	-1.61	-2.20	-1.03	-1.42
Cameroon	-1.25	-0.76	-0.99	-1.33	-0.95	-1.29	-1.02	-1.40	-1.03	-1.41	-1.01	-1.37	-0.99	-1.35
Cape Verde	-1.02		-0.99	-1.33	-0.95	-1.29	-1.32	-1.77	-1.12	-1.53	-1.15	-1.55	-1.04	-1.41
China	-1.44	-0.19	-1.19	-1.65	-0.31	-0.43	-1.36	-1.88	-0.57	-0.78	-1.27	-1.77	-0.44	-0.61
Colombia	-1.45	-0.63	-1.01	-1.38	-0.81	-1.11	-1.00	-1.36	-0.73	-1.00	-1.01	-1.37	-0.77	-1.05
Congo, Republic of	-1.05	-0.42	-0.99	-1.33	-0.95	-1.29	-1.02	-1.40	-1.03	-1.41	-1.01	-1.37	-0.99	-1.35
Dominican Republic		-0.32	-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Ecuador			-1.11	-1.51	-0.99	-1.36	-1.20	-1.65	-1.13	-1.56	-1.16	-1.58	-1.06	-1.46
Egypt	-1.31		-0.94	-1.27	-0.86	-1.16	-1.18	-1.62	-0.61	-0.84	-1.06	-1.45	-0.74	-1.00
El Salvador	-1.20		-1.34	-1.83	-1.04	-1.43	-1.36	-1.86	-0.62	-0.84	-1.35	-1.85	-0.83	-1.13
Georgia	-1.14		-1.24	-1.68	-0.90	-1.22	-1.19	-1.63	-0.63	-0.86	-1.22	-1.66	-0.76	-1.04
Guatemala	-1.22		-1.34	-1.83	-1.04	-1.43	-1.06	-1.46	-0.66	-0.92	-1.20	-1.65	-0.85	-1.17
Guyana	-1.05		-1.19	-1.61	-0.77	-1.04	-1.33	-1.85	-1.00	-1.37	-1.26	-1.73	-0.89	-1.21
Honduras	-1.07	-0.14	-1.34	-1.83	-1.04	-1.43	-1.36	-1.86	-0.62	-0.84	-1.35	-1.85	-0.83	-1.13
Indonesia	-1.38	-0.62	-1.08	-1.47	-0.84	-1.15	-0.97	-1.32	-0.62	-0.86	-1.02	-1.40	-0.73	-1.00
Iran, Islamic Rep. of	-1.32		-0.99	-1.34	-0.81	-1.10	-1.21	-1.64	-1.18	-1.60	-1.10	-1.49	-0.99	-1.35
Jordan	-1.08		-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Kiribati	-1.01		-1.39	-1.89	-0.56	-0.75	-1.30	-1.79	-0.68	-0.93	-1.35	-1.84	-0.62	-0.84
Lesotho	-1.02		-1.38	-1.90	-0.49	-0.66	-1.32	-1.79	-0.52	-0.70	-1.35	-1.84	-0.50	-0.68
Macedonia, FYR	-1.12		-1.42	-1.92	-0.63	-0.86	-1.29	-1.75	-0.96	-1.31	-1.36	-1.83	-0.79	-1.09
Maldives	-1.03		-1.01	-1.38	-0.47	-0.62	-1.15	-1.58	-0.83	-1.15	-1.08	-1.48	-0.65	-0.88

Table 6.1 (continued)

