

INTERNATIONAL MONETARY FUND

**Quota Distribution—Selected Issues**

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(In cooperation with other departments)

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## EXECUTIVE SUMMARY

This paper revisits several technical issues related to quota formulas. It also reviews the quota adjustment process and previous discussions on basic votes.

On quota formulas, in recent meetings there has been broad endorsement by the Executive Board of the need for transparent and simple quota formulas based on no more than four economic and financial variables. The variables that have been considered are GDP, measures of openness, variability of current receipts and net capital flows, and reserves. Against this background, the paper:

- reexamines **financial openness** as a possible quota formula variable and concludes that conceptual drawbacks and limited data coverage make it difficult to include a measure of financial openness at the present time.
- reviews the unavoidable **correlation** among economic and financial variables in quota formulas and explains that this correlation affects the effective weight of each variable in a quota formula complicating the interpretation of the impact.

**Turning to the quota adjustment process, quota formulas have played an important but relatively limited role.** An agreement on a new quota formula would facilitate quota share adjustments and help to address the out of liness of the quotas of individual countries but would not significantly change quota shares of broad country groups. The shares of many developing countries in actual quotas exceeds their shares based on quota formulas. Members' reluctance to accept declines in their quota shares and the 85 percent majority required for any quota adjustments have led to a process of adjusting quotas that is inherently gradual in nature.

**Significant adjustments in quota shares have tended to take place as part of general quota increases because they include elements that benefit the membership as a whole.** Redistribution of quota shares has been facilitated when the proposed quota adjustments are included in a package that confers some benefits to those members whose quota shares would decline as a result of such an adjustment. Future changes in voting power—including through an increase in basic votes which would require an amendment of the Articles of Agreement—are therefore most likely to be achieved in the context of a general increase in quotas.

**Given the various financial and other objectives assigned to quotas, changes in quota formulas, quota adjustments and basic votes are linked and should be considered together.** A package of measures could involve a general quota increase when justified by liquidity needs; allow selective and ad hoc increases based on a new quota formula to address the out of liness of the quotas of individual members; and increase basic votes.

**Staff will continue to work on quota related topics.** Future work could include updating the data used to calculate variables and alternative quota formulas. In addition, work could continue on measuring capital flows and financial openness and more generally the availability of capital account data that could be used to capture these concepts. Staff will also continue to monitor and assess the adequacy of Fund resources.

## I. INTRODUCTION<sup>1</sup>

1. **The Twelfth General Review of Quotas was concluded on January 30, 2003 by a Resolution of the Board of Governors without an increase in quotas.**<sup>2</sup> The resolution indicated that the Executive Board intended, during the period of the Thirteenth General Review, “*to monitor closely and assess the adequacy of Fund resources, to consider measures to achieve a distribution of quotas that reflects developments in the world economy, and to consider measures to strengthen the governance of the Fund.*” It also noted the intention of the Executive Board to conduct follow-up work on quota-related issues and to report on its discussions to the International Monetary and Financial Committee (IMFC) by the 2003 Annual Meetings.<sup>3</sup> This paper responds to the request for follow up on quota-related issues and discusses technical issues related to the specification of an alternative quota formula, the process of adjusting members’ quotas, and basic votes.

2. **The five-yearly regular reviews of quotas established under the Fund’s Articles are designed to meet several key objectives.**<sup>4</sup> These include to ensure that the Fund continues to have sufficient resources to fulfill its responsibilities and that the distribution of quotas adequately reflects developments in the world economy. In this regard, the reviews conducted by the Executive Board have focused on key topics as follows:

- The role and size of the Fund;
- The adequacy of Fund resources and the need for a possible quota increase;
- The distribution of quotas including possible changes to quota formulas; and
- Governance and representation.

3. **There has been growing emphasis most recently on voice and governance issues.** Voice and representation issues are being pursued on two parallel tracks: in the context of discussions on quotas (and votes) and by addressing staffing and other constraints faced by

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<sup>1</sup> The paper was prepared by Ydahlia Metzgen, Paul Ross, Frank Lakwijk, Heikki Hatanpää, and Shuang Ding.

<sup>2</sup> The Board of Governors’ *Resolution No. 58-1* was adopted on the basis of recommendations contained in *Twelfth General Review of Quotas—Report of the Executive Board to the Board of Governors*, Decision No. 12926-(03/1), adopted 1/3/03.

<sup>3</sup> The Resolution also took note of the Executive Board’s intention to establish, as the discussion may warrant, a Committee of the Whole (COW) to make specific recommendations. The period of the Thirteenth General Review began after the conclusion of the Twelfth Review. However, appointment of a COW would constitute the formal start of the Thirteenth General Review of Quotas that is to be completed by January 30, 2008. A one-year minimum period is stipulated in Rule D-3 for a COW to be constituted prior to the scheduled completion of a review.

<sup>4</sup> The Articles of Agreement provide for General Reviews of Quotas by the Board of Governors at intervals of not more than five years (Article III, Section 2).

developing countries.<sup>5</sup> Given the various financial and other objectives assigned to quotas, Directors have cautioned against overloading quotas with too many objectives.<sup>6</sup>

4. The Fund has already taken some concrete measures to strengthen the voice and representation of developing countries (e.g., by addressing staffing constraints in two sub-Saharan African constituencies) and is in the process of considering some additional measures to enhance developing countries' voice at the Fund. A **status report** to the IMFC on quota issues and measures to strengthen Fund governance will be considered in August. On the basis of the consideration of **voice and representation** issues in the Boards of the Fund and the Bank, a **progress report** will be made to the Development Committee.

5. **The most recent review of the Fund's liquidity position concluded in April of this year that the Fund's current and prospective position is adequate.**<sup>7</sup> At that time, the Fund's one-year forward commitment capacity (FCC) amounted to SDR 60 billion as compared to SDR 55 billion at end-2002 when the Executive Board concluded its discussions on the Twelfth General Review of Quotas without recommending an increase in quotas. Since then, the Fund's liquidity position has strengthened further and at end-June 2003, the FCC stood at SDR 63 billion. This level appears adequate to meet the needs of Fund members, even under somewhat unfavorable circumstances. The adequacy of Fund resources will continue to be monitored and assessed in the context of the semi-annual liquidity reviews.

6. **Building on the progress made in a number of quota-related Board discussions during the period of the Twelfth Review, this paper considers selected quota distribution issues.** Section II reexamines technical questions raised by Executive Directors during the last discussion on quota formulas. The general conclusions of previous discussions remain: quota formulas based on economic and financial variables—and most options for modifying formulas—tend to preserve the quota share of advanced economies as a group. However, new quota formulas would be important to better represent the economic realities of individual countries. Section III provides an overview of the quota adjustment process. It discusses the limited, albeit important, role that quota formulas have played in determining quotas and the inherently gradual adjustment process. Section IV discusses the erosion in basic votes and examines the trade offs associated with this more direct mechanism (as compared to quota shares) of achieving an increase in voting power of developing countries as a group. Section V concludes and raises some issues for discussion.

