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The IMF Quota Formula: Linchpin of Fund Reform

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The international financial scene is exceptionally quiet. Foreign exchange reserves have increased dramatically in recent years. Capital markets are thriving, and funds are flowing in large amounts gross and net to many developing countries as well as to industrial countries with current account deficits. Member countries are repaying past borrowings from the International Monetary Fund (IMF). With lower outstanding loans, the Fund is not even earning enough to cover its operating expenses. Is it time to declare the permanent good health of the world financial system, acknowledge the useful past contributions of the Fund, but close it as a historical relic no longer relevant to the functioning of the world economy, as some analysts suggested some years ago?

We think not. Risk premiums are now suspiciously low. Financial good times will not last forever, markets and governments will again err in their policies (they may be doing so even during the current period of euphoria), and the international community will again need to rely on the Fund to both guide and assist countries out of financial distress. In short, the current quiet environment should be used to refurbish the Fund, preparing it for future action.

Considerable dissatisfaction has arisen concerning the current allocation of decision making in the Fund, determined largely by the distribution of members' quotas. Shares of IMF quotas reflect a strong historical legacy. The world economy has changed significantly since the Fund first opened for business 60 years ago, and the relative economic and financial importance of countries has also changed dramatically within the altered global environment. Past adjustments in Fund quotas have failed to keep up with the changing world economy. It is time to bring the Fund up to date. This policy brief offers some suggestions as to how best to do that.

A member's quota in the IMF determines its obligation to provide financial resources to the Fund for it to lend to other members. A member's quota is also the principal metric used to scale the amount it can borrow from the Fund.[1] Finally, a member's share in the total of all Fund quotas is the major determinant of its voting share.[2] Voting shares directly affect IMF programs and policies and are also symbolically important. A realignment of voting shares is central to preserving support of the Fund by all of its members and thereby to the Fund's relevance and legitimacy in promoting global growth and economic and financial stability.

In September 2006 in Singapore, the IMF governors approved a resolution authorizing small increases for four members' quotas that were most out of line—China, Korea, Mexico, and Turkey. A timetable was established to reach agreement on a new "simpler and more transparent" formula to guide the realignment of quotas and subsequently to make decisions on fundamental IMF quota adjustments—no later than the spring of 2008 for the formula and September 2008 for the subsequent quota adjustments (IMF 2006b). Along with a

1. If the IMF were to decide to resume allocation of special drawing rights (SDR), the allocation also would be distributed on the basis of quota shares.

2. Each member of the IMF currently has 250 "basic votes" plus one vote for every SDR100,000 of its quota in the Fund. Thus, for all but the smallest countries, the size of its quota is the most important component of its voting share.

realignment of members' quotas "with their relative positions in the world economy," the resolution also called for at least a doubling of basic votes of each member and to ensure in the future that the ratio of basic votes to total votes should remain constant—changes that would require amending the Fund's Articles of Agreement. Basic votes are 2.082 percent of total potential votes in the Fund.[3] In the calculations presented in this policy brief, we largely set to one side the issue of the share of basic votes in total votes in the Fund.[4]

The timetable set by the IMF governors in September 2006 is not ambitious, but the major danger is that discussions will bog down and even this leisurely timetable will not be met. The result would stall an IMF reform effort that has been under way for almost two years. Such a result would have negative consequences for the institution and for the international economic and financial system. Prompt agreement on a new formula is, thus, the linchpin of overall Fund reform.

Fortunately, considerable groundwork has already been laid to accelerate the process of reforming the quota formula. As part of the 12th general review of quotas, which was completed in 2003 with no overall increase in quotas, a quota formula review group (QFRG) of outside experts under the chairmanship of Richard N. Cooper—coauthor of this policy brief—was formed and asked to examine the situation and make recommendations. The group was requested to come up with a simplified formula, to provide a currently relevant economic rationale for the included variables, and to do so without necessitating amendment of the IMF's Articles of Agreement. The QFRG submitted a comprehensive report in 2000 to the IMF executive board (IMF 2000), in which it recommended a simple, linear formula based on each country's GDP measured at market prices and exchange rates and the variability of its current receipts and net long-term capital flows.

In this policy brief, we first summarize the policy recommendations of the QFRG and present some calculations to illustrate the complexity and scope of the discussions under way within the Fund. The distribution of current Fund quotas is substantially out of line with the distribution that would result from the adoption of the recommendation of the QFRG and, by extension, is out of line with any other formula that meets the basic criteria to be simple and transparent and to reflect countries' relative weights in the global economy. Substantial adjustments are required to bring the distribution of IMF quotas into line with economic and financial reality.

Second, we address whether it is appropriate to include in the revised quota formula a measure of openness on current account transactions. Our answer is no. Openness as traditionally measured, for example, by the sum of exports and imports or receipts and payments, is a biased concept that has little to do with the role of the Fund. We demonstrate that inclusion of a more appropriate alternative measure of openness—value added in industry—would have little effect on the quota formula because the share of value added in industry is very similar across countries.

The timetable set by the IMF governors in September 2006 is not ambitious, but the major danger is that discussions will bog down and even this leisurely timetable will not be met.

Third, if the IMF executive board was to adopt the formula recommended by the QFRG to guide the realignment of Fund quotas, there would be a large reallocation of quota shares toward the advanced countries as a group and away from the developing countries as a group, though within the group of developing countries in the direction of those that have grown rapidly over the past several decades. This result is likely not to be politically acceptable.

A possible means of addressing this implication would be for today's rich industrial countries to agree to limit their IMF quota shares to 60 percent of their GDP shares, which is essentially the current ratio for the United States and Japan. As a consequence, 14.4 percentage points of total quotas compared with the current distribution of quotas could be transferred (over time) to other countries.

Fourth, if the adoption of a new quota formula is to lead to a significant realignment of voting power in the Fund, without reducing any member's quota and access to IMF financing, many members will have to receive substantial increases in their quotas. Our illustrative calculations suggest that the overall size of the Fund—the total of all quotas—should rise by at least 50 percent.

We conclude the policy brief with four recommendations: (1) The IMF executive board should complete its work on the IMF quota formula by the 2007 annual meetings at

3. The voting rights of Liberia and Zimbabwe have been suspended, but we assume they will be restored in time. We are also using the quotas for Liberia, Somalia, and Sudan that were proposed as part of the 11th general review of quotas but to which these countries have not yet consented.

4. An IMF member's voting share can be expressed as 100 * [1/185 * S + the member's quota share * (1 – S)], where S = the share of basic votes in total votes.

