
Calculation of Benefits Country by Country

Tables 1.1 and 1.2 illustrate the potential net gains from price convergence in the tradable items resulting from country-by-country liberalization and integration. If a country opened its market to foreign goods and competitive conditions, we assumed that product prices would converge to the BWPB. We performed both market exchange rate and PPP calculations.

Our calculations suggest that if all trade and investment barriers were removed in the 70 countries covered, the potential static benefits from price convergence would reach about 2.1 percent of global GDP, starting with market exchange rates (table 1.1). The figure would be much larger, about 6.3 percent of GDP, starting with PPP exchange rates (table 1.2).¹ Our conservative calculations, using the lesser figure for gains in each country (whether based on market rates or PPP rates) suggest global static benefits of at least 0.6 percent of GDP (table 1.3).

Benefits Calculated Starting with Market Exchange Rates

The calculation of potential benefits starting with market exchange rates entails an important assumption: price convergence would compel market exchange rates to more closely approximate PPP rates. However, the transition for a developing country from its market exchange rate to a PPP rate would require dramatic changes in the structure of domestic production. All prices would not move in the same direction or propor-

1. Figures are calculated city by city, and are weighted both by city size and country size to obtain global estimates. See appendix B for the computation method.

tion. Some would rise sharply, some would fall sharply, and some would remain about the same. The country's external balance could change dramatically in the midst of all these changes. Moreover, the various price changes would compel a significant reallocation of resources. The realignment of a market exchange rate toward a PPP exchange rate could not occur in a vacuum, nor could it occur by a wave of the government hand. The transition, if it occurred, would be an integral part of the development process over a period of years.

The best economic tool for sizing up these complex changes may be the CGE model. As mentioned earlier, the construction of a suitable CGE model was beyond our resources. Instead, our calculations are based on the simple partial equilibrium analysis already outlined. We assume that the benefits only extend to the goods component of total personal consumption (see the representative weights for the United States, Mexico, and India in table 3.1). We applied the representative weights for itemized goods as a percentage of GDP to calculate each country's potential benefit (see table 1.1). We added up the benefits for individual countries to calculate country group and world totals by applying the GDP weights shown in table 1.1.

Based on the partial equilibrium approach and the various assumptions embedded in our calculations, the potential static benefits starting with market exchange rates are strikingly large for some countries (table 1.1). Weighting countries according to their economic importance, the static benefits for all countries are 2.1 percent of world GDP. For high-income countries, however, total benefits are only about 0.6 percent of GDP. This is small compared to the benefits for middle- and low-income countries: the total benefits for middle-income countries are 3.8 percent of GDP, and 19.4 percent of GDP for low-income countries. Even so, the total benefits for high-income countries are comparable to the benefits computed, under static economic assumptions, from eliminating tariff and nontariff barriers—but not further compressing price divergence. For example, Hufbauer and Elliott (1994, 8-10) calculated that US welfare gains from eliminating all tariffs and quotas on US imports in 1990 would be about \$20 billion, approximately 0.4 percent of US GDP.²

The larger benefits (as a percentage of GDP) calculated for lower-income countries suggest the old saying “no pain, no gain.” As the representative weights in table 3.1 indicate, far larger portions of the economy in low-income countries are exposed to potential competition in consumption goods. Moreover, the extent of price distortion in low-income countries is generally far more extensive than in high-income countries.

2. Of course, benefits from removing tariff and nontariff barriers calculated with dynamic models—such as in Brown, Deardorff, and Stern (forthcoming)—are much larger. These authors suggest that US static and dynamic benefits from eliminating all post-Uruguay Round barriers would reach \$537 billion, or 5.9 percent of US GDP. By contrast, Scollay and Gilbert (2001) calculate US static losses (mainly a terms-of-trade effect) of 0.6 percent of GDP.

For the world as a whole, about 75 percent of potential gains are generated by rising prices, and 25 percent by falling prices. This defies conventional wisdom, which equates open and competitive markets with falling prices. As a general rule, the larger the size of potential benefits (as a percent of GDP), the larger the share of benefits that is generated from rising prices. For middle-income and low-income countries, this means that more than 90 percent of potential static benefits result from rising prices. Rising prices imply higher wages for millions of unskilled workers. By contrast, for high-income countries, potential static benefits are generated more from falling prices than from rising prices. Falling prices mainly translate into consumer benefits.