## II. QUOTA FORMULAS: FURTHER CONSIDERATIONS ON VARIABLES

7. **In June 2002, Executive Directors reached understandings on broad principles for arriving at an alternative quota formula.** Specifically, there was general endorsement

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<sup>5</sup> See *Enhancing the Voice and Participation of Developing and Transition Countries in Decision Making at the World Bank and IMF* (DC2003-002, 3/27/03).

<sup>6</sup> See *IMF Executive Board Discusses Quota Formulas*, PIN No. 02/59 (6/14/02).

<sup>7</sup> The IMF reviews its liquidity position semi-annually.

of a simpler and more transparent approach in specifying the variables in quota formulas.<sup>8</sup> It was also agreed that variables included in the quota formulas should be indicators of members' economic position in the world. In this regard, the Board has also agreed to limit consideration to three or four variables used in existing quota formulas, but updated and modernized. As described in more detail in Box 1, these variables<sup>9</sup> include GDP and measures of openness, variability, and possibly official international reserves.

8. **The Board also discussed the specification of quota formulas.** In this regard, it was agreed that the weights attached to the variables should represent economic factors. Therefore, any reasonable quota formulas would provide higher quotas to countries with higher values for the main economic variables endorsed by Executive Directors. Specifically, Directors agreed that GDP is the most important variable, with lesser weights to be assigned to openness, variability, and reserves. Table 1 provides the broad distribution of these variables as presented in *Alternative Quota Formulas—Further Considerations* and discussed by Executive Directors in June 2002. Directors recognized that the precise choice of weights and the distribution of calculated quota shares among member countries are closely related and would ultimately require the Executive Board to exercise judgment regarding an outcome that could command wide support. Most Directors observed that there are a number of countries for which actual quota shares are considerably lower than their calculated quota shares, almost regardless of the specific formulas used, and thought that this “out of liness” should be addressed.

9. Against the backdrop of the broader objectives expressed by Executive Directors, specifically, the need for transparent and simple quota formulas based on no more than four economic and financial variables—this section returns to a few technical issues related to quota formulas as follows:

- The growing importance of globalization, integrated financial markets, and capital flows and how to reflect these realities in quota formulas; and
- Further reflections on the topic of correlation of variables.

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<sup>8</sup> For recent references to this objective, see *IMF Executive Board Informally Discusses Quota Formulas*, PIN No. 01/118 (11/7/01) and *IMF Executive Board Discusses Quota Formulas*, PIN No. 02/59 (6/14/02).

<sup>9</sup> Based on understandings reached during the Eleventh General Review of Quotas, which was completed in early 1998, the Executive Board has been conducting a comprehensive review of the formulas used to derive calculated quotas. As a first step in the process, the recommendations of a group of external experts—see *External Review of Quota Formulas* and *Staff Commentary on the External Review of the Quota Formulas*—were discussed at an Executive Board seminar in August 2000. Further discussions based on follow-up work by the staff have taken place at an Executive Board seminar in October 2001 and at a meeting in June 2002. See *IMF Executive Board Informally Discusses Quota Formulas*, PIN No. 01/118 (11/7/01) and *IMF Executive Board Discusses Quota Formulas*, PIN No. 02/59 (6/14/02).

### **Box 1. Quota Formulas Discussed by the Executive Board: Specification of Variables**

**GDP:** Directors have generally agreed that the three-year average of GDP at market exchange rates is the most important variable to be included in any new formula as an indicator of countries' economic size and of their potential to either provide resources to the Fund or use Fund resources. The possibility of using purchasing power parity rather than market exchange rates to derive GDP was discussed in October 2001 when a "majority of the Board considered that market exchange rates should be used to convert GDP to a common currency, so as to obtain the best measure of the total amount of resources generated by a country." See *IMF Executive Board Informally Discusses Quota Formulas*, PIN No. 01/118 (11/7/01).

**Openness:** Most Directors have supported the inclusion of an openness variable, specified as the absolute sum of current receipts and current payments, averaged over a five-year period, to reflect countries' integration in the world economy. Directors have taken note of the data difficulties involved at the current stage in broadening the openness measure by including a variable for financial openness. Some Directors have been concerned about the correlation of openness with other variables and also about the treatment of trade within currency unions.

**Variability:** To capture countries' vulnerability to balance of payments shocks in the quota formula (and the attendant potential demand for Fund resources), many Directors have supported the inclusion of a measure of variability of current receipts and net capital flows. Directors have also generally agreed that variability be specified as deviations from a 3-year average, which would serve to smooth trends while adequately capturing the fluctuations in capital flows.

**Reserves:** Many Directors saw reserves as a useful indicator of members' financial strength, which should be retained as a variable consistent with recent IMF emphasis on reserve adequacy. A number of other Directors considered that, for many members with access to capital markets, reserves are of declining importance and should be excluded.

**On the choice of weights** for the variables in quota formulas, many Directors supported the view that the weights should be selected mainly on the basis of judgments about the relative importance of individual variables on economic grounds. It was recognized that this would ultimately require the Executive Board to exercise judgment regarding an outcome that can command wide support.

#### **A. Incorporating Capital Account Variables in Quota Formulas**

10. **As noted, there is broad agreement at the Board that the growing importance of capital flows and more generally a country's integration in the global financial system should be incorporated in quota formulas.** Accordingly, Directors have discussed the desirability of incorporating various measures of capital flows and financial openness in an alternative quota formula.

11. **Traditionally, a country's integration in the world economy has been represented in quota formulas based on a current account (of the balance of payments) variable.**<sup>10</sup> During the recent discussions on quota formulas, Directors expressed broad support for the inclusion of capital flows into the traditional variability measure to capture

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<sup>10</sup> Two of the traditional five formulas include the sum of current receipts and payments, and the other three include current payments and an openness ratio defined as current receipts divided by GDP (Appendix I, Box A.1). The openness ratio enters the formulas as a multiplicative scaling factor which leads to the anomalous result that the calculated quota of a country could decline if the growth of GDP exceeds the growth of exports. (See *Alternative Quota Formulas—Considerations referred to as QF1 subsequently in this paper*), p. 12.

Table 1. Distribution of Quotas and of Updated Quota Formula Variables 1/  
(In percent)

	Actual Quotas 2/	Existing Five Formulas 3/	GDP	Openness 4/	Variability 5/	Reserves 6/
			1997-99	1995-99	1987-99	1999
Advanced economies	61.6	68.9	77.3	72.0	60.0	49.2
Major advanced economies	46.0	49.7	66.4	51.9	39.9	32.8
Of which: United States	17.4	16.6	29.5	15.3	15.4	4.8
Other advanced economies	15.6	19.2	10.9	20.1	20.1	16.4
Developing countries	30.9	26.0	20.0	24.0	30.3	45.6
Africa	5.5	2.2	1.7	1.9	3.5	2.5
Asia 7/	10.3	14.4	8.9	13.8	12.5	27.4
Middle East, Malta and Turkey	7.6	4.3	3.0	3.4	8.7	5.9
Western Hemisphere	7.5	5.0	6.4	4.9	5.7	9.8
Transition economies	7.5	5.1	2.7	4.0	9.7	5.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Reproduced from *Alternative Quota Formulas—Further Considerations*, Tables 1, 3 and 5.

1/ Individual country shares are provided in Appendix II.