Box 1 IMF quota formulas

Bretton Woods:	$Q1 = (0.01Y + 0.025R + 0.05P + 0.2276VC)\ (1 + C/Y)$
Scheme III:	$Q2 = (0.0065Y + 0.0205125R + 0.078P + 0.4052VC)\ (1 + C/Y)$
Scheme IV:	$Q3 = (0.0045Y + 0.03896768R + 0.07P + 0.76976VC)\ (1 + C/Y)$
Scheme M4:	$Q4 = 0.005Y + 0.042280464R + 0.044\ (P + C) + 0.8352VC$
Scheme M7:	$Q5 = 0.0045Y + 0.05281008R + 0.039\ (P + C) + 1.0432VC$

where

Q1, Q2, Q3, Q4, and Q5 = calculated quotas for each formula;
Y = GDP at current market price for a recent year;
R = 12-month average of gold, foreign exchange reserves, special drawing right holdings, and reserve positions in the IMF, for a recent year;
P = annual average of current payments (goods, services, income, and private transfers) for a recent five-year period;
C = annual average of current receipts (goods, services, income, and private transfers) for a recent five-year period; and
VC = variability of current receipts, defined as one standard deviation from the centered five-year moving average, for a recent 13-year period.

For each of the four non–Bretton Woods formulas, quota calculations are multiplied by an adjustment factor so that the sum of the calculations across members equals that derived from the Bretton Woods formula. The calculated quota of a member is the higher of the Bretton Woods calculation and the average of the lowest two of the remaining four calculations (after adjustment).

Source: IMF (2006c).

the latest; (2) the new formula should be based substantially on the recommendations of the QFRG, including the deletion of openness from the new formula; (3) the traditional industrial countries should agree to aim over time to limit their quota shares as a percentage of their GDP shares to 60 percent; and (4) the subsequent, stage-two selective increase in quotas should raise the overall size of the Fund by at least 50 percent.

TOWARD A NEW QUOTA FORMULA

The IMF Articles of Agreement require a review of the size and distribution of IMF quotas every five years. The 13th general review of quotas is under way and is scheduled to be concluded by January 31, 2008.

Because of dissatisfaction with the original "Bretton Woods formula," which was devised at the time of the IMF's founding in 1944, starting in the early 1960s, an increasing number of variations on the theme were developed. In the early 1980s, those variations were codified into the Bretton Woods formula and four alternatives. The executive board also adopted a decision rule for how the five formulas were to be used to create a "calculated" quota to help guide the reallocation of IMF quotas (see box 1). Only two-thirds of all quota reviews have led to increases in overall IMF quotas, and those that have produced increases generally ignored the guidance offered by the quota formulas' estimates of calculated quotas to realign quota shares; instead most members' existing quotas were increased by the same percentage.[5] Thus, there has been substantial inertia in the system, and considerable anomalies have developed.[6]

In light of continuing dissatisfaction with both the results of the quota formula process and the complexity of the formulas involved, the QFRG, as noted earlier, was formed. It considered a number of alternatives and recommended the adoption of a simple, linear formula with a two-thirds weight

5. The quota formulas are used as an input in setting the quotas of new members of the Fund, but the quotas of new members are also broadly aligned with those of similarly situated current members.

6. For more details, see Boughton (2007), Buira (2006), Truman (2006, chapters 2 and 9), and the references therein.

on GDP at market prices and exchange rates—a proxy for a member's potential capacity to contribute to the Fund—and a one-third weight on the variability of current receipts and net long-term capital flows—a proxy for a member's potential need to borrow from the Fund (IMF 2000).

The executive board did not adopt the recommendations of the QFRG, but its advice has influenced discussions of the issues over the past seven years. For example, a consensus has developed to include in a new quota formula the variability of current receipts and net capital flows—short- as well as long-term.[7]

Table 1 (p. 11) presents actual and estimated quotas for the 50 members of the IMF with the largest GDP ranked by the size of their GDP on average from 2002 to 2004.[8] The table displays each country's share of total quotas today, of calculated quotas as presented in the most recent publicly available IMF document (IMF 2006c), and of hypothetical quotas if the recommendation of the QFRG was applied with the modification to include net flows of capital of all types. The bottom line of the table provides the total for the 50 Fund members. The memorandum items provide subtotals for the 26 "advanced" countries and the 158 "developing and transition" countries that are members of the Fund. Also shown are subtotals for regional groupings of developing countries as well as for the 27 members of the European Union, which includes the European advanced countries, Malta, and 10 of the transition countries—36 percent of the combined quotas of this group. See appendix A for a list of the countries included in each group or subgroup.

As shown in the totals at the bottom of table 1, the combined share of the 50 largest countries in total calculated quotas exceeds their share of actual quotas by 3.5 percentage points. Their hypothetical share under the QFRG recommendation exceeds their share of calculated quotas by an additional 2.4 percentage points. For the advanced economies as a group, the differences are even larger.[9] It is no surprise that these aggregate implications are politically unacceptable to many countries.[10]

Equally important, the country-by-country results generated by the strict application of the current quota formulas—the calculated quota shares shown in table 1—imply that 140 IMF members (76 percent of the membership) would experience an increase or decrease in their quota shares of at least 25 percent, the quotas of 34 countries would increase by at least that amount, and those of 106 countries would be reduced by at least that amount.[11] Scaled by their current quotas, the total implied increase in quotas of those members that would receive increases of at least 10 percent is SDR32 billion, or 15 percent of total current quotas of SDR217.5 billion.

Substantial adjustments are required to bring the distribution of IMF quotas into line with economic and financial reality.

Comparing the implications for quota shares of the quota formula recommended by the QFRG with actual quota shares, 141 members would experience an increase or decrease of at least 25 percent. However, decreases would outnumber increases by 123 to 18.

It follows from the above summary that because of the inertia perpetuated in previous quota reviews the adoption of any new formula for the realignment of IMF quota shares will produce a large number of substantial adjustments as long as the new formula is actually used to guide the process. An inspection of table 1 reveals that the implied realignment will not merely be between the advanced members and other

7. The QFRG argued that short-term capital flows are subject to policy manipulation and, therefore, should not be included.