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Moldova	-1.07		-1.24	-1.68	-0.90	-1.22	-1.96	-2.65	-1.70	-2.31	-1.60	-2.17	-1.30	-1.77
Mongolia	-1.03		-1.19	-1.64	-1.02	-1.41	-1.23	-1.69	-0.60	-0.83	-1.21	-1.66	-0.81	-1.12
Morocco	-1.21	-0.21	-1.16	-1.59	-0.81	-1.11	-1.29	-1.77	-1.12	-1.52	-1.22	-1.68	-0.97	-1.32
Namibia	-1.06		-1.38	-1.90	-0.49	-0.66	-1.32	-1.79	-0.52	-0.70	-1.35	-1.84	-0.50	-0.68
Nicaragua	-1.06	-0.15	-1.34	-1.83	-1.04	-1.43	-1.18	-1.60	-0.91	-1.23	-1.26	-1.72	-0.97	-1.33
Paraguay	-1.15	-0.16	-1.19	-1.61	-0.77	-1.04	-1.23	-1.68	-0.82	-1.15	-1.21	-1.65	-0.80	-1.09
Peru	-1.50	-0.32	-0.98	-1.33	-0.77	-1.05	-0.90	-1.24	-0.63	-0.87	-0.94	-1.29	-0.70	-0.96
Philippines	-1.15	-0.36	-1.77	-2.40	-0.52	-0.73	-1.63	-2.24	-0.53	-0.72	-1.70	-2.32	-0.53	-0.72
Syrian Arab Republic			-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Sri Lanka	-1.14		-1.30	-1.77	-0.70	-0.95	-1.29	-1.72	-0.69	-0.90	-1.30	-1.75	-0.69	-0.92
Sudan	-1.39		-0.99	-1.33	-0.95	-1.29	-0.99	-1.33	-0.87	-1.18	-0.99	-1.33	-0.91	-1.23
Swaziland	-1.05		-1.38	-1.90	-0.49	-0.66	-1.32	-1.79	-0.52	-0.70	-1.35	-1.84	-0.50	-0.68
Thailand	-1.18	-0.51	-1.62	-2.24	-0.36	-0.49	-1.79	-2.47	-0.21	-0.28	-1.71	-2.35	-0.28	-0.39
Tunisia	-1.11		-1.50	-2.06	-1.09	-1.50	-1.68	-2.38	-1.29	-1.86	-1.59	-2.22	-1.19	-1.68
Turkmenistan	-1.04		-1.24	-1.68	-0.90	-1.22	-1.06	-1.42	-0.87	-1.18	-1.15	-1.55	-0.88	-1.20
Ukraine	-1.19		-1.24	-1.68	-0.90	-1.22	-1.79	-2.44	-0.39	-0.54	-1.52	-2.06	-0.64	-0.88
Mean	-1.16	-0.35	-1.22	-1.66	-0.81	-1.10	-1.27	-1.75	-0.81	-1.11	-1.25	-1.70	-0.81	-1.11
Median	-1.13	-0.32	-1.24	-1.68	-0.86	-1.16	-1.23	-1.69	-0.75	-1.05	-1.22	-1.67	-0.80	-1.09
Standard deviation	0.13	0.22	0.20	0.27	0.20	0.28	0.26	0.37	0.33	0.46	0.21	0.29	0.22	0.31
Upper-Middle-Income¹														
Argentina	-1.86	-0.64	-1.20	-1.67	-1.00	-1.41	-1.24	-1.68	-1.05	-1.43	-1.22	-1.67	-1.03	-1.42
Belize	-1.07		-1.34	-1.83	-1.04	-1.43	-1.36	-1.86	-0.62	-0.84	-1.35	-1.85	-0.83	-1.13
Botswana	-1.04		-1.18	-1.62	-0.59	-0.80	-1.13	-1.56	-1.09	-1.50	-1.16	-1.59	-0.84	-1.15
Brazil	-2.17	-0.30	-1.20	-1.66	-0.87	-1.20	-1.04	-1.41	-0.65	-0.86	-1.12	-1.53	-0.76	-1.03
Chile	-1.27	-0.09	-1.26	-1.74	-0.98	-1.37	-1.29	-1.73	-1.08	-1.43	-1.28	-1.74	-1.03	-1.40
Costa Rica	-1.10	-0.55	-1.34	-1.83	-1.04	-1.43	-1.36	-1.84	-0.43	-0.61	-1.35	-1.84	-0.73	-1.02
Croatia	-1.19		-1.86	-2.53	-0.66	-0.87	-2.06	-2.89	-0.87	-1.21	-1.96	-2.71	-0.76	-1.04
Dominica	-1.06		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Gabon	-1.16	-0.27	-0.99	-1.33	-0.95	-1.29	-1.02	-1.40	-1.03	-1.41	-1.01	-1.37	-0.99	-1.35
Grenada	-1.03		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Jamaica	-1.14		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Kazakhstan	-1.12		-1.24	-1.68	-0.90	-1.22	-1.20	-1.65	-0.84	-1.18	-1.22	-1.66	-0.87	-1.20
Latvia	-1.11		-1.49	-2.03	-1.08	-1.48	-1.43	-1.96	-1.10	-1.51	-1.46	-2.00	-1.09	-1.49
Lebanon	-1.13		-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Libya			-0.94	-1.27	-0.86	-1.16	-1.12	-1.50	-1.08	-1.46	-1.03	-1.39	-0.97	-1.31
Lithuania	-1.17		-1.62	-2.24	-0.79	-1.11	-1.74	-2.40	-0.76	-1.03	-1.68	-2.32	-0.77	-1.07
Malaysia	-1.08		-1.60	-2.19	-0.52	-0.73	-1.49	-2.06	-0.51	-0.71	-1.54	-2.12	-0.51	-0.72

Table 6.1 (continued)