2/ For the five countries that have not yet consented to and paid for their quota increases, 11th Review proposed quotas are used.

3/ Based on 1987-99 data and computed as traditionally specified, except that current receipts and payments have not been adjusted for official transfers, reexports, and international banking interest (see Box A.1 and *Alternative Quota Formulas—Further Considerations*, Box 2).

4/ Average sum of current receipts and payments, not adjusted for official transfers, reexports, and international banking interest.

5/ Variability of current receipts and net capital inflows, measured as a standard deviation from centered 3-year trend.

6/ Average international reserves in 1999 based on end-month data.

7/ Including Korea and Singapore.



more fully countries' vulnerability to balance of payments shocks. There were also suggestions to consider broadening the openness measure by including a financial variable. At the same time, there were concerns about how to measure capital flows and financial openness and more generally the availability of capital account data that could be used to capture these concepts.<sup>11</sup>

**12. Among the different possible indicators of financial openness identified in the literature, three broad categories of measures may be distinguished:**

- **Outcome measures** focus on the magnitude of financial positions and transactions. A country's financial openness could, for example, be measured by the size of its cross-border financial flows or by its accumulated foreign financial assets and liabilities.
- **Policy indicators** measure a country's policy orientation toward the free flow of capital. A financial openness indicator could be, for example, defined as the proportion of years in which countries had open capital accounts.<sup>12</sup>
- **Effective restrictiveness measures** attempt to capture financial openness through indices based on deviations of financial variables (e.g., domestic interest rates) from their expected or equilibrium values<sup>13</sup> associated with unrestricted capital flows.<sup>14</sup>

**13. On balance, outcome measures of financial openness seem the most feasible of the options for introducing a capital account variable as a measure of financial openness in quota formulas.** They are intuitively straightforward and readily available for countries with well-developed balance of payments statistics, though outcomes can vary across countries for reasons that have little to do with the openness of the capital account.<sup>15</sup> Policy indicators and measures of effective restrictiveness are conceptually attractive since they go a step further to reflect the degree of liberalization in the capital account. However, such measures involve significant difficulties in estimation and ad hoc methodology, are less transparent, and would not be applicable to a large number of members.

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<sup>11</sup> See *IMF Executive Board Informally Discusses Quota Formulas*, PIN No. 01/118 (11/7/01) and *IMF Executive Board Discusses Quota Formulas*, PIN No. 02/59 (6/14/02).

<sup>12</sup> In some studies, an indicator of financial openness was constructed based on the description in the Fund's Annual Report on Exchange Arrangements and Exchange Restrictions. For example, if a country has no restrictions on payments for capital transactions in 10 years out of a 20-year period, the indicator would be 0.5. An alternative indicator in this category measures the intensity with which capital controls are enforced. See *Capital Account Openness and the Varieties of Growth Experience*, Michael Klein, Working Paper 9500, February 2003, National Bureau of Economic Research.

<sup>13</sup> In constructing such indices, equilibrium interest rates are usually based on the assumption of interest parity.

<sup>14</sup> See *A Note on Philippine Financial Openness*, Jose Antonio Tan III and Cayetano Paderanga, Jr., Discussion Paper No. 9704, August 1997, University of the Philippines.

<sup>15</sup> Large-scale capital flight could, for example, take place in a country imposing strict capital controls.

14. **Cross-border financial flows or a stock variable capturing the asset and liability positions of a member could, in principle, be used to reflect financial openness.** In principle, countries that are well integrated into global capital markets are expected to have high levels of gross financial flows. However, as discussed previously by the Board, measures of gross or net financial flows have considerable drawbacks and are not workable:<sup>16</sup>

- Gross flows may be inflated by “churning,” that is, by offsetting asset and liability transactions for diversification, hedging, or other purposes.<sup>17</sup> In addition, data on gross flows are not available on a consistent basis for most countries.
- Net flows are more widely available but the netting obscures the underlying degree of activity in the capital account, since a given net flow is consistent with an infinite combination of gross inflows and outflows. In the extreme, a financially open country can have capital inflows equal to capital outflows. Furthermore, net flows could change dramatically from one year to the next, making a measure of financial openness based on net flows volatile.

15. **Staff returned to the idea of a stock measure based on a country’s International Investment Position (IIP) as an indicator of financial openness (Box 2).**<sup>18</sup> There has been some limited progress in the compilation and dissemination of IIP data since 2002 when the Board last considered the relative merits of such an option. A total of 83 economies were disseminating IIP statistics as of May 2003 (compared to 78 in 2002), 71 of which are considered to be comprehensive reporters.<sup>19</sup> In other words, such a measure is available for

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<sup>16</sup> See QF1 p. 17, and *Alternative Quota Formulas—Further Considerations (referred to as QF2 subsequently)*, pp. 6–10.

<sup>17</sup> For instance, frequent rollovers of short-term loans inflate gross flows relative to a longer-term loan of the same size, and may not necessarily imply greater openness.

<sup>18</sup> See QF2, p. 7 where it is suggested that the sum of foreign assets and liabilities be used as an indicator of financial openness.

<sup>19</sup> Comprehensiveness was assessed by the availability of data for most of the broad functional categories of the IIP defined in the fifth edition of the Fund’s Balance of Payments Manual (BPM5), and by the provision of data in recent years.

## **Box 2. Development of International Investment Position (IIP) Statistics<sup>1/</sup>**

The IIP represents an economy's balance sheet showing its stock of external financial assets and liabilities, at a particular point in time. The IIP consists of claims on nonresidents, liabilities to nonresidents, monetary gold, and SDRs.

The Fund began publication of IIP data on the BPM5 basis in 1995. The staff has developed a number of tools to assist countries in their efforts to compile and disseminate IIP data, including statistical manuals and compilation guides, training and technical assistance, coordinated surveys, and research activities in collaboration with other institutions. As a result, the number of countries reporting IIP data has increased in recent years. Including Special Data Dissemination Standard (SDDS) subscribers, a total of 83 economies published IIP statistics in the *International Financial Statistics* in May 2003, compared with 48 economies in September 1998.<sup>2/</sup> In addition, the majority of other member countries compile data on selected components of their external sector position (such as international reserves and external debt) that are useful for constructing important elements of an IIP statement.

More initiatives are underway to increase the number of countries reporting IIP data, in light of the importance of these data for vulnerability assessments, including the use of the balance sheet approach for surveillance purposes. In particular, the staff has implemented an SDDS outreach and technical assistance effort called the "25/50 program" to help expand subscription to the SDDS. The program identifies approximately 25 countries considered capable of meeting the SDDS within the next two to three years and a larger group of about 50 countries that could meet the standards within about five years. In addition, the staff will advise countries that have met the recommendations of the General Data Dissemination System (GDDS) to move to the SDDS.<sup>3/</sup> The successful implementation of these initiatives and provision of technical assistance could improve the availability and quality of IIP data.

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1/ See *Development of International Investment Position Statistics* and *Fifth Review of the Fund's Data Standards Initiatives*.

2/ IIP is a required item in the Fund's Special Data Dissemination Standard (SDDS). There are currently 53 SDDS subscribers, and they at present all disseminate IIP data. However, eight of the subscribers do not provide IIP data to the Fund for publication.