8. Israel is not included in the table, even though its average GDP for 2002–04 would rank it between Argentina and Malaysia, because we were unable to obtain data for Israel on the share of value added in industry and agriculture that we use below. As a consequence, Romania was added to the list. These 50 countries account for 88 percent of all quotas of Fund members, 96 percent of their total 2002–04 GDP, 93 percent of their current receipts and payments (separately and combined), 87 percent of the variability of their current receipts, 89 percent of the variability of their current receipts and net capital flows, and 92 percent of their international reserves. The data are from IMF (2006c) and do not include the latest and 185th member of the Fund, Montenegro, except to the extent that its data are included with Serbia and except for the columns of actual quotas in tables 1 to 4. Actual quotas also include the increases in quotas of China, Korea, Mexico, and Turkey as well as increases in quotas to which three countries (Liberia, Somalia, and Sudan) have not yet consented. Among the countries with the 50 largest IMF quotas today, those excluded from the list of countries in table 1, in addition to Israel, are Nigeria, Kuwait, Ukraine, Iraq, and Libya in the order of the size of their quotas. In the order of the size of their GDP, Syria, the Czech Republic, the United Arab Emirates, Colombia, and Peru replace them.

9. The combined share of the 27 members of the European Union in calculated quotas is 6 percentage points larger than their current share, but their combined hypothetical share using the QFRG-recommended formula is slightly lower—1.4 percentage points.

10. It should be noted that US Treasury Secretary Henry Paulson (IMF 2006a) has declared US policy not to seek an increase in the US share in the Fund, "The United States is firmly on record that we will forgo any share increase in the second stage [of the quota adjustments after the revision of the quota formula] beyond current levels . . . . Indeed, we challenge other industrial countries to join the United States in forgoing higher voting shares in the second stage."

11. Use of calculated quotas for guidance in the reallocation of IMF quota shares implies that 90 percent of all members would receive increases or decreases in their shares of at least 10 percent.

members of the Fund, and not just between the advanced countries and a handful of emerging-market economies, but also within the various subgroups of countries listed in the memorandum items.

SHOULD "OPENNESS" BE INCLUDED IN THE REVISED QUOTA FORMULA?

Some countries advocate retaining the inclusion of openness in the quota formula instead of or in addition to variability. Unfortunately, the resolution adopted by the IMF governors on September 18, 2006 (IMF 2006b), explicitly mentioned openness and failed to mention variability.[12] This focus on the inclusion of absolute or relative "openness" in the revised quota formula has little merit.[13] The advocates of its inclusion are possibly motivated by a desire to preserve the status quo and to prevent a reasonable realignment of IMF voting power.

The QFRG rejected including openness in the quota formula on two grounds. First, openness is highly correlated with GDP. The correlation is 0.919 between absolute openness and GDP on average for the period 2000–04 for 184 member countries. The comparable correlation between openness and variability of current receipts and net capital flows, measured over the period 1992–2004, is 0.932 and that between GDP and variability is 0.970. Therefore, openness does not add much to a formula in which the objective is to differentiate among IMF members. In the case of GDP and variability, it is logical to include the two variables even though they are highly correlated because it can be reasonably argued that they are measuring different concepts. In the case of openness, the rationale for its inclusion in the formula is obscure. The QFRG report (IMF 2000, 59) notes the minority view that "this measure of openness would still be useful because open countries . . . may take a deeper interest in (or benefit more from) the prevention of financial disturbances." Which is it?

The second QFRG argument against the inclusion of openness in the quota formula was that where the distribution of the measure differs from GDP, the measure is biased. Trade is measured on a gross value basis, whereas GDP is measured on a value-added basis.[14] As is well known, over the past 50 years international trade has expanded more rapidly than world output. One reason is that trade is primarily in raw materials and intermediate inputs that are imported, exported, reimported, reexported, and so forth before the final product is counted as GDP. As a result, there is an increasing amount of double counting in gross measures of trade or current receipts and payments. In GDP itself, the double counting is netted out: consumption, investment, government spending *plus* exports *minus* imports. Thus including openness in the quota formula gives disproportionate weight to exports as a component of GDP.

We would add three arguments for excluding openness in the new quota formula to those advanced by the QFRG. First, openness is not positively correlated with the chances that a country will experience severe external financial problems. In fact, relatively closed economies find it more painful to adjust their external positions because a larger compression of GDP is required to reduce imports by a specific amount. Moreover, research published by the IMF (2002) found that the preponderance of evidence points in the direction that both trade and financial openness are inversely correlated with the incidence of external debt and currency crises.[15]

The openness variable has no economic or financial justification, and the traditional measures are biased.

Second, internal or external shocks affect the entire sector of tradables, not just those subsets that happen to enter into cross-border transactions at the time.

Third, and related to the second point but more important to the measurement issue, the international trading system has been dramatically liberalized since the IMF was founded more than 60 years ago, and the global economy is vastly more flexible. Openness was initially included in the quota formulas when fixed exchange rates were mandated. The external adjustment process was then more rigid because nominal exchange rates were rarely changed; the focus was on

12. The text of the resolution (IMF 2006b) states that the new quota formula "should provide a simpler and more transparent means of capturing members' relative positions in the world economy. As a means of achieving this objective, consideration should be given to placing significantly higher [relative to the traditional formulas] weight on members' gross domestic product, together with ensuring that other variables, in particular the openness of members' economies, also play an important role."

13. There are two traditional measures of openness: (1) "absolute openness" equal to exports, imports, exports plus imports, or their average (or the same for current account receipts and payments) and (2) "relative openness" equal to one of the concepts of "absolute openness" relative to GDP. The Bretton Woods formula and its companions employ both measures using current receipts and/or payments (see box 1).

14. For those readers troubled by the distinction between trade in goods and current receipts and payments, the correlation between the two for the 50 countries listed in table 1 is 0.991.

15. In this research, the variable was "relative openness" (see footnote 13).

raising exports or lowering imports as a share of GDP without changes in exchange rates.

As a consequence of these developments, a more appropriate measure of openness today is not the *gross* value of actual trade but the *value added* that potentially could be traded, for example, as measured by value added in industry or industry and agriculture. We calculated the variance—a measure of dispersion—of value added in industry as a percent of GDP and the variance of the average of exports and imports as a percent of GDP (relative openness) for the 50 largest countries.[16] The variance of value added in industry is only 2.7 percent of the variance of relative openness.[17] Thus an unbiased measure of openness implies relatively small differences among countries.

Incorporating openness into the new quota formula and measuring openness appropriately, by reducing double counting, would only complicate the formula unnecessarily.

Information in table 2 demonstrates this last point. The table lists the 50 members of the Fund with the largest GDP and shows (1) their actual quota shares, (2) their hypothetical quota shares using the formula recommended by the QFRG, (3) their hypothetical quota shares using the QFRG-recommended formula reducing the weight on GDP to one-third and including "absolute openness" with a weight of one-third along with variability with a weight of one-third, and (4) their shares using the same three-variable linear formula but using an alternative measure of absolute openness—value added in industry for each.[18] The table presents totals for the 50 countries and the same memorandum items as in table 1.[19]

Comparing the second and third columns of table 2, one can see that the inclusion of the openness variable in a simple, linear formula with equal weights only slightly reduces the combined quota share of the 50 largest IMF members. On the other hand, the combined quota share of members of the European Union is boosted considerably, by 4.2 percentage points, while that for the advanced countries as a group is reduced by 3.2 percentage points.