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Mauritius	-1.08	-0.26	-0.93	-1.25	-0.60	-0.83	-1.36	-1.84	-0.29	-0.40	-1.15	-1.54	-0.45	-0.61
Mexico	-1.34	-0.37	-1.13	-1.56	-0.57	-0.80	-1.47	-2.05	-0.19	-0.28	-1.30	-1.81	-0.38	-0.54
Panama	-1.19	-0.01	-1.34	-1.83	-1.04	-1.43	-1.15	-1.59	-0.70	-0.99	-1.25	-1.71	-0.87	-1.21
Poland	-1.32		-1.26	-1.71	-1.02	-1.37	-1.34	-1.82	-0.90	-1.21	-1.30	-1.77	-0.96	-1.29
Romania	-1.19		-1.18	-1.60	-0.83	-1.12	-1.27	-1.73	-0.51	-0.70	-1.22	-1.67	-0.67	-0.91
Russian Federation	-1.57		-0.96	-1.30	-0.84	-1.14	-0.97	-1.32	-0.84	-1.15	-0.96	-1.31	-0.84	-1.15
Seychelles	-1.06		-0.93	-1.25	-0.60	-0.83	-0.99	-1.33	-0.87	-1.18	-0.96	-1.29	-0.73	-1.00
South Africa	-1.43	-0.53	-1.17	-1.62	-0.64	-0.87	-1.32	-1.83	-0.71	-0.99	-1.25	-1.72	-0.68	-0.93
St. Kitts and Nevis	-1.02		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
St. Lucia	-1.07		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
St. Vincent and the Grenadines	-1.02		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Suriname	-1.04		-1.19	-1.61	-0.77	-1.04	-1.33	-1.85	-1.00	-1.37	-1.26	-1.73	-0.89	-1.21
Turkey	-1.32	0.03	-1.25	-1.70	-0.70	-0.95	-1.30	-1.80	-0.91	-1.26	-1.28	-1.75	-0.80	-1.11
Uruguay	-1.44	-0.20	-1.23	-1.69	-0.89	-1.24	-1.54	-2.08	-0.69	-0.94	-1.38	-1.89	-0.79	-1.09
Venezuela	-1.48		-1.34	-1.87	-1.29	-1.81	-0.99	-1.31	-0.88	-1.19	-1.16	-1.59	-1.09	-1.50
Mean	-1.23	-0.29	-1.25	-1.70	-0.88	-1.21	-1.29	-1.78	-0.87	-1.19	-1.27	-1.74	-0.87	-1.20
Median	-1.14	-0.27	-1.25	-1.71	-0.89	-1.23	-1.33	-1.83	-0.87	-1.20	-1.28	-1.74	-0.85	-1.18
Standard deviation	0.26	0.22	0.20	0.28	0.19	0.27	0.23	0.33	0.28	0.40	0.20	0.29	0.21	0.29
High-Income: Non-OECD¹														
Antigua and Barbuda	-1.08		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Bahamas, The	-1.09		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Bahrain	-1.09		-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Barbados	-1.12		-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Bermuda	-1.06		-1.99	-2.66	-1.60	-2.12	-1.92	-2.59	-1.71	-2.31	-1.95	-2.62	-1.66	-2.21
Brunei Darussalam	-1.08		-0.97	-1.33	-0.83	-1.15	-0.94	-1.24	-0.73	-0.98	-0.95	-1.28	-0.78	-1.07
Cyprus	-1.13		-2.63	-3.68	-2.60	-3.65	-1.49	-2.02	-1.04	-1.37	-2.06	-2.85	-1.82	-2.51
Estonia	-1.05		-1.61	-2.20	-0.49	-0.67	-2.40	-3.34	-1.77	-2.51	-2.00	-2.77	-1.13	-1.59
French Polynesia	-1.06		-1.39	-1.89	-0.56	-0.75	-1.30	-1.79	-0.68	-0.93	-1.35	-1.84	-0.62	-0.84
Greenland	-1.04		-1.99	-2.66	-1.60	-2.12	-1.92	-2.59	-1.71	-2.31	-1.95	-2.62	-1.66	-2.21
Hong Kong SAR	-1.05		-1.48	-2.03	-0.91	-1.24	-1.47	-2.04	-0.66	-0.92	-1.48	-2.03	-0.79	-1.08
Israel	-1.20	-0.10	-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Macao SAR	-1.11		-1.19	-1.64	-1.02	-1.41	-1.23	-1.69	-0.60	-0.83	-1.21	-1.66	-0.81	-1.12
Malta	-1.11		-1.77	-2.41	-0.90	-1.25	-1.58	-2.19	-0.72	-1.03	-1.67	-2.30	-0.81	-1.14
New Caledonia	-1.07		-1.39	-1.89	-0.56	-0.75	-1.30	-1.79	-0.68	-0.93	-1.35	-1.84	-0.62	-0.84
Oman	-1.11		-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07
Saudi Arabia	-1.30		-0.99	-1.34	-0.81	-1.10	-0.93	-1.27	-0.75	-1.05	-0.96	-1.30	-0.78	-1.07

Table 6.1 (continued)