3/ In the GDDS, IIP is a comprehensive framework that countries are encouraged to introduce subject to national statistics priorities. There are currently 58 GDDS participants, and about 11 additional countries are expected to become participants by the end of 2003.

almost 45 percent of the membership of the Fund, as compared to about 20 percent in 1996. With further progress in SDDS subscription and other efforts to improve balance of payments data, IIP might be available for two-thirds of the membership in about five to ten years. However, at this stage, it would be difficult to include IIP as an indicator of financial openness in a quota formula.

16. **The lack of data on IIP can, to some extent, be overcome by using cross-border investment income flows as a proxy.** Receipts and payments of investment income represent the return on a country's stock of foreign financial assets and liabilities. However, given the highly dispersed risk premiums, rates of return on cross-border investments can vary considerably across countries. Therefore, investment income is an imperfect substitute for IIP. Moreover, there are also statistical problems with measures of investment income.

17. **A promising approach in using IIP data to measure financial integration is suggested by recent work by Lane and Milesi-Ferretti.**<sup>20</sup> This work describes the broad trends in international financial integration for a sample of industrial countries and seeks to explain the cross-country and time-series variation in the size of international balance sheets. It also examines the behavior of the rates of return on foreign assets and liabilities, relating them to "market" returns. This approach unfortunately suffers the same problem of IIP data in terms of its limited coverage of the Fund membership.

## B. Correlation of Variables in Quota Formulas

18. **Correlation is high among the main variables—GDP, openness, variability, and reserves—used in the existing five formulas and among those broadly agreed for a new quota formula.**<sup>21</sup> Conceptually, correlation should be expected to arise among the variables because they are all to some extent proxies of country size. Data for Fund members substantiate that variables such as GDP and current receipts and payments (in nominal terms) are positively correlated: countries with a higher GDP tend to have higher flows through the current account of the balance of payments.<sup>22</sup> Similarly, variability, which measures fluctuations in the balance of payments in nominal terms, is strongly correlated with openness (and GDP) because larger flows through the balance of payments often imply larger fluctuations. Finally, the nominal amount of reserves held by countries exhibits a slightly lower but also high correlation with the other variables since, in many cases, countries with higher openness hold larger reserves as buffers.

19. **The correlation of variables means the coefficient attached to each variable cannot be taken to represent each variable's relative economic importance.** The relative importance of each variable in the formula reflects its own impact and the relationship

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<sup>20</sup> See *International Financial Integration*, Lane, Philip and Milesi-Ferretti, Gian M. (WP/03/86, 4/1/03).

<sup>21</sup> The Quota Formula Review Group noted the high correlation among variables in the context of multicollinearity in the regressions that it carried out—*External Review of the Quota Formulas* (para. 70). The correlation among GDP, current receipts or payments, variability and reserves across the Fund's membership is 0.8–0.9.

<sup>22</sup> QF2, Supplement 1, presents data for the variables for all countries.

between it and the other variables. Therefore, correlation among the variables should be taken into account in specifying a quota formula and assigning weights to individual variables in order to achieve the intended impact on the distribution of calculated quotas.<sup>23</sup>

20. **The correlation among the variables in the quota formulas could be mitigated by reducing the number of variables.**<sup>24</sup> However, the costs of addressing correlation would appear to offset the benefits. The Board has already agreed to limit the consideration of variables to no more than four measures (GDP, openness, variability, and perhaps reserves). Including only two variables would help to reduce correlation but reduce the scope for differentiation in calculated quotas among members seen as desirable in the past by the Board.<sup>25</sup> Alternative approaches to reduce correlation would be (i) to use ratios based on GDP—such as openness to GDP; or (ii) to use specific openness and variability measures that are uncorrelated by construction with GDP.

### III. QUOTA ADJUSTMENT PROCESS

21. **There has been continued emphasis on arriving at new quota formulas or updated formulas that could be used in achieving a quota distribution that better reflects members' relative positions in the world economy.** As noted, this discussion has come far, with general agreement on the variables that should be included in quota formulas, and that a new formula should represent improvements over the existing five formula system in terms of modernization, simplicity, and transparency. In practice, quota formulas and calculated quotas have played an important, but relatively limited role in the decisions on quota share adjustments. An agreement on a new formula that enjoys broad support among the members would facilitate quota share adjustments. However, past experience suggests that any new quota formula would be unlikely to alter fundamentally the gradual nature of the quota adjustment process.

22. **Quotas and quota shares have been adjusted gradually and mainly in the context of General Quota Reviews.** General Reviews have resulted in quota increases only when there has been a need to increase the Fund's quota-based resources. Under the Articles, a member can request an adjustment of its quota at any time. However, an 85 percent majority of total voting power is required for any changes in quotas. In addition, no member's quota can be changed without the member's consent.<sup>26</sup> Approaches for shifts in quota shares

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<sup>23</sup> For example, consider a formula determined as a linear function of two variables such as GDP and current receipts. If current receipts are specified as a function of GDP and some country specific term that represents openness, the implicit weight of GDP would be larger than its stand-alone coefficient. The higher the correlation between GDP and current receipts, the higher the overall implicit weight of GDP in a quota formula.

<sup>24</sup> Technical approaches to mitigate the correlation among variables have been considered previously (See QF2, Box 3). However, they did not eliminate difficulties of interpretation and suffered from a lack of transparency.

<sup>25</sup> The Quota Formula Review Group in the External Review of Quota Formulas suggested including only two variables. See *External Review of the Quota Formulas*. This approach produced an increase in the quota share for advanced economies.

<sup>26</sup> See Article III, Section 2(a), 2(c), and 2(d).

between particular groups of members have been discussed by the Board previously.<sup>27</sup> Most Directors saw little or no merit in pursuing this approach though some Directors urged further consideration. Against this backdrop, this section focuses on the quota adjustment process with a view toward identifying factors and circumstances that facilitate broad support for adjustments in members' quota shares.

#### A. Characteristics of the Adjustment Process

23. **Adjustments in quotas during General Reviews typically consist of the following elements:**

- **An equiproportional element** which is distributed to all members according to their existing quota shares. The equiproportional elements have been motivated by the need to increase the Fund's overall resource base and the need to ensure that all members have adequate access to Fund resources.
- **A selective element** which has been used to effect changes in the quota distribution. The distribution of selective increases has been generally based on calculated quotas (i.e., quota formulas). Since the Eighth Review (1983), the selective elements have been distributed to all members in proportion to their calculated quotas.
- **Ad hoc quota increases have also been used to increase quotas for groups of members whose quotas have been deemed to be most "out of line,"** measured primarily using the ratio of calculated to actual quotas and, to a lesser extent, member's potential to contribute to the Fund's usable resource base. Ad hoc quota increases have been used sparingly also outside the context of General Reviews. Since 1970, there have been only four stand-alone ad hoc quota increases.<sup>28</sup>

Admission of new Fund members results in a proportional downward adjustment in the existing members' quota shares. Determination of initial quotas for new members have usually been based on a methodology that relies primarily on comparisons with other members' quotas and typically involves also application of quota formulas.