It is instructive to identify the countries whose shares would be boosted most by the inclusion of openness in the quota formula. Eleven of the 50 countries listed in table 2 would have their quota shares boosted by 25 percent or more compared with the two-variable QFRG formula: Belgium, Malaysia, the Netherlands, Singapore, Austria, Hungary, the Czech Republic, Ireland, Thailand, the Philippines, and Switzerland, in order of the percentage increases. To varying degrees, these countries share a number of characteristics: medium size, involvement in fabrication trade with a heavy reliance on imported and exported inputs, extensive transit trade, and membership in a customs union. In the illustrative calculations in column three of the table, the combined share of these 11 countries would be boosted 36.9 percent (3.2 percentage points) compared with the results of the QFRG-recommended formula. If our alternative, analytically more appropriate measure of openness was used (see column four), their combined share would be boosted only 1.6 percent (0.13 percentage points).

Thus we conclude that incorporating openness into the new quota formula and measuring openness appropriately, by reducing double counting, would only complicate the formula unnecessarily.

HOW MIGHT THE QUOTA SHARES OF DEVELOPING COUNTRIES BE BOOSTED?

As we noted in our discussion of table 1, the combined calculated quota share of developing and transition members of the IMF is 6.6 percentage points lower than their current combined share. Their share would be reduced a further 4.6 percentage points if the formula recommended by the QFRG was adopted. In a debate about the implications of quota formulas per se, the second comparison (between the quotas calculated using the existing formulas and those calculated using the QFRG-recommended formula) is more appropriate

16. As noted in connection with footnote 8 and table 1, the 50 countries account for more 88 percent of quotas in the 185-country Fund. The data for the value added shares are for 2001 and come from the World Bank's *World Development Indicators*, 2006. The simple correlation between the traditional measure of relative openness and the share of valued added in industry for these countries is 0.928.

17. Combining value added in agriculture with value added in industry as a percent of GDP raises the variance only to 4.4 percent of the variance of relative openness. For the 25 countries with the largest GDP, the variance of the value added measure is 6.1 percent for industry (and 11.7 percent for industry and agriculture) of the variance of relative openness. For the next 25 countries, the corresponding figures are 1.9 and 2.3 percent, respectively.

18. The alternative measure of absolute openness was constructed by multiplying industry's share of value added by GDP in each country (using the series for 2000–04 on average that is used in illustrative quota calculations [IMF 2006c]) for each country and scaling the relative contribution of this term to the sum of the relative contributions of the openness term measured by current receipts plus payments for the 50 countries.

19. Because a complete dataset on value added shares is not available, the memorandum items for quota calculations using the alternative measure of openness are not available.

because the presumption should be that the formulas will substantially influence the actual distribution of quotas.

It is useful to recognize, however, that under the QFRG proposal, some developing countries would receive increases in quota shares of more than 10 percent, including Mexico, Korea, Brazil, Turkey, Thailand, and Singapore. China would receive an increase of 8.6 percent. Nevertheless, the extent and direction of adjustment may not be politically saleable because it would imply a boost in the combined share of the advanced countries compared with the status quo. However, the adjustments are not particularly biased toward large countries. In the more appropriate comparison in table 1 between the hypothetical QFRG results and the calculated quotas produced by the current quota formulas, 8 of the 25 largest members (ranked by GDP) would have larger quotas using the QFRG formula than using the existing formulas, the same number as in the next 25, but smaller, countries.[20]

One alternative approach to reducing the relative combined quota share of advanced countries would be to employ in the QFRG formula GDP measured on a purchasing power parity (PPP) basis. Some countries favor this approach, and this policy brief's coauthor Edwin M. Truman has described favorably some of the positive effects of such a substitution (Truman 2006, chapter 9). However, there is substantial opposition to this suggestion on both methodological and implementation grounds, including from the QFRG. Moreover, a back-of-the-envelope calculation suggests that the overall effect on the combined share of the developing and transition members of the Fund of using PPP-based GDP in the QFRG-recommended formula would be small, a boost of five percentage points or so.

A second alternative would be to measure variability not in absolute terms but relative to GDP.[21] Some would consider this formulation to be more consistent with the view that the variability element in the formula should be a measure of potential need to borrow from the Fund. Using the two-to-one weights on GDP and variability recommended by the QFRG, but with variability of current receipts and net capital flows scaled by GDP, would reduce the combined share of the advanced countries in total quotas by 6.3 percentage points compared with existing quotas and increase the combined share of the developing and transition countries by an equivalent amount. In the more appropriate comparison with the existing formulas and the resulting calculated quotas, the combined share of the developing and transition countries would be boosted by 12.9 percentage points.[22] However, the combined quota share of the 50 largest countries would drop 18.9 percentage points compared with the situation today. This might be considered inconsistent with the intent of the QFRG to give dominant weight to GDP.[23]

A third and potentially more promising approach would be to build on another principle that has been proposed to guide the quota discussions. The United States has declared that it does not seek an increase in its voting share even if the new quota formula points in that direction, and the United States has called upon other industrial countries to join it in this commitment.[24] The US IMF quota share is 56 percent of its GDP share and the figure for Japan is 52 percent (see table 3). As shown in the memorandum items in the table, the combined quota share for the other advanced countries is 107 percent of their GDP share, while the comparable figure for the developing and transition members of the Fund is 171 percent. On this metric, the developing and transition coun-

It should be possible to address the political issue of the redistribution of IMF quotas toward developing and transition countries, particularly emerging-market members, in a manner consistent with the adoption of the simple, transparent formula recommended by the QFRG.

20. Thirty-four countries would have lower quotas—17 in each group.

21. Using relative openness in the quota formulas would have a similar effect, but doing so would not remove the distortions introduced by including openness in the first place.

22. Each of the subgroups of developing and transition countries would gain combined quota share relative to the calculations using QFRG-recommended formula without scaling variability by GDP, with a particularly large boost for Africa. All subgroups except Asia would have larger combined shares compared with the results for calculated quotas using the existing quota formulas. Africa, Asia, and the Western Hemisphere groups would gain relative to their current combined quota shares. See appendix A for the countries in each group or subgroup.