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Singapore	-1.05		-2.91	-3.99	-0.64	-0.90	-2.55	-3.53	-0.39	-0.54	-2.73	-3.76	-0.51	-0.72
Slovenia	-1.10		-1.60	-2.19	-0.63	-0.82	-1.55	-2.14	-0.70	-0.92	-1.57	-2.16	-0.66	-0.87
Taiwan Province of China	-1.17		-2.15	-3.00	-0.25	-0.31	-2.62	-3.64	0.26	0.38	-2.39	-3.32	0.01	0.03
Trinidad and Tobago	-1.15	-0.49	-1.29	-1.75	-1.06	-1.44	-1.33	-1.85	-1.23	-1.72	-1.31	-1.80	-1.14	-1.58
Mean	-1.11	-0.30	-1.53	-2.09	-0.95	-1.30	-1.49	-2.05	-0.91	-1.25	-1.51	-2.07	-0.93	-1.28
Median	-1.09	-0.30	-1.39	-1.89	-0.83	-1.15	-1.33	-1.85	-0.75	-1.05	-1.35	-1.84	-0.79	-1.08
Standard deviation	0.06	0.28	0.54	0.75	0.50	0.69	0.52	0.73	0.48	0.66	0.50	0.70	0.42	0.58
High-Income: OECD¹														
Australia	-1.46	-0.34	-1.26	-1.76	-1.15	-1.61	-1.24	-1.73	-1.15	-1.61	-1.25	-1.74	-1.15	-1.61
Austria	-1.25	-0.33	-1.46	-1.97	-0.68	-0.89	-1.52	-2.08	-0.65	-0.86	-1.49	-2.02	-0.67	-0.88
Belgium	-1.14	-0.17	-2.88	-3.88	0.12	0.14	-2.36	-3.29	-0.95	-1.26	-2.62	-3.58	-0.41	-0.56
Canada	-1.28	-0.57	-1.42	-1.93	-0.70	-0.94	-1.27	-1.72	-0.51	-0.72	-1.34	-1.82	-0.61	-0.83
Czech Republic	-1.15		-1.64	-2.25	-0.95	-1.29	-1.82	-2.48	-0.84	-1.12	-1.73	-2.37	-0.90	-1.20
Denmark	-1.38	-0.14	-1.55	-2.13	-0.40	-0.54	-1.36	-1.89	-0.70	-1.02	-1.46	-2.01	-0.55	-0.78
Finland	-1.37		-1.57	-2.21	-0.08	-0.07	-1.50	-2.10	0.04	0.05	-1.54	-2.16	-0.02	-0.01
France	-1.47	-0.22	-1.23	-1.68	-0.73	-1.04	-1.44	-1.97	-0.73	-1.02	-1.34	-1.83	-0.73	-1.03
Germany	-1.43	-0.06	-1.43	-1.97	-0.05	-0.02	-1.48	-2.05	-0.16	-0.17	-1.46	-2.01	-0.10	-0.10
Greece	-1.37	-0.40	-1.24	-1.67	-0.35	-0.48	-1.31	-1.83	-1.24	-1.75	-1.27	-1.75	-0.80	-1.11
Hungary	-1.11		-1.58	-2.16	-0.67	-0.90	-1.74	-2.37	-0.57	-0.76	-1.66	-2.27	-0.62	-0.83
Iceland	-1.20	-0.44	-1.44	-1.96	-1.21	-1.66	-1.42	-1.94	-0.93	-1.26	-1.43	-1.95	-1.07	-1.46
Ireland	-1.20		-1.67	-2.26	-0.04	-0.06	-1.66	-2.25	-0.43	-0.61	-1.67	-2.26	-0.24	-0.34
Italy	-1.35	-0.21	-1.48	-2.04	-0.85	-1.17	-1.43	-1.97	-0.56	-0.76	-1.46	-2.01	-0.70	-0.97
Japan	-1.83	-0.14	-1.20	-1.67	-0.54	-0.74	-1.27	-1.78	-0.56	-0.77	-1.24	-1.72	-0.55	-0.75
Korea, Rep. of	-1.24	-0.17	-2.00	-2.80	-0.19	-0.22	-2.01	-2.81	-0.16	-0.20	-2.00	-2.80	-0.17	-0.21
Luxembourg	-1.05		-1.97	-2.67	-0.74	-1.03	-3.28	-4.54	-3.06	-4.24	-2.62	-3.61	-1.90	-2.63
Netherlands	-1.15		-1.68	-2.29	-0.52	-0.69	-1.59	-2.15	-0.56	-0.76	-1.64	-2.22	-0.54	-0.73
New Zealand	-1.27	-0.38	-1.17	-1.58	-0.75	-1.00	-1.20	-1.63	-0.66	-0.88	-1.19	-1.60	-0.70	-0.94
Norway	-1.41	-0.41	-1.44	-1.96	-1.21	-1.66	-1.24	-1.69	-1.12	-1.55	-1.34	-1.83	-1.17	-1.61
Portugal	-1.25	-0.38	-1.65	-2.26	-1.11	-1.52	-1.54	-2.10	-1.03	-1.41	-1.59	-2.18	-1.07	-1.46
Slovak Republic	-1.09		-1.75	-2.43	-0.64	-0.87	-1.69	-2.34	-0.57	-0.78	-1.72	-2.39	-0.61	-0.83
Spain	-1.33	-0.35	-1.37	-1.89	-1.04	-1.43	-1.24	-1.69	-0.90	-1.22	-1.31	-1.79	-0.97	-1.33
Sweden	-1.37	-0.06	-1.70	-2.36	0.11	0.19	-1.60	-2.23	-0.09	-0.10	-1.65	-2.29	0.01	0.04
Switzerland	-1.32	-0.22	-1.40	-1.92	-0.83	-1.17	-1.46	-1.99	-0.28	-0.38	-1.43	-1.96	-0.56	-0.78
United Kingdom	-1.42	-0.01	-1.41	-1.95	-1.23	-1.72	-1.32	-1.82	-1.17	-1.63	-1.37	-1.89	-1.20	-1.68
United States	-2.09	-0.25	-1.14	-1.59	-1.07	-1.50	-1.29	-1.79	-1.11	-1.55	-1.21	-1.69	-1.09	-1.52

Table 6.1 (concluded)

	Kee, Nicita, and Olarreaga (2008)	Senhadji (1997)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
			SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
					SR	LR			SR	LR			SR	LR
Mean	-1.33	-0.26	-1.55	-2.12	-0.65	-0.89	-1.57	-2.16	-0.77	-1.05	-1.56	-2.14	-0.71	-0.97
Median	-1.32	-0.24	-1.46	-1.97	-0.70	-0.94	-1.46	-1.99	-0.66	-0.88	-1.46	-2.01	-0.67	-0.88
Standard deviation	0.22	0.15	0.35	0.47	0.42	0.59	0.43	0.60	0.58	0.81	0.36	0.50	0.42	0.59
Overall														
Mean	-1.20	-0.32	-1.27	-1.73	-0.83	-1.13	-1.33	-1.82	-0.84	-1.16	-1.30	-1.78	-0.83	-1.14
Median	-1.13	-0.30	-1.24	-1.68	-0.89	-1.22	-1.31	-1.77	-0.84	-1.15	-1.25	-1.72	-0.82	-1.13
Standard deviation	0.19	0.21	0.33	0.46	0.31	0.43	0.35	0.49	0.38	0.53	0.32	0.45	0.30	0.41

Note: Blank cells indicate no data available. GTAP = Global Trade Analysis Project. SR = short-run; LR = long-run.

¹Economies are grouped according to 2007 gross national income per capita, calculated using the World Bank Atlas method. The groups are as follows: low-income, \$935 or less; lower-middle-income, \$936–\$3,705; upper-middle-income, \$3,706–\$11,455; and high-income, \$11,456 or more.