24. **Changes in quota shares are facilitated if the quota adjustments occur in the context of a "package" that confers some benefits also to those members whose quota shares would decline.** As described in Box 3, such benefits tend to be associated with general quota increases. Conversely, infrequent use of ad hoc increases outside the context of general quota increases can be partly attributed to the lack of compensatory benefits for all other members whose quota shares would decline as a result of such changes.

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<sup>27</sup> See QF2, pp. 22–24, and *IMF Executive Board Discusses Quota Formulas*, PIN No. 02/59 (6/14/02).

<sup>28</sup> China in 1980, Saudi Arabia in 1981, Cambodia in 1994, and China in 2001 (See Table A.2).

### **Box 3. Factors that Affect Adjustments in Quota Distribution**

**Creditor countries have always held a clear majority of Fund quotas.** The composition of the group of creditor countries has varied over time but creditors as a group have always accounted for a clear majority of Fund quotas. This reflects the Fund's role as a financial institution and the fact that creditor countries supply the vast bulk of the Fund's usable quota-based resources. General quota increases have often led to increases in the quota shares of those countries whose ability to contribute to the Fund's resources have improved over time. General quota increases and the related adjustments in quota shares have conferred benefits also to those members whose quota shares have declined as a result of such adjustments.

**Collective benefits derived from a larger Fund.** In order to fulfill its mandate in an efficient manner, the Fund needs sufficient financial resources. An efficient Fund benefits its membership as a whole but the benefits are likely to be most tangible for borrowers and potential borrowers. These types of considerations can lead members to accept a slight increase in quota shares of those members that are likely to be in a position to contribute to the Fund's liquidity in the medium term and whose quotas are perceived to be too small, even if this implies a reduction in their own quota shares.

**Benefits derived from a larger nominal country quota.** It seems that members that have perceived themselves as potential users of Fund resources have considered that a sizable increase in their absolute quota size would at least partly compensate for a reduction in their quota shares because a higher nominal quota has implied higher potential access to Fund financing. The new framework for access—and in particular for capital account crises cases—suggests a possible weakening in the link between quotas and access going forward.

**Collective benefits derived from a distribution of quotas that better reflects members' relative positions in the world economy.** In order for the Fund to work efficiently without undue friction for the common benefit of its membership, the members' quota shares need to be perceived as being sufficiently well in line with various members' positions in the world economy. Therefore, it may be rational for a country to accept a slight decline in its quota share if this is required for reducing widely-recognized out of liness in certain members' quotas shares.

### **B. Quota Distribution Methods Used in the Past**

25. **The instruments by which quota adjustments have been made in the past have served to both respond to the membership's need for resources as well as a changing global environment and members' relative positions in that environment.** One of the distinctive characteristics of past general quota increases has been the large share of the equiproportional element, motivated by the need to increase the Fund's overall resource base and members' access to those resources. The proportion of all quota increases allocated to the equiproportional and selective elements has, on average, been about 70 percent and 30 percent, respectively. At the limits, the equiproportional element has been as large as 98 percent while the components based on quota formulas have been as large as 60 percent of the overall quota increase (Table 2).

Table 2. General Reviews of Quotas  
(In percent)

Review of Quotas	Board of Governors' Adoption of Resolution	Overall Increase in Quotas	Share of Equiproportional Element	Share of Selective and Ad Hoc Elements
First Quinquennial Review	March 8, 1951 1/		No increase proposed	
Second Quinquennial Review	January 19, 1956 1/		No increase proposed	
1958/59	February 2, 1959 and April 6, 1959 2/	60.7	82.4	17.6
Third Quinquennial Review	December 16, 1960 1/		No increase proposed	
Fourth Quinquennial Review	March 31, 1965	30.7	81.4	18.6
Fifth General Review	February 9, 1970	35.4	70.6	29.4
Sixth General Review	March 22, 1976 3/	33.6	-	-
Seventh General Review	December 11, 1978	50.9	98.2	1.8
Eighth General Review	March 31, 1983	47.5	40.0	60.0
Ninth General Review	June 28, 1990	50.0	60.0	40.0
Tenth General Review	January 17, 1995		No increase proposed	
Eleventh General Review	January 30, 1998	45.0	75.0	25.0
Twelfth General Review	January 30, 2003		No increase proposed	

1/ Date on which the Executive Board decision to conclude the review was adopted.

2/ The February 1959 resolution provided for an equiproportional increase of 50 percent and special increases for three countries; the resolution adopted in April 1959 provided for special increases for 14 additional countries.

3/ The quota shares of the major oil exporters were doubled with the stipulation that the collective share of the developing countries would not fall.

26. **General quota increases have reduced some of the deviation between calculated and actual quotas.** In particular, as shown in Appendix I, the quota share adjustments effected in the context of general reviews have served to broadly offset the divergence between the calculated and actual quota distributions that resulted from economic developments in the periods between quota adjustments.

27. **Any quota formula (i.e., the distribution of calculated quotas) is likely to have only a relatively limited impact on the actual quota distribution.** Calculated quotas only allocate increases in members' quotas but do not affect existing nominal quotas. The small effective weight of calculated quotas can be illustrated by comparing the quota distributions that would result from a hypothetical general quota increase of 50 percent allocated wholly in a selective manner (i.e., with no equiproportional element) using three significantly different allocation criteria:

- members' shares of calculated quotas derived from the existing five formulas using 1987–99 data;
- members' shares of global GDP; and
- members' shares of global variability.



Despite these strong assumptions, there would be only a relatively modest impact on the distribution of quotas across broad country categories (Table 3). However, the quotas of individual countries would differ significantly. In particular, at a country level, shifts would be more pronounced in those cases where members' actual quota shares are far out of line according to measures of calculated quotas used in these scenarios.

Table 3. Impact of a Hypothetical Fifty Percent Quota Increase

	"Calculated Quotas" based on				Resulting Shares 2/		
	Actual	Existing Five	GDP	Variability 1/	Based on	Based on	Based on
	Quotas 1/	Formulas 1/	1997-99 1/		Column (2)	Column (3)	Column (4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Distribution of variables and quota shares (in percent)							
Advanced economies	61.6	68.9	77.3	60.0	64.0	66.8	61.1
Major advanced economies	46.0	49.7	66.4	39.9	47.2	52.8	44.0
Of which: United States	17.4	16.6	29.5	15.4	17.1	21.4	16.7
Other advanced economies	15.6	19.2	10.9	20.1	16.8	14.0	17.1
Developing countries	30.9	26.0	20.0	30.3	29.2	27.2	30.7
Africa	5.5	2.2	1.7	3.5	4.4	4.2	4.8
Asia 3/	10.3	14.4	8.9	12.5	11.7	9.8	11.0
Middle East, Malta and Turkey	7.6	4.3	3.0	8.7	6.5	6.1	8.0
Western Hemisphere	7.5	5.0	6.4	5.7	6.6	7.1	6.9
Transition economies	7.5	5.1	2.7	9.7	6.7	5.9	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Table 1 and staff estimates.

1/ For definitions used, see Table 1.

2/ The effective weight of calculated quota shares is one-third while the effective weight of the actual quota shares is two-thirds.

3/ Including Korea and Singapore.