23. One could also imagine increasing the weight on variability relative to GDP and reducing the weight on GDP, say, to one-to-one, but that too would be inconsistent with the thrust of the QFRG recommendations, further reducing the combined share of the 50 largest countries to 55 percent.

24. See footnote 10. Note, however, that freezing the size of the US quota share is not the same thing as freezing the size of the US voting share in light of the prospective increase in basic votes in the Fund. As the share of basic votes in total votes rises, the US quota share would have to rise to prevent its voting share from declining (see footnote 4). For example, if the share of basic votes in total votes were doubled to 4.164 percent, the US quota share would have to rise 0.36 percentage points to maintain the US voting share at the current 16.73 percent.

tries are already relatively advantaged, and their advantage could be augmented.

A positive response to US Treasury Secretary Henry Paulson's challenge would only freeze the combined voting share of the advanced countries; it would not promote redistribution of combined quota shares from the advanced countries to other groups of countries or within the advanced countries. The advanced countries could agree to go beyond Paulson's suggestion and aim over time to limit their quota shares to 60 percent of their GDP shares.

Using current data, the full implementation of such a constraint on the quota shares of the advanced countries would imply a combined quota share for the advanced countries of 46.1 percent compared with their current 60.5 percent, or a shift of 14.4 percentage points of quota share from the advanced to the developing and transition countries.

This approach would have the merit of being linked to GDP as the principal variable governing the distribution of quotas. The approach also would build upon the precedent established in January 1975, when the Interim Committee agreed that the combined quota share of the oil-exporting countries should be doubled and the combined share of the remaining developing countries should be protected, with the consequence that the increase in the quota share of the oil exporters was absorbed by a reduction in the quota share of the industrial countries.

It would be for consideration how to distribute the adjustment implied by the suggested 60 percent guideline, as well as how much of the adjustment to distribute immediately. One possibility would be to distribute the adjustment among the subgroups of developing and transition economies in proportion to their relative shares based on the formula recommended by the QFRG. Another issue would be how to handle graduation toward or into advanced-country status.

With such an approach, if the entire 14.4 percentage points were redistributed at one time, the result would be to raise the combined shares of four of the five subgroups of developing and transition members compared with their current combined shares (see table 4). The exception would be Africa. The Asian and Western Hemisphere subgroups would receive the largest overall increases.

Some aspects of this illustrative summary redistribution of quota shares might be problematic. The redistribution key based on the QFRG-recommended formula might need to be modified, for example, by using an inverse relationship with income per capita. However, it also should be recognized that some of the Fund's traditional categories of members used to analyze the distribution of quota shares are anachronistic. For example, 36 percent of the countries in the "transition countries" category are now members of the European Union. At the same time, it should be recognized that some advanced-country members of the European Union, such as Spain and Ireland, have relatively low ratios of their quota shares to their GDP shares, which would have to be addressed as part of an overall transition (see table 3).

One of the significant changes in the world economy over the past 50 years has been the formation of the European Union as a single functioning economy and the more recent creation of a common European currency, replacing national currencies in 13 countries. How, if at all, should these developments affect the relationship between the Fund and its European members? In particular, should the European Union, or at least Euroland, occupy a single seat in the Fund, as has been sometimes suggested? (See Truman 2006, chapters 9 and 10.) We distinguish here between formal *membership* in the Fund and *representation* on the Fund's executive board.

The guidance offered by the new formula must be implemented in substance in order to contribute to enhancing the Fund's relevance and legitimacy in promoting global growth and economic and financial stability.

With respect to *membership*, under the current articles, only states can be members of the Fund, unlike the case with the World Trade Organization. The articles could be amended to allow substitution of the European Union, or Euroland, for member states. Should it be so amended? That is primarily up to the Europeans, and the answer depends on the institutional arrangements they wish to make for mutual financial support in the event of external financial distress. At present, they have no formal arrangements, beyond strictly temporary support for currencies that are linked to the euro via the European exchange rate mechanism (ERM) and nonmembers of Euroland, which have potential access to EU balance of payments assistance. While one monetary policy and one exchange rate policy govern Euroland, fiscal policy, public debt policy, and many other dimensions of economic policy are still determined at the national level. Just because a country shares a currency with other countries does not preclude its getting into external financial difficulty. Unlikely as it may seem, individual Euroland or EU countries in principle may welcome access to the Fund's assistance at some point in the future, until they are satisfied that they can, if necessary, obtain equivalent financial support from their European partners. On these grounds, we do not favor consolidating European membership in the Fund at this time, although we can imagine future European arrangements under which such consolidation would make sense.

An altogether different matter is European *representation* on the IMF's executive board and also in the International Monetary and Financial Committee (IMFC). At present, Europeans occupy 7 of the 24 executive board seats (9 counting Switzerland and Russia). Two other EU countries (Spain and Ireland) play major roles in constituencies headed by non-European countries as alternate executive directors. (Three EU countries play this role in non-EU-headed constituencies including Poland in the Swiss constituency.) Individual countries fill three of these European seats (four counting Russia). The remainder involves multicountry constituencies clustered around original European members as part of the historical legacy, as the Fund has grown from 45 to 185 members. The weight of European countries, visually and in executive board discussions, could be reduced without any change in the articles by reorganizing the constituencies to reflect more accurately the current condition of the world economy. The practical difficulties of this reorganization are considerable but not insuperable; the Europeans could take the initiative by consolidating their own representation.

Despite these complications, we conclude it should be possible to address the political issue of the redistribution of IMF quotas toward developing and transition countries, particularly toward emerging-market members, in a manner consistent with the adoption of the simple, transparent formula recommended by the QFRG.

PUTTING THE NEW FORMULA TO WORK

It is not enough for the IMF executive board to agree upon a new formula to guide the realignment of IMF quotas. The guidance offered by the new formula must be implemented in substance in order to contribute to enhancing the Fund's relevance and legitimacy in promoting global growth and economic and financial stability. The IMF governors' resolution adopted in Singapore in September 2006 calls for "a *significant* further realignment of members' quotas with their relative positions in the world economy, based on the new quota formula" (IMF 2006b, emphasis added). Doing so will imply a substantial increase in the total IMF quotas—the overall size of the Fund.

We offer the following example. Assume that the IMF executive board, presumably acting on guidance supplied by the IMFC, sets an objective to increase the relative share of one group of members (principally, but not exclusively, emerging-market and other developing countries but also a few industrial countries that have experienced rapid growth over the past several decades) from 40 to 50 percent while holding constant the relative share of a second group of countries at 30 percent, for example, the United States, Japan, and a small group of other countries. This implies that the relative share of the remaining group of countries would decline from 30 to 20 percent while their actual quotas would be unchanged.[25]

The IMFC and the executive board should set themselves an ambitious target for implementing the realignment of quotas and voting power in the Fund via quota adjustments, implying at least a 50 percent increase in the size of the Fund.