Table 6.2. Export Supply Elasticities

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects		SR	LR	Adjusted to include general equilibrium effects	
				SR	LR			SR	LR			SR	LR
Low-Income ¹													
Bangladesh		2.20	3.04	1.40	1.92	2.09	2.91	1.31	1.83	2.15	2.97	1.35	1.87
Benin		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Burkina Faso		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Burundi		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Cambodia		0.33	0.44	0.27	0.36	1.11	1.51	0.49	0.69	0.72	0.98	0.38	0.52
Central African Rep.		0.30	0.36	0.28	0.33	0.15	0.17	0.15	0.17	0.23	0.26	0.21	0.25
Chad		0.30	0.36	0.28	0.33	0.15	0.17	0.15	0.17	0.23	0.26	0.21	0.25
Comoros		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Congo, Dem. Rep. of		0.42	0.54	0.25	0.32	0.08	0.09	0.04	0.04	0.25	0.31	0.14	0.18
Côte d'Ivoire		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Eritrea		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Ethiopia		0.30	0.36	0.28	0.33	0.79	1.04	0.50	0.67	0.55	0.70	0.39	0.50
Gambia, The		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Ghana		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Guinea		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Guinea-Bissau		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Haiti		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
India		0.81	1.11	0.65	0.88	1.61	2.22	0.81	1.12	1.21	1.66	0.73	1.00
Kenya		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Kyrgyz Rep.		1.27	1.71	0.88	1.19	0.46	0.64	0.16	0.21	0.87	1.17	0.52	0.70
Lao People's Dem. Rep.		0.33	0.44	0.27	0.36	0.84	1.12	0.50	0.67	0.59	0.78	0.39	0.52
Madagascar		0.74	0.91	0.75	0.93	0.86	1.14	0.59	0.79	0.80	1.03	0.67	0.86
Malawi		0.97	1.21	0.67	0.84	0.55	0.64	0.29	0.34	0.76	0.93	0.48	0.59
Mali		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Mauritania		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Mozambique		1.23	1.67	0.93	1.25	1.12	1.55	0.72	1.01	1.17	1.61	0.83	1.13
Myanmar		0.33	0.44	0.27	0.36	0.29	0.35	0.18	0.22	0.31	0.39	0.23	0.29
Nepal		1.31	1.82	0.92	1.28	1.00	1.37	0.79	1.08	1.16	1.59	0.86	1.18
Niger		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Nigeria		0.30	0.36	0.28	0.33	0.02	0.02	0.00	0.00	0.16	0.19	0.14	0.17
Pakistan		1.31	1.82	0.92	1.28	0.69	0.95	0.35	0.48	1.00	1.38	0.64	0.88
Papua New Guinea		1.45	1.99	0.82	1.12	0.84	1.15	0.51	0.71	1.15	1.57	0.67	0.91
Rwanda		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Senegal		0.30	0.36	0.28	0.33	0.80	1.14	0.44	0.62	0.55	0.75	0.36	0.47
Sierra Leone		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Tajikistan		1.27	1.71	0.88	1.19	0.32	0.41	0.24	0.31	0.79	1.06	0.56	0.75
Tanzania		0.62	0.81	0.53	0.69	0.63	0.83	0.49	0.65	0.63	0.82	0.51	0.67

Table 6.2 (continued)

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
		SR		Adjusted to include general equilibrium effects		SR		Adjusted to include general equilibrium effects		SR		Adjusted to include general equilibrium effects	
Togo		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
Uganda		0.89	1.15	0.60	0.78	0.54	0.68	0.32	0.41	0.71	0.91	0.46	0.60
Uzbekistan		1.27	1.71	0.88	1.19	0.32	0.41	0.24	0.31	0.79	1.06	0.56	0.75
Vietnam		1.06	1.37	0.53	0.69	0.98	1.33	0.71	0.96	1.02	1.35	0.62	0.83
Zambia		0.57	0.78	0.35	0.48	0.60	0.75	0.40	0.51	0.59	0.77	0.38	0.49
Zimbabwe		0.97	1.30	0.67	0.90	1.10	1.49	0.50	0.68	1.04	1.40	0.58	0.79
Mean		0.63	0.82	0.47	0.61	0.64	0.85	0.42	0.56	0.63	0.83	0.45	0.59
Median		0.30	0.36	0.28	0.33	0.55	0.68	0.32	0.41	0.48	0.62	0.39	0.52
Standard deviation		0.46	0.65	0.29	0.41	0.38	0.53	0.24	0.34	0.37	0.52	0.23	0.32
Lower-Middle-Income¹													
Albania		0.80	1.09	0.46	0.63	0.92	1.22	0.58	0.77	0.86	1.16	0.52	0.70
Algeria	12.66	0.27	0.36	0.22	0.30	0.04	0.05	0.02	0.03	0.16	0.20	0.12	0.16
Armenia		1.27	1.71	0.88	1.19	1.34	1.87	0.88	1.22	1.31	1.79	0.88	1.21
Azerbaijan		1.27	1.71	0.88	1.19	0.10	0.11	0.09	0.10	0.68	0.91	0.49	0.65
Belarus	14.39	1.27	1.71	0.88	1.19	3.23	4.49	1.55	2.16	2.25	3.10	1.22	1.68
Bolivia	8.06	0.50	0.64	0.44	0.56	0.54	0.72	0.39	0.52	0.52	0.68	0.41	0.54
Bulgaria		1.10	1.47	0.65	0.88	0.87	1.18	0.43	0.59	0.98	1.32	0.54	0.74
Cameroon		0.30	0.36	0.28	0.33	0.15	0.17	0.15	0.17	0.23	0.26	0.21	0.25
Cape Verde		0.30	0.36	0.28	0.33	0.47	0.60	0.31	0.40	0.39	0.48	0.29	0.36
China	3.68	1.23	1.71	0.74	1.03	1.58	2.20	0.84	1.16	1.40	1.96	0.79	1.10
Colombia		0.76	1.00	0.66	0.88	0.61	0.80	0.48	0.64	0.68	0.90	0.57	0.76
Congo, Republic of		0.30	0.36	0.28	0.33	0.15	0.17	0.15	0.17	0.23	0.26	0.21	0.25
Dominican Republic		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Ecuador	14.50	0.50	0.64	0.44	0.56	0.20	0.25	0.17	0.21	0.35	0.45	0.30	0.39
Egypt		0.27	0.36	0.22	0.30	0.73	1.01	0.47	0.64	0.50	0.68	0.35	0.47
El Salvador		1.03	1.37	0.76	1.02	1.33	1.82	0.82	1.13	1.18	1.60	0.79	1.08
Georgia		1.27	1.71	0.88	1.19	0.98	1.34	0.67	0.92	1.12	1.52	0.78	1.06
Guatemala		1.03	1.37	0.76	1.02	0.88	1.19	0.68	0.93	0.95	1.28	0.72	0.98
Guyana		0.84	1.15	0.66	0.91	0.81	1.17	0.51	0.73	0.83	1.16	0.59	0.82
Honduras		1.03	1.37	0.76	1.02	1.33	1.82	0.82	1.13	1.18	1.60	0.79	1.08
Indonesia		0.30	0.41	0.19	0.25	0.46	0.61	0.28	0.38	0.38	0.51	0.24	0.32
Iran, Islamic Rep. of		0.33	0.44	0.20	0.26	0.03	0.04	0.02	0.02	0.18	0.24	0.11	0.14
Jordan		0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Kiribati		1.45	1.99	0.82	1.12	0.84	1.15	0.51	0.71	1.15	1.57	0.67	0.91
Lesotho		1.47	2.03	0.93	1.28	1.23	1.68	0.63	0.86	1.35	1.85	0.78	1.07
Macedonia, FYR		1.60	2.12	0.66	0.88	1.23	1.62	0.69	0.91	1.41	1.87	0.67	0.89