### C. Methods to Address Out of Liness

28. **Out of liness can be addressed through selective and through ad hoc quota increases.** Selective increases bring all members' quota shares closer to calculated quota shares derived from quota formulas, while ad hoc increases could serve to address those cases where out of liness is most serious.

29. **The method of allocating selective quota increases to all members in proportion to calculated quotas has some attractive characteristics.** The main advantage of this method is that its application results in a uniform and proportional adjustment of the actual quotas of all members toward calculated quotas—a characteristic that has facilitated reaching the necessary broad support for quota share adjustment. Nevertheless, it is not well-suited to address those cases where out of liness is most pronounced. Therefore, this approach has on occasion been complemented with ad hoc increases.

30. **Ad hoc quota increases offer an effective means to address large out of liness cases, both in the context of general quota increases or as stand alone changes.** Selection

criteria for ad hoc increases could be based on calculated quotas, if there is agreement on quota formulas; or on a set of economic indicators, to be agreed, such as variables used in the quota formulas:

- With agreed quota formulas, ad hoc quota increases could be provided to countries whose ratios of calculated to actual quota shares are above a predetermined cutoff value, as was the case in the last quota increase.
- Alternatively, an “out-of-lineness indicator” could be constructed by comparing each member’s actual quota ranking and its rankings based on quota formula variables. Ad hoc quota increases could then be provided to countries whose out-of-lineness indicator surpasses a predetermined cutoff level.<sup>29</sup> This approach would require an agreement on the set of relevant indicators to be used in the selection process but would not require an agreement on a specific quota formula.

31. **The amount potentially available for ad hoc increases would have an important bearing on decisions on the number of countries that could be considered for such increases.** To some extent, it could also influence the way in which ad hoc increases would be allocated to the eligible members. Examination of the quota adjustment process and very infrequent use of stand-alone ad hoc increases in the past suggest that, in order to gain the necessary broad support among the members, ad hoc adjustments would have to be quite limited in size and in terms of eligible countries.

#### IV. BASIC VOTES

32. **The erosion in the relative importance of basic votes as a percentage of total votes of Fund members has been recognized as a problem since the Eighth Review and has been extensively discussed in the context of all subsequent quota reviews (Table 4).**<sup>30</sup> The Articles of Agreement (Article XII, Section 5) provide that each Fund member has 250 “basic” votes plus one vote for each SDR 100,000 of quota. The effect of an increase in basic votes is to increase the voting power of those members whose voting power is below the average voting power for Fund membership as a whole, and thereby to allow the smallest members to have an increased measure of influence in the Fund’s decision-making process. Successive general increases in quotas have reduced the share of basic votes to the present 2 percent. The declining role of basic votes in the Bretton Woods institutions is perceived by some as weakening the voice of small developing countries in the decision-making process within the Fund, the World Bank, and also in other fora.<sup>31</sup>

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<sup>29</sup> The main selection rules could be enhanced by additional selection criteria. In past ad hoc increases, the member’s potential to contribute to the Fund’s usable resources has often been used as a secondary selection criterion.

<sup>30</sup> See *Twelfth General Review of Quotas—Preliminary Considerations and Next Steps*, QF2, pp. 27–31, and *Twelfth General Review of Quotas—Draft Report of Executive Directors to the Board of Governors* (p. 4).

<sup>31</sup> This issue has also received attention outside the Bretton Woods Institutions. For instance, the *UNDP Human Development Report 2002—Deepening Democracy in a Fragmented World* discussed this issue in the context

(continued)

Table 4. Relative Importance of Basic Votes, 1945-Present

	Number of Members	Total Votes	Basic Votes	
			Number	Percent of Total
Schedule A 1/	45	99,390	11,250	11.3
1958	68	108,930	17,000	15.6
1965	101	179,928	25,250	14.0
1970	115	236,835	28,750	12.1
1976	132	319,714	33,000	10.3
1978	140	432,415	35,000	8.1
1983	145	646,415	36,250	5.6
1990	152	1,387,910	38,000	2.7
1998 2/	183	2,166,040	45,750	2.1
Present 2/ 3/	184	2,173,313	46,000	2.1

1/ Schedule A refers to schedule A in the Articles of Agreement, as agreed at the Bretton Woods Conference in July 1944, which entered into force on December 27, 1945. Includes the votes of Denmark, whose initial quota was not specified in Schedule A and the former Soviet Union, which did not become a member of the Fund.

2/ Including countries whose voting power was/is suspended.

3/ Based on actual quotas as of end-April 2003.

33. **Past attempts to correct the erosion of basic votes as a stand-alone issue have been unsuccessful because the broad majority required for a needed amendment of the Articles of Agreement has not existed.** Accordingly, a number of Directors have argued that issues of governance should be considered as part of any revision in quota formulas. Various options for increasing basic votes and voting power of developing countries have been considered by the Board, including:

- Increasing the number of basic votes by the same fixed amount for all members. Under this approach, the smaller a member's quota relative to the Fund-wide average, the larger would be the proportionate increase in that member's voting power.
- Establishing the total number of basic votes as a fixed percentage of total quotas.
- Increasing the number of basic votes by a fixed amount, but only for members that belong to the category of small or developing countries.

34. **Proposals for changes in basic votes have traditionally been considered in the context of general quota reviews because increases in either quotas or basic votes have implications for voting power and both require an 85 percent majority of the total voting power.** Most recently, an increase in the number of basic votes as a means of enhancing the voice and representation of developing countries in the Fund's decision-

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of the eroding relative importance of basic votes. See also *Governance of the IMF, Decision Making, Institutional Oversight, Transparency, and Accountability*, Leo Van Houtven, IMF (2002).

making was discussed in the context of the Twelfth Review.<sup>32</sup> However, the broad majority required did not exist at the time. Nevertheless, there was and continues to be broad interest in further consideration of this matter, in particular as part of a set of measures that would also include adjustments in quota shares. Some Directors though have cautioned that care should be exercised to ensure that voting power is sufficiently linked to member countries' relative economic and financial importance.

35. **The erosion in basic votes through quota increases has had negative side-effects on the quota adjustment process.** Because the shares of many developing countries in actual quotas have been significantly larger than their shares based on the quota formulas (and the opposite has been the case for the advanced countries), there has been considerable opposition from many of these countries to raising the selective element of general quota increases as a means of closing the gap between members' shares in actual and calculated quotas.

36. **The systematic erosion of the relative importance of basic votes cannot be adequately addressed through new quota formulas.** In principle, the erosion in the relative importance of basic votes could be addressed by providing a "compensating" increase in the quotas of those members that are affected by the declining importance of basic votes. However, this approach would involve difficult judgments about the eligibility and size of compensating quota increases. Alternatively, as noted, a subgroup of members could volunteer to transfer quota share to developing countries.<sup>33</sup>

37. **Attempts to address the erosion of basic votes through quota formulas are likely to make it harder to reach an agreement on a new robust quota formula.** At present, as noted, there is Board consensus on variables such as GDP that represent size. In addition, the proposals to include financial variables would not materially have an impact on the distribution of shares between advanced and developing countries as a group. It would appear that any new quota formula that is based on economic variables, and reflects the Fund's role as a financial institution, would lead to a continued decline in developing countries' quota share as a group.