Given the current size of the Fund at SDR217.5 billion (about $325 billion or €250 billion), the algebra of this example produces a Fund of SDR326.25 billion.[26] The size of the Fund would increase by 50 percent, which over the past 60 years is roughly the average of each increase in the size of the Fund that has occurred. Increases have been agreed in two-thirds of the previous dozen general reviews of quotas.[27]

It is likely that such an approach would have to be sweetened by granting to those countries whose quota shares are reduced some increase in the nominal size of their individual quotas. If such an equiproportional increase, in IMF terminology, was 10 percent, then in the example above the total size of the Fund would increase by 65 percent to SDR358.9 billion.

Some might consider our example to produce too large an overall increase in the size of the Fund. On the other hand, in the example outlined above, consider an increase in the size of the Fund limited to only 25 percent, while boosting the combined quota share of one group of countries with 40 percent of total quotas at present, holding at the current combined share another group of countries with 30 percent,

25. A member must consent to a reduction in nominal size of its quota, and there is no previous precedent in which a member has done so.

26. Thirty percent of SDR217.5 billion is SDR65.25 billion. SDR65.25 billion is 20 percent of SDR326.25 billion.

27. Recall that the current 13th review period ends in January 2008 and that the 12th review period produced no overall increase in quotas.

and granting all other members a quota increase of 10 percent. An overall increase in quotas of this size and structure would imply an increase in the combined share of the first group from 40 to only 44 percent and a decrease in the combined share of the third group from 30 to 26 percent. Such a result would not meet the test of significance.

Our basic view is that the IMFC and the executive board, as part of the overall IMF reform process, should set themselves an ambitious target for implementing the realignment of quotas and voting power in the Fund via quota adjustments, implying at least a 50 percent increase in the size of the Fund. Anything else would make a mockery of the entire project and be inconsistent with the resolution adopted by the governors in September 2006.

No doubt some countries still would argue that the IMF does not need additional resources and should not be tempted to lend them because they are available. With respect to this concern, we offer two comments.

First, as part of an overall bargain, limits on access to loans from the IMF could be reduced from the current standard 100 percent of quota over one year and 300 percent of quota over three years, with special provisions governing expanded access. For example, the limits could be changed to 75 percent over the first year and 225 percent over three years. There are precedents for such adjustments in access limits in both directions.

Second, a larger proportion of any lending by the Fund would be borne by those countries whose quotas had been disproportionately increased. For example, as of October 2006 (the latest data publicly available), 48 countries were eligible to be called upon to provide resources, in proportion to their quotas, to the Fund to finance IMF lending operations—24 advanced countries and 24 other countries. They accounted for 80 percent of total quotas, of which 75 percent was from advanced countries and 25 percent from other countries. If IMF quota shares were redistributed on the basis of the QFRG-recommended formula along with a net redistribution (compared with current quota shares) of 10 percentage points from the advanced to the other countries based on their QFRG-based quota shares, the 48 countries would still account for 79 percent of quotas, implying that there would essentially be no net reduction in resources available to finance IMF lending operations at the current level of total quotas. However, the advanced countries would provide only 64 percent of the total, and the share of the other countries would rise to 36 percent. Thus the financial burden of the Fund's operations would be shifted toward those deemed to be in a position to play an increased role in the institution, such as China, Mexico, Poland, and Thailand.

RECOMMENDATIONS

We offer four recommendations:

- The IMF executive board should complete its work on the new IMF quota formula by the 2007 annual meeting at the latest—rather than the spring of 2008—in order to ensure that the other necessary elements of the package we have outlined can be completed by the spring of 2008 and ratified by the IMF governors at their annual meeting in the fall of 2008.
- The new quota formula should be based substantially on the recommendations of the QFRG, including deletion of openness from the new formula. The openness variable has no economic or financial justification, and the traditional measures are biased. The QFRG recommendations meet the tests of simplicity and transparency with a dominant weight placed on economic size measured by GDP.
- The traditional industrial countries, essentially the "advanced" countries, should agree to a target of limiting (over time) their quota shares to 60 percent of their GDP shares. Criteria would have to be developed for future graduation into this category.
- A reasonable benchmark would be to envision an increase in the size of the Fund (total quotas) by 50 percent in the resolution that is sent to the IMF governors for their approval.

Table 1 Shares of IMF quotas, 50 largest members (percent)

Member[a]	Actual[b]	Calculated[c]	Hypothetical QFRG[d]
United States	17.08	16.80	27.02
Japan	6.12	7.53	10.12
Germany	5.98	6.95	6.61
United Kingdom	4.94	5.18	4.04
France	4.94	4.33	4.26
China	3.72	5.20	4.04
Italy	3.24	3.44	3.26
Spain	1.40	2.25	2.22
Canada	2.93	3.10	2.32
Mexico	1.45	1.93	1.91
Korea	1.35	2.51	1.95
India	1.91	1.20	1.32
Netherlands	2.37	2.88	1.42
Brazil	1.40	1.00	1.58
Australia	1.49	1.18	1.30
Russia	2.73	1.52	1.58
Switzerland	1.59	1.53	1.08
Belgium	2.12	2.09	0.95
Sweden	1.10	1.23	0.86
Austria	0.86	1.14	0.71
Turkey	0.55	0.74	1.00
Indonesia	0.96	0.77	0.79
Poland	0.63	0.74	0.73
Norway	0.77	0.87	0.80
Saudi Arabia	3.21	1.06	0.69
Denmark	0.76	1.08	0.77
Greece	0.38	0.46	0.62
South Africa	0.86	0.44	0.46
Finland	0.58	0.55	0.51
Ireland	0.39	1.68	1.30
Portugal	0.40	0.53	0.47
Thailand	0.50	0.91	0.64
Iran	0.69	0.40	0.35
Argentina	0.97	0.40	0.58
Malaysia	0.68	1.40	0.59

(table continues next page)