Benefits Calculated Starting with PPP Exchange Rates

Table 1.2 records potential static benefits calculated starting with PPP rates. These are benefits that persist even after eliminating the difference between market exchange rates and PPP rates. The weighted world total is 6.3 percent of world GDP. For high-income countries, the weighted total benefit is about 0.4 percent of GDP, for middle-income countries, about 2.0 percent of GDP, and for low-income countries, about 26.1 percent of GDP.

As these figures suggest, total benefits calculated by starting with PPP exchange rates are substantially larger than the benefits calculated starting with market exchange rates. This is a surprise. We would expect, for most countries and most products, that PPP rates would bring observed prices closer to the margins of the BWPB than market exchange rates. Hence, we would expect that the gains from the price convergence imposed by the BWPB would be smaller. Instead it turns out (in contrast to our expectations) that the higher weighting for China, and the larger gains from falling prices in high-income and middle-income countries, are stronger forces that work to enhance calculated gains when the starting point is PPP rates. We do not put great stock in the calculations starting with PPP exchange rates, however, because they reflect the peculiar circumstances of the “privileged” Chinese cities. However, the calculations do present a rough-and-ready indication of the potential benefits from internal market integration within China between the “privileged” cities and the rest of the country. In any event, the PPP calculations are a useful antidote against one common reaction to our calculations starting with market exchange rates. The PPP calculations refute the claim that our calculated gains—starting with market exchange rates—simply reflect the gap between PPP rates and market rates.

The use of different exchange rates as a starting point to carry out the calculations does not substantially affect the ranking of countries that are most likely to gain. The Spearman rank correlation between the market

Table 5.1 Potential benefits at regional level, calculated with market exchange rates (percent of GDP)

Region	Benefits as share of GDP ^a	
	Market rates	EIU PPP
EU-11	0.76	0.59
AFTA ^b	4.54	6.05
NAFTA	0.13	0.14
Mercosur	7.11	1.73

AFTA = Association of Southeast Asian Nations (ASEAN) Free Trade Area.

NAFTA = North American Free Trade Agreement.

Mercosur = Southern Cone Common Market.

PPP = purchasing power parity

a. Figures were derived from calculated benefits from price convergence based on market exchange rates and PPP rates, tables 1.1 and 1.2. Potential benefits for each country were weighted by the size of country (country share of regional GDP).

b. Figures do not include Brunei, Laos, and Myanmar.

Source: Authors' calculations based on EIU dataset.

rate calculation and the PPP rate is 0.84 and is statistically significant. India, Indonesia, and Vietnam are among the top beneficiaries of price convergence, no matter what exchange rate is used. Again, the exception to the general story is China, where the potential static benefits are much larger starting with PPP rates than with market exchange rates. The reasons have to do with the enormous difference between the national average price level in China (the basis for calculating the PPP rate) and the substantially higher price level in the major Chinese cities that are covered in the EIU dataset (see box 1.1).

Additional Calculations

As a matter of interest, we calculated the potential benefits of price convergence for selected regional groups, starting with both market exchange rates and PPP rates. The results appear in table 5.1. The Southern Cone Common Market (Mercosur) and ASEAN Free Trade Area (AFTA) stand to benefit the most. On the other hand, the EU and North American Free Trade Agreement (NAFTA) show relatively small gains. These regional results are consistent with our findings that developing countries have more to gain from price convergence than developed countries.

We also calculated potential static benefits assuming that prices converge to a narrow world price band (NWPB)—a price band with one standard deviation around the average price in the 17 US cities. This calculation envisages dramatic price convergence within the United States and Europe, and other rich nations, as well as substantial price conver-

gence on a global basis. Conceivably, the technology of e-commerce (business-to-business and business-to-consumer) could bring about dramatic convergence on this scale. Potential static benefits would obviously be much larger if prices converged to the NWPB rather than the BWPB (see table A.3 in appendix A). For example, potential benefits calculated starting with market exchange rates are more than doubled if prices converge to the NWPB rather than the BWPB. However, there is as yet little evidence that this high degree of convergence can be reached. Indeed, over the past decade, the extent of price divergence within the United States, both overall and for tradable goods, has been quite stable.³ This observation suggests that new economic forces have so far had little impact on price divergence.

3. By contrast, there has been considerable price convergence for tradable goods within the Euro area since 1990. See Rogers, Hufbauer, and Wada (2001, table 1), and Rogers (2001, tables 1a and 1b).