38. **In light of past experience and the low likelihood that agreement on a general increase would emerge soon, pursuing an increase in basic votes on a stand-alone basis would not be promising.** Hence, increasing basic votes in the context of a future comprehensive package appears a next best alternative.

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<sup>32</sup> In QF2, pp. 28–30 address the proposals by some Executive Directors to base voting power on a weighted average of quotas, populations and basic votes; and alternatively to add a constant in the quota formulas. There was not broad support for these proposals and it was recognized that quota formulas should not be overloaded with too many objectives.

<sup>33</sup> For more discussion on various alternative methods to mitigate the declining importance of basic votes through compensatory quota adjustments, see *Twelfth General Review of Quotas—Preliminary Considerations and Next Steps* (Annex II, pp. 25–29), and QF2, pp. 27–30.

39. **This alternative could be a package of measures which provides benefits for most Fund members.** The package would provide a general quota increase when justified by the Fund's liquidity needs. It would have a larger selective component to be allocated by a new quota formula that incorporates variables that are sensible from an economic and financial perspective. Specifically, the package could involve:

- a general quota increase with a relatively large selective element allocated by means of a new quota formula;
- ad hoc quota increases aimed at addressing a few clear cases of out of liness; and
- an increase in basic votes.

40. **These elements could offer the following benefits:**

- an increased likelihood to reach agreement on a relatively simple and transparent new quota formula;
- quotas that better reflect members' positions in the world economy; and
- an increase in the voting power of developing countries.

## V. CONCLUSIONS AND ISSUES FOR DISCUSSION

41. This paper has revisited several technical issues related to quota formulas. It has also reviewed the quota adjustment process and previous discussions on basic votes.

42. The Board has recognized that any quota formula needs to be based on economic and financial variables and in particular, GDP, and measures of openness, variability of current receipts and net capital flows, and possibly reserves. A new quota formula would serve to address the out of liness of the quotas of individual countries. However, it would not significantly change quota shares of broad country groups.

43. Correlation among economic and financial variables in quota formulas is unavoidable. The coefficient attached to each variable cannot be taken to represent each variable's relative economic importance. The precise choice of weights would ultimately require the Executive Board to exercise judgment regarding an outcome that could command wide support.

44. Quota formulas and calculated quotas have played an important, but relatively limited role in the decisions on quota share adjustments. An agreement on a new formula that enjoys broad support among the members would facilitate quota share adjustments. However, past experience suggests that any new quota formula would be unlikely to alter fundamentally the gradual nature of the quota adjustment process.

45. Members' reluctance to accept declines in their quota shares and an 85 percent majority of the total voting power required for any quota adjustments has led to a gradual process of adjusting quotas.

46. Redistribution of quota shares has been facilitated when the proposed quota adjustments consist of a "package" that confers some benefits also to those members whose quota shares would decline as a result of such an adjustment. Therefore, significant adjustments in quota shares tend to take place as part of general quota increases because they include elements that benefit the membership as a whole.

47. A more direct means of achieving a change in voting power that would not require approaches that focus on quota shares would be an amendment of the Articles of Agreement to increase basic votes. Alternatively, a subgroup of countries could decide to come together and voluntarily accept a lower quota than each would have had individually.

48. Given the various financial and other objectives assigned to quotas, changes in quota formulas, quota adjustments and basic votes are linked and should be considered together. In particular, a package of measures could involve a general quota increase when justified by liquidity needs; allow selective and ad hoc increases to address the out of lineness of the quotas of individual members; and increase the share of basic votes in the total voting power.

49. *Future work on quota related topics could include updating the data used to calculate variables and alternative quota formulas. In addition, work could continue on measuring capital flows and financial openness and more generally the availability of capital account data that could be used to capture these concepts. The staff intends to continue to monitor and assess the adequacy of Fund resources. Directors' views would be welcome.*

### **Methods to Effect Changes in the Quota Distribution**

50. This Appendix provides an overview of past quota share adjustments. Section A discusses the degree of convergence over time of actual quota shares towards calculated quota shares. Section B describes the roles that quota formulas and different methods of effecting changes in quota shares have played in the quota adjustment process.

#### **A. Convergence Over Time of Actual Quotas toward Calculated Quotas**

51. The bulk of the adjustments in members' quota shares has taken place in the context of general quota increases. General quota increases have consisted of:

- an equiproportional element distributed to all members according to their existing quota shares and thus not affecting the quota distribution;
- a selective element used to attain changes in the quota distribution so that it better reflects members' relative economic positions in the world economy as indicated by quota formulas;
- ad hoc quota increases to adjust those members' quota shares that have been deemed farthest out of line.<sup>34</sup>

52. The Articles of Agreement do not explicitly reference quota formulas and the Executive Board has not formally adopted any specific formula (Box A.1). Both the distribution of quota increases to eligible members, and the members eligible for selective and ad hoc increases have been based on the Executive Board's judgment, and quota formulas have played an important role in guiding the Executive Board's decisions on quota adjustments.

53. General quota increases have shifted actual quotas slightly in the direction of calculated quotas. The "adjustment coefficient," which measures the extent to which deviations between actual and calculated quota shares are reduced by quota share adjustments, has ranged from 1.7 percent to 28.0 percent since the Fifth Review (Table A.1). A zero value of this measure implies no reduction in the deviation between actual and calculated quotas while 100 percent would indicate a complete elimination of differences between actual and calculated quota shares.

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<sup>34</sup> Ad hoc increases have also taken place outside the context of General Reviews.

### Box A.1. Existing Quota Formulas

**Quota formulas have evolved over time.** A formula that was used in 1944 as a basis for determining the broad configuration of the initial quota distribution became known as the Bretton Woods formula. This formula contained five variables: national income, official reserves, imports, export variability, and the ratio of exports to national income. A multi-formula approach was introduced in the early 1960s, when the Bretton Woods formula was supplemented with four other formulas containing the same basic variables but with larger weights for external trade and external variability. The quota formulas were last modified in the context of the Eighth General Review (1982/1983) but their basic structure was retained (for a more comprehensive overview of quota formulas, see *Alternative Quota Formulas—Considerations*, Annex II).

**The current five formulas, used from the Eighth to the Eleventh Reviews, are:**

Bretton Woods:  $Q_1 = (0.01Y + 0.025R + 0.05P + 0.2276VC) (1 + C/Y)$ ;

Scheme III:  $Q_2 = (0.0065Y + 0.0205125R + 0.078P + 0.4052VC) (1 + C/Y)$ ;

Scheme IV:  $Q_3 = (0.0045Y + 0.03896768R + 0.07P + 0.76976VC) (1 + C/Y)$ ;

Scheme M4:  $Q_4 = 0.005Y + 0.042280464R + 0.044 (P + C) + 0.8352VC$ ;

Scheme M7:  $Q_5 = 0.0045Y + 0.05281008R + 0.039 (P + C) + 1.0432VC$ ;

where:

$Q_1, Q_2, Q_3, Q_4$  and  $Q_5$  = Calculated quotas for each formula;

$Y$  = GDP at current market prices for a recent year;

$R$  = twelve-month average of gold, foreign exchange reserves, SDR 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).**

54. The shifts in actual quotas shares during General Reviews have broadly reflected the differences in economic developments among members between Reviews for the membership as a whole. However, large discrepancies between actual and calculated quota shares remain for certain members. The extent to which distributions of calculated and actual quotas have converged over time for the membership as a whole can be approximated by the “convergence index,” defined as 100 percent minus the aggregate of positive (or aggregate of negative) deviations of actual from calculated quota shares. According to this measure, until



recently, quota adjustments have on average restored the convergence index to a level that prevailed just after previous general reviews.<sup>35</sup>

Table A.1. Adjustment Coefficients and Convergence Indices

	Fifth Review	Sixth Review	Seventh Review	Eighth Review	Ninth Review	Tenth Review	Eleventh Review	Twelfth Review 3/
Adjustment coefficient 1/	11.5	5.4	1.7	19.3	28.0	0.0	14.4	0.0
Convergence index 2/	89.2	85.3	83.2	85.6	89.9	85.4	85.6	83.0

Sources: *External Review of Quota Formulas—Annex*, p. 44; and staff estimates

1/ The adjustment coefficient measures the extent to which deviations between actual and calculated quotas are reduced by quota share adjustments.