Table 1 Shares of IMF quotas, 50 largest members (percent) *(continued)*

Member[a]	Actual[b]	Calculated[c]	Hypothetical QFRG[d]
Syria	0.13	0.12	0.22
Singapore	0.40	1.92	0.88
Venezuela	1.22	0.42	0.40
Czech Republic	0.38	0.54	0.36
Pakistan	0.48	0.19	0.25
United Arab Emirates	0.28	0.46	0.36
Colombia	0.36	0.21	0.25
Hungary	0.48	0.47	0.31
Egypt	0.43	0.25	0.27
Philippines	0.40	0.50	0.34
New Zealand	0.41	0.23	0.22
Chile	0.39	0.30	0.27
Algeria	0.58	0.33	0.28
Peru	0.29	0.14	0.21
Romania	0.47	0.21	0.20
Total	87.73	91.26	93.68
Memoranda:			
Advanced countries (26)	60.51	67.08	71.71
Developing and transition countries (158)	39.49	32.92	28.29
Africa	5.40	2.43	2.41
Asia	11.52	15.28	11.37
Middle East, Malta, and Turkey	7.60	4.73	4.03
Western Hemisphere	7.59	5.18	6.01
Transition countries	7.39	5.30	4.47
European Union (27)	31.60	37.61	30.16

a. Ranked by share of average 2002–04 GDP at market prices and exchange rates.

b. Current quotas for 185 members of the Fund including Montenegro and increases for China, Korea, Mexico, and Turkey.

c. Calculated quotas based on traditional quota formulas (see box 1).

d. Hypothetical quotas based on the formula recommended by the quota formula review group (QFRG): 2/3 GDP + 1/3 variability of current receipts and net capital flows.

Source: IMF (2006c).

Table 2 Role of openness in IMF quota shares, 50 largest members (percent)

			QFRG with openness	
Member[a]	**Actual[b]**	**Hypothetical QFRG[c]**	**Conventional[d]**	**Alternative[e]**
United States	17.08	27.02	22.17	24.70
Japan	6.12	10.12	8.06	10.28
Germany	5.98	6.61	7.30	6.60
United Kingdom	4.94	4.04	4.46	3.91
France	4.94	4.26	4.35	3.86
China	3.72	4.04	4.21	4.82
Italy	3.24	3.26	3.30	3.21
Spain	1.40	2.22	2.31	2.20
Canada	2.93	2.32	2.70	2.39
Mexico	1.45	1.91	2.00	1.86
Korea	1.35	1.95	2.17	2.12
India	1.91	1.32	1.13	1.24
Netherlands	2.37	1.42	2.07	1.37
Brazil	1.40	1.58	1.40	1.71
Australia	1.49	1.30	1.22	1.23
Russia	2.73	1.58	1.63	1.66
Switzerland	1.59	1.08	1.36	1.07
Belgium	2.12	0.95	1.46	0.93
Sweden	1.10	0.86	1.05	0.85
Austria	0.86	0.71	0.95	0.72
Turkey	0.55	1.00	1.02	0.97
Indonesia	0.96	0.79	0.82	0.91
Poland	0.63	0.73	0.78	0.73
Norway	0.77	0.80	0.88	0.87
Saudi Arabia	3.21	0.69	0.78	0.83
Denmark	0.76	0.77	0.92	0.75
Greece	0.38	0.62	0.63	0.59
South Africa	0.86	0.46	0.47	0.48
Finland	0.58	0.51	0.57	0.52
Ireland	0.39	1.30	1.69	1.36
Portugal	0.40	0.47	0.54	0.47
Thailand	0.50	0.64	0.81	0.69
Iran	0.69	0.35	0.34	0.37
Argentina	0.97	0.58	0.59	0.57
Malaysia	0.68	0.59	0.88	0.65

(table continues next page)

Table 2 Role of openness in IMF quota shares, 50 largest members (percent) *(continued)*

			QFRG with openness	
Member[a]	**Actual**[b]	**Hypothetical QFRG**[c]	**Conventional**[d]	**Alternative**[e]
Syria	0.13	0.22	0.15	0.22
Singapore	0.40	0.88	1.22	0.89
Venezuela	1.22	0.40	0.41	0.45
Czech Republic	0.38	0.36	0.47	0.38
Pakistan	0.48	0.25	0.23	0.23
United Arab Emirates	0.28	0.36	0.41	0.42
Colombia	0.36	0.25	0.24	0.25
Hungary	0.48	0.31	0.41	0.32
Egypt	0.43	0.27	0.27	0.28
Philippines	0.40	0.34	0.43	0.35
New Zealand	0.41	0.22	0.24	0.21
Chile	0.39	0.27	0.30	0.29
Algeria	0.58	0.28	0.29	0.33
Peru	0.29	0.21	0.19	0.21
Romania	0.47	0.20	0.22	0.21
Total	87.73	93.68	92.51	92.51
Memoranda:				
Advanced countries (26)	60.51	71.71	69.42	n.a.
Developing and transition countries (158)	39.49	28.29	30.58	n.a.
Africa	5.40	2.41	2.56	n.a.
Asia	11.52	11.37	12.55	n.a.
Middle East, Malta, and Turkey	7.60	4.03	4.34	n.a.
Western Hemisphere	7.59	6.01	6.05	n.a.
Transition countries	7.39	4.47	5.08	n.a.
European Union (27)	31.60	30.16	34.40	n.a.

n.a. = not available

a. Ranked by share of average 2002–04 GDP at market prices and exchange rates.
b. Current quotas for 185 members of the Fund including Montenegro and increases for China, Korea, Mexico, and Turkey.
c. Hypothetical quotas based on the formula recommended by the quota formula review group (QFRG): 2/3 GDP + 1/3 variability of current receipts and net capital flows.
d. Quota = 1/3 GDP + 1/3 variability of current receipts and net capital flows + 1/3 sum of current receipts and payments.
e. Quota = 1/3 GDP + 1/3 variability of current receipts and net capital flows + 1/3 value added in industry (see text).

Sources: IMF (2006c); World Bank, *World Development Indicators*, 2006.

Table 3 IMF quota and GDP shares, 50 largest members (percent)

Member[a]	Actual quota[b]	GDP[c]	Quota share/ GDP share
United States	17.08	30.35	56
Japan	6.12	11.82	52
Germany	5.98	6.57	91
United Kingdom	4.94	5.02	98
France	4.94	4.82	102
China	3.72	4.54	82
Italy	3.24	3.94	82
Spain	1.40	2.37	59
Canada	2.93	2.36	124
Mexico	1.45	1.80	81
Korea	1.35	1.67	80
India	1.91	1.59	121
Netherlands	2.37	1.44	165
Brazil	1.40	1.43	97
Australia	1.49	1.43	104
Russia	2.73	1.23	222
Switzerland	1.59	0.87	182
Belgium	2.12	0.84	253
Sweden	1.10	0.82	135
Austria	0.86	0.69	125
Turkey	0.55	0.66	83
Indonesia	0.96	0.63	151
Poland	0.63	0.61	103
Norway	0.77	0.61	126
Saudi Arabia	3.21	0.60	539
Denmark	0.76	0.57	132
Greece	0.38	0.47	81
South Africa	0.86	0.44	193
Finland	0.58	0.44	133
Ireland	0.39	0.42	91
Portugal	0.40	0.40	100
Thailand	0.50	0.39	126
Iran	0.69	0.38	183
Argentina	0.97	0.35	278
Malaysia	0.68	0.29	236