Table 6.2 (continued)

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects	
		SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR
Maldives		1.31	1.82	0.92	1.28	1.00	1.37	0.79	1.08	1.16	1.59	0.86	1.18
Moldova		1.27	1.71	0.88	1.19	1.43	1.83	0.87	1.11	1.35	1.77	0.88	1.15
Mongolia		1.57	2.09	1.24	1.65	0.58	0.79	0.34	0.46	1.08	1.44	0.79	1.06
Morocco		0.94	1.29	0.76	1.04	0.91	1.26	0.82	1.13	0.92	1.27	0.79	1.08
Namibia		1.47	2.03	0.93	1.28	1.23	1.68	0.63	0.86	1.35	1.85	0.78	1.07
Nicaragua		1.03	1.37	0.76	1.02	1.08	1.47	0.88	1.20	1.06	1.42	0.82	1.11
Paraguay	8.95	0.84	1.15	0.66	0.91	0.67	0.89	0.48	0.64	0.75	1.02	0.57	0.77
Peru		0.39	0.54	0.30	0.41	0.84	1.17	0.77	1.06	0.62	0.85	0.53	0.73
Philippines		1.58	2.12	0.32	0.43	1.41	1.95	0.39	0.54	1.50	2.04	0.36	0.49
Syrian Arab Republic		0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Sri Lanka		1.18	1.60	0.71	0.97	0.72	0.98	0.32	0.43	0.95	1.29	0.52	0.70
Sudan		0.30	0.36	0.28	0.33	0.66	0.88	0.60	0.80	0.48	0.62	0.44	0.57
Swaziland		1.47	2.03	0.93	1.28	1.23	1.68	0.63	0.86	1.35	1.85	0.78	1.07
Thailand		1.25	1.73	0.31	0.43	1.44	1.98	0.28	0.38	1.34	1.86	0.29	0.40
Tunisia		1.01	1.39	0.71	0.98	0.88	1.19	0.44	0.59	0.95	1.29	0.57	0.78
Turkmenistan		1.27	1.71	0.88	1.19	0.32	0.41	0.24	0.31	0.79	1.06	0.56	0.75
Ukraine	10.86	1.27	1.71	0.88	1.19	2.51	3.40	0.92	1.24	1.89	2.55	0.90	1.22
Mean	10.44	0.94	1.26	0.62	0.83	0.88	1.20	0.52	0.70	0.91	1.23	0.57	0.77
Median	10.86	1.03	1.37	0.71	0.97	0.84	1.17	0.51	0.71	0.95	1.28	0.57	0.77
Standard deviation	4.25	0.45	0.62	0.28	0.39	0.58	0.81	0.31	0.43	0.46	0.64	0.26	0.36
Upper-Middle-Income¹													
Argentina		0.69	0.92	0.58	0.77	0.53	0.68	0.40	0.52	0.61	0.80	0.49	0.64
Belize		1.03	1.37	0.76	1.02	1.33	1.82	0.82	1.13	1.18	1.60	0.79	1.08
Botswana		1.43	1.98	1.05	1.45	0.20	0.25	0.18	0.23	0.82	1.12	0.62	0.84
Brazil		0.93	1.29	0.68	0.95	0.71	0.99	0.49	0.68	0.82	1.14	0.58	0.81
Chile		0.51	0.68	0.36	0.48	0.47	0.66	0.32	0.44	0.49	0.67	0.34	0.46
Costa Rica		1.03	1.37	0.76	1.02	0.81	1.08	0.32	0.43	0.92	1.23	0.54	0.72
Croatia		2.17	2.98	1.51	2.07	1.76	2.48	1.05	1.47	1.97	2.73	1.28	1.77
Dominica		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Gabon		0.30	0.36	0.28	0.33	0.15	0.17	0.15	0.17	0.23	0.26	0.21	0.25
Grenada		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Jamaica		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Kazakhstan		1.27	1.71	0.88	1.19	0.72	0.96	0.46	0.61	0.99	1.33	0.67	0.90
Latvia	15.06	2.59	3.52	1.66	2.25	1.45	1.99	0.98	1.35	2.02	2.75	1.32	1.80
Lebanon	23.62	0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Libya		0.27	0.36	0.22	0.30	0.04	0.05	0.02	0.03	0.16	0.20	0.12	0.16