2/ The convergence index can be used to measure the extent to which actual quota distributions become aligned over time, i.e., it measures cumulative convergence between actual and calculated quota shares.

3/ Based on actual quotas and updated results of the traditional five formulas; excludes Timor Leste.

## B. Overview of Methods Used in Past Selective and Ad Hoc Quota Increases

55. The methods used in effecting selective and ad hoc increases to attain changes in quota shares have evolved over time (Box A.2). Quota formulas have played a critical role in the context of such increases, although the effective weight of the calculated quotas has remained relatively limited.

<sup>35</sup> For more discussion on convergence over time of actual quotas toward calculated quotas, or lack thereof, see *External Review of the Quota Formulas—Annex*.

### **Box A.2. Selective and Ad Hoc Quota Increases in the Context of General Reviews**

The methods used in allocating selective and ad hoc quota increases in General Reviews of Quotas have evolved over time. Prior to the Eighth Review, when selective increases were allocated only to a subset of members, the distinction between selective and ad hoc elements was not clear cut.

**1958/1959 Review** The February 1959 resolution provided special increases for three countries (Canada, Germany and Japan) to reflect both economic factors (i.e., their position in world trade and their recent relative economic growth) and their ability to contribute to the Fund's liquidity. The resolution adopted in April 1959 provided for special increases for 14 additional countries (other than those eligible for increases under the small quota policy), largely on the basis that their relative positions had been adversely affected by the quota increases of other members and by the increases in the Fund membership.

**Fourth Quinquennial Review** Selective increases in quotas were authorized for 16 countries whose quotas were relatively low as compared with their calculated quotas (i.e., lower by 25 percent) and also with other members' quotas, especially those that were eligible for increases under the Compensatory Financing Decision. Furthermore, quotas for five industrial countries (Austria, Canada, Germany, Japan and Sweden) were increased in order to maintain or enhance the Fund's liquidity.

**Fifth General Review** The list of members for selective quota increases included each member whose calculated quota exceeded its actual quota (or which exceeded actual quotas after taking account of the amount of the equiproportional increase or exceeded actual quotas by certain percentage) or whose share in calculated quotas exceeded its share in actual quotas. 78 members were authorized to increase their quotas by amounts larger than the equiproportional increase and one member increased its quota by less than that amount.

**Sixth General Review** Selective increases were determined on the basis of major country groupings in the context of doubling of the aggregate share of the group of oil exporting countries. This approach provided 41 countries an increase in their quota shares. The selective increases were allocated to eligible members in proportion to their shares in the sum of the excesses of calculated over actual quotas.

**Seventh General Review** Only 11 members shared in a small amount allocated for selective increase in this review that essentially aimed at increasing all members' quotas by 50 percent. Distribution of selective increases was based on an approach that combined members' shares in the excess of calculated over actual quota with creditor positions in the Fund to form the distribution key.

**Eighth General Review** The selective quota increase was distributed among all members in proportion to their calculated quotas. In addition, very small quotas were rounded up in multiples of SDR 0.5 million.

**Ninth General Review** The selective quota increase was distributed among all members in proportion to their calculated quotas. In addition, very small quotas were rounded up in multiples of SDR 0.5 million. Furthermore, before rounding, the very small quotas of four countries were increased by such amounts as to raise their then existing shares in quotas up to their calculated quota shares. There was also a redistribution of quota increases among the largest seven industrial countries to accommodate an ad hoc increase in the quota of Japan in such a manner that the quota increases for the rest of the membership were unaffected.

**Eleventh General Review** The selective quota increase, which amounted to 15 percent of the total increase, was distributed among all members in proportion to their calculated quotas. The ad hoc component was 10 percent of the overall increase. Of this, 9 percent was distributed to 38 members with ratios of calculated over Ninth Review quota shares greater than one. The remaining one percent of the overall increase was distributed to five members (Korea, Luxembourg, Singapore, Malaysia, and Thailand—all NAB participants) whose quotas were significantly out of line with their relative economic positions and which were expected to contribute to the Fund's liquidity over the medium term.

56. Calculated quotas have played a key role both in determining which countries are eligible for selective quota increases and the distribution of selective quota increases. Since the Eighth Review (1983) the selective quota increases have been allocated to all members in proportion to their calculated quotas.

57. Ad hoc increases for particular countries have been used to address the most serious disparities in the quota distribution. However, determining the eligibility of members for ad hoc increases in their quotas is difficult since such increases tend to change the ranking of countries in the Fund; they are borne proportionally by all other members; and they inevitably create issues of comparability with other members not considered eligible but whose quotas do not adequately reflect their position in the world economy.

58. The total number of ad hoc quota increases approved throughout the Fund's history has been small and such increases have occurred both outside and within the context of General Reviews. Bearing in mind that ad hoc increases in quotas have always been considered following requests initiated by the member itself, in most cases such increases have been of an exceptional nature.

59. There have been 19 ad hoc increases outside a General Quota Review, the bulk of which occurred in the early days of the Fund, as shown in Table A.2. The initial increases were to correct obvious anomalies in the early years of the Fund, for example raising quotas for those members whose initial quotas had been fixed at unduly low levels at the time of the Bretton Woods Conference. However, since the 1970s the Executive Board generally has concluded that ad hoc increases should normally be considered in the context of a General Review. This position has been generally followed except for four ad hoc cases undertaken to address specific issues. Two of these—for China in 1980 and Cambodia in 1994—were associated with the resumption of active relations with the Fund by these countries. The third increase for Saudi Arabia in 1981 was associated with the very large-scale borrowing by the Fund from that member over a relatively long period of time and also that its quota was low in relation to its relative economic size. The final increase was for China in 2001 following its resumption of sovereignty over Hong Kong.

60. The Fund has on occasions agreed to ad hoc increases in quotas of a few members within the context of a General Review as a means to improve the liquidity of the Fund or to achieve a better balance in the overall structure of quotas (Box A.2). These increases were characterized as ad hoc because they were proportionally larger than the increases for all other members.

**Table A.2. Ad Hoc Increases In Fund Quotas Outside a General Quota Review 1/**

Member	Year Resolution Adopted	Justification for