(table continues next page)

Table 3 IMF quota and GDP shares, 50 largest members (percent) *(continued)*

Member[a]	Actual quota[b]	GDP[c]	Quota share/ GDP share
Syria	0.13	0.28	49
Singapore	0.40	0.26	151
Venezuela	1.22	0.26	469
Czech Republic	0.38	0.25	152
Pakistan	0.48	0.25	194
United Arab Emirates	0.28	0.24	115
Colombia	0.36	0.24	150
Hungary	0.48	0.23	211
Egypt	0.43	0.22	195
Philippines	0.40	0.22	183
New Zealand	0.41	0.21	192
Chile	0.39	0.21	184
Algeria	0.58	0.19	310
Peru	0.29	0.17	173
Romania	0.47	0.16	296
Total	87.73	96.25	91
Memoranda:			
Advanced countries (26)	60.51	76.90	79
Excluding United States and Japan	37.32	34.73	107
Developing and transition countries (158)	39.49	23.10	171
Africa	5.40	1.56	346
Asia	11.52	10.29	112
Middle East, Malta, and Turkey	7.60	2.90	262
Western Hemisphere	7.59	4.98	152
Transition countries	7.39	3.37	219
European Union (27)	31.60	30.27	104

a. Ranked by share of average 2002–04 GDP at market prices and exchange rates.
b. Current quotas for 185 members of the Fund including Montenegro and increases for China, Korea, Mexico, and Turkey.
c. Average for 2002–04.

Source: IMF (2006c).

Table 4 Illustrative redistribution of IMF quota shares with constrained QFRG formula (percent)

Region	Actual quota[a]	Hypothetical QFRG[b]	Constrained QFRG[c]
Advanced countries (26)	60.51	71.71	46.14
Developing and transition countries (158)	39.49	28.29	53.86
Africa	5.40	2.41	4.58
Asia	11.52	11.37	21.65
Middle East, Malta, and Turkey	7.60	4.03	7.68
Western Hemisphere	7.59	6.01	11.44
Transition countries	7.39	4.47	8.51
European Union (27)	31.60	30.16	20.70[d]

a. Current quotas for 185 members of the Fund including Montenegro and increases for China, Korea, Mexico, and Turkey.
b. Hypothetical quotas based on the formula recommended by the quota formula review group (QFRG): 2/3 GDP + 1/3 variability of current receipts and net capital flows.
c. The industrial countries agree to constrain their quota shares produced by the QFRG-recommended formula to 60 percent of their GDP shares.
d. This figure assumes that only the quota shares of the advanced EU members would be constrained to equal 60 percent of their GDP shares.

APPENDIX A
CLASSIFICATION OF MEMBER COUNTRIES IN IMF QUOTA DISCUSSIONS

Advanced Countries (26): United States, Japan, *Germany*, *United Kingdom*, *France, Italy, Spain*, Canada, the *Netherlands*, Australia, Switzerland, *Belgium, Sweden, Austria*, Norway, *Denmark*, *Greece, Finland, Ireland, Portugal*, Israel, New Zealand, *Luxembourg, Cyprus*, Iceland, and San Marino.

Developing and Transition Countries (159):

Africa (51): South Africa, Algeria, Nigeria, Morocco, Tunisia, Sudan, Kenya, Cameroon, Zimbabwe, Angola, Côte d'Ivoire, Tanzania, Ghana, Ethiopia, Senegal, Uganda, Gabon, Botswana, Democratic Republic of the Congo, Mauritius, Mozambique, Madagascar, Zambia, Burkina Faso, Namibia, Mali, Guinea, Republic of Congo, Benin, Equatorial Guinea, Chad, Niger, Malawi, Swaziland, Rwanda, Togo, Central African Republic, Mauritania, Lesotho, Sierra Leone, Cape Verde, Seychelles, Burundi, Djibouti, Eritrea, Liberia, Somalia, The Gambia, Comoros, Guinea-Bissau, and São Tomé and Príncipe.

Asia (32): China, Korea, India, Indonesia, Thailand, Malaysia, Singapore, Pakistan, the Philippines, Bangladesh, Vietnam, Sri Lanka, Myanmar, Nepal, Afghanistan, Brunei, Cambodia, Papua New Guinea, Fiji, Laos, Mongolia, Maldives, Bhutan, Timor-Leste, Solomon Islands, Samoa, Vanuatu, Micronesia, Tonga, Marshall Islands, Palau, and Kiribati.

Middle East, Malta, and Turkey (16): Turkey, Saudi Arabia, Iran, Syria, United Arab Emirates, Egypt, Kuwait, Libya, Qatar, Oman, Lebanon, Iraq, Yemen, Jordan, Bahrain, and *Malta*.

Transition (28): Russia, *Poland, Czech Republic, Hungary*, *Romania*, Ukraine, *Slovak Republic*, Kazakhstan, Croatia, *Slovenia, Bulgaria*, Belarus, *Lithuania*, Serbia, Turkmenistan, *Latvia*, Uzbekistan, *Estonia*, Azerbaijan, Bosnia-Herzegovina, Albania, Macedonia, Georgia, Armenia, Montenegro[a], Moldova, Kyrgyz Republic, and Tajikistan.

Western Hemisphere (32): Mexico, Brazil, Argentina, Venezuela, Colombia, Chile, Peru, Guatemala, Ecuador, Dominican Republic, Costa Rica, El Salvador, Panama, Uruguay, Trinidad and Tobago, Jamaica, Bolivia, Honduras, Paraguay, Bahamas, Nicaragua, Haiti, Barbados, Belize, Suriname, Antigua and Barbuda, Guyana, St. Lucia, Grenada, St. Vincent and the Grenadines, St. Kitts and Nevis, and Dominica.

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a. Montenegro is included in the tables with its actual quota. For the other calculations, data for Montenegro are included with Serbia.

Note: Countries are ranked within each group in order of average 2002–04 market price GDP. Members of the European Union are in italics.

Sources: IMF *World Economic Outlook* (WEO) database and IMF (2006c). The WEO database (1) places IMF members Korea and Singapore in the advanced group, (2) separates the transition countries into (a) Central and Eastern Europe and (b) Commonwealth of Independent States and Mongolia, and (3) includes Malta and Turkey in Central and Eastern Europe.

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