Table 6.2 (continued)

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects	
		SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR
Lithuania	16.68	1.62	2.20	0.84	1.15	2.05	2.84	0.68	0.95	1.83	2.52	0.76	1.05
Malaysia		1.09	1.49	0.49	0.68	1.17	1.61	0.55	0.76	1.13	1.55	0.52	0.72
Mauritius		0.42	0.54	0.25	0.32	1.33	1.80	0.55	0.74	0.87	1.17	0.40	0.53
Mexico		0.63	0.87	0.25	0.35	1.10	1.53	0.26	0.37	0.87	1.20	0.26	0.36
Panama		1.03	1.37	0.76	1.02	0.94	1.27	0.74	1.00	0.99	1.32	0.75	1.01
Poland		1.66	2.31	1.34	1.86	1.04	1.43	0.57	0.79	1.35	1.87	0.96	1.32
Romania		1.12	1.55	0.58	0.79	2.13	2.90	1.21	1.64	1.63	2.22	0.89	1.22
Russian Federation	9.17	0.30	0.39	0.24	0.32	0.22	0.28	0.16	0.20	0.26	0.34	0.20	0.26
Seychelles		0.42	0.54	0.25	0.32	0.66	0.88	0.60	0.80	0.54	0.71	0.43	0.56
South Africa		0.96	1.35	0.67	0.93	0.95	1.30	0.60	0.83	0.95	1.32	0.63	0.88
St. Kitts and Nevis		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
St. Lucia		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
St. Vincent and the Grenadines		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Suriname		0.84	1.15	0.66	0.91	0.81	1.17	0.51	0.73	0.83	1.16	0.59	0.82
Turkey		0.77	1.05	0.54	0.73	0.59	0.81	0.35	0.48	0.68	0.93	0.44	0.61
Uruguay		0.72	0.99	0.54	0.74	1.23	1.66	0.62	0.83	0.98	1.33	0.58	0.78
Venezuela		0.12	0.14	0.08	0.10	0.10	0.12	0.06	0.07	0.11	0.13	0.07	0.08
Mean	16.13	0.94	1.27	0.66	0.90	0.83	1.13	0.50	0.69	0.88	1.20	0.58	0.79
Median	15.87	0.98	1.31	0.67	0.94	0.69	0.92	0.55	0.77	0.82	1.13	0.60	0.83
Standard deviation	5.94	0.54	0.74	0.37	0.51	0.53	0.74	0.28	0.39	0.48	0.67	0.29	0.41
High-Income: Non-OECD¹													
Antigua and Barbuda		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Bahamas, The		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Bahrain		0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Barbados		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Bermuda		2.50	3.48	1.46	2.02	2.84	3.72	2.15	2.81	2.67	3.60	1.80	2.41
Brunei Darussalam		0.33	0.44	0.27	0.36	0.19	0.24	0.10	0.12	0.26	0.34	0.18	0.24
Cyprus		0.24	0.33	0.23	0.32	0.28	0.39	0.15	0.19	0.26	0.36	0.19	0.26
Estonia		1.94	2.65	1.11	1.52	0.97	1.32	0.45	0.63	1.45	1.98	0.78	1.08
French Polynesia		1.45	1.99	0.82	1.12	0.84	1.15	0.51	0.71	1.15	1.57	0.67	0.91
Greenland		2.50	3.48	1.46	2.02	2.84	3.72	2.15	2.81	2.67	3.60	1.80	2.41
Hong Kong SAR		0.78	1.07	0.54	0.75	0.74	1.02	0.39	0.54	0.76	1.04	0.47	0.64
Israel		0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Macao SAR		1.57	2.09	1.24	1.65	0.58	0.79	0.34	0.46	1.08	1.44	0.79	1.06
Malta		0.97	1.32	0.43	0.59	0.78	1.07	0.29	0.41	0.87	1.20	0.36	0.50

Table 6.2 (continued)

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects	
		SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR
New Caledonia		1.45	1.99	0.82	1.12	0.84	1.15	0.51	0.71	1.15	1.57	0.67	0.91
Oman	9.50	0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Saudi Arabia	5.62	0.33	0.44	0.20	0.26	0.16	0.20	0.07	0.09	0.25	0.32	0.13	0.17
Singapore		2.79	3.80	0.78	1.08	2.80	3.87	0.89	1.23	2.79	3.84	0.84	1.15
Slovenia		2.51	3.52	1.67	2.32	2.42	3.42	1.57	2.21	2.46	3.47	1.62	2.27
Taiwan Province of China	13.96	3.02	4.26	1.14	1.60	3.35	4.67	1.10	1.52	3.19	4.46	1.12	1.56
Trinidad and Tobago		0.98	1.31	0.80	1.07	0.62	0.87	0.55	0.77	0.80	1.09	0.68	0.92
Mean	9.69	1.30	1.78	0.76	1.04	1.08	1.47	0.62	0.85	1.19	1.63	0.69	0.94
Median	9.50	0.98	1.31	0.80	1.07	0.62	0.87	0.51	0.71	0.80	1.09	0.68	0.92
Standard deviation	4.17	0.93	1.31	0.47	0.66	1.08	1.47	0.64	0.86	0.99	1.37	0.54	0.73
High-Income: OECD¹													
Australia		0.56	0.72	0.48	0.63	0.64	0.87	0.57	0.77	0.60	0.80	0.53	0.70
Austria		1.46	2.00	0.92	1.24	1.53	2.15	0.82	1.15	1.50	2.08	0.87	1.20
Belgium		4.81	6.46	1.67	2.25	3.14	4.47	1.39	1.95	3.98	5.46	1.53	2.10
Canada		1.59	2.17	1.21	1.65	1.22	1.61	0.75	0.99	1.40	1.89	0.98	1.32
Czech Republic	10.03	1.52	2.10	0.79	1.09	1.48	2.07	0.40	0.56	1.50	2.09	0.60	0.82
Denmark		2.02	2.78	1.21	1.66	1.00	1.32	0.66	0.87	1.51	2.05	0.93	1.27
Finland		2.10	3.00	0.96	1.37	1.54	2.14	0.78	1.09	1.82	2.57	0.87	1.23
France		0.97	1.30	0.76	1.02	1.71	2.28	0.95	1.27	1.34	1.79	0.85	1.14
Germany		3.42	4.77	2.26	3.14	2.41	3.42	1.32	1.87	2.91	4.09	1.79	2.51
Greece		1.77	2.38	1.11	1.50	0.59	0.79	0.56	0.76	1.18	1.59	0.84	1.13
Hungary		1.27	1.74	0.61	0.82	1.81	2.50	0.68	0.93	1.54	2.12	0.64	0.88
Iceland		0.53	0.71	0.34	0.46	1.97	2.69	1.00	1.37	1.25	1.70	0.67	0.91
Ireland		1.86	2.50	0.84	1.13	1.28	1.72	0.41	0.56	1.57	2.11	0.62	0.84
Italy		1.27	1.75	0.84	1.16	1.20	1.66	0.59	0.82	1.24	1.70	0.72	0.99
Japan		1.54	2.18	1.25	1.76	1.60	2.26	1.20	1.69	1.57	2.22	1.22	1.72
Korea, Rep. of		2.45	3.48	0.79	1.11	2.22	3.13	0.67	0.94	2.34	3.31	0.73	1.02
Luxembourg		3.83	5.14	2.15	2.88	2.01	2.77	1.75	2.42	2.92	3.95	1.95	2.65
Netherlands		2.23	3.06	1.02	1.40	1.78	2.41	0.51	0.69	2.01	2.73	0.77	1.04
New Zealand		1.07	1.45	0.76	1.03	0.95	1.31	0.73	1.00	1.01	1.38	0.74	1.01
Norway		0.53	0.71	0.34	0.46	0.22	0.27	0.17	0.21	0.37	0.49	0.26	0.33
Portugal		1.72	2.37	1.25	1.73	1.57	2.16	1.14	1.57	1.64	2.26	1.20	1.65
Slovak Republic		1.93	2.71	0.68	0.94	1.66	2.32	0.53	0.73	1.80	2.51	0.60	0.84
Spain		0.95	1.32	0.74	1.03	1.22	1.63	0.85	1.13	1.08	1.47	0.80	1.08

Table 6.2 (concluded)

	Broda, Limão, and Weinstein (2006)	GTAP 2001				GTAP 2004				Averages for 2001 and 2004			
				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects				Adjusted to include general equilibrium effects	
		SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR
Sweden		2.66	3.72	1.61	2.24	2.08	2.94	1.02	1.44	2.37	3.33	1.32	1.84
Switzerland		1.36	1.82	1.06	1.42	1.33	1.84	0.80	1.11	1.35	1.83	0.93	1.27
United Kingdom		1.47	1.91	1.37	1.79	0.83	1.06	0.74	0.95	1.15	1.48	1.06	1.37
United States		1.63	2.22	1.41	1.93	1.49	2.05	1.16	1.60	1.56	2.14	1.29	1.77
Mean	10.03	1.81	2.48	1.04	1.43	1.53	2.11	0.82	1.13	1.67	2.29	0.93	1.28
Median	10.03	1.61	2.20	0.94	1.30	1.54	2.15	0.76	1.04	1.53	2.10	0.84	1.14
Standard deviation		1.00	1.37	0.48	0.66	0.61	0.87	0.35	0.50	0.75	1.05	0.39	0.55
Overall													
Mean	11.85	1.04	1.41	0.68	0.91	0.93	1.27	0.55	0.75	0.99	1.34	0.62	0.83
Median	11.35	0.98	1.31	0.68	0.94	0.76	1.03	0.51	0.73	0.83	1.16	0.59	0.82
Standard deviation	5.08	0.75	1.04	0.41	0.57	0.68	0.95	0.37	0.51	0.67	0.94	0.36	0.50

Note: Blank cells indicate no data available. GTAP = Global Trade Analysis Project. SR = short-run; LR = long-run.

¹Economies are grouped according to 2007 GNI per capita, calculated using the World Bank Atlas method. The groups are low-income, \$935 or less; lower-middle-income, \$936–\$3,705; upper-middle-income, \$3,706–\$11,455; and high-income, \$11,456 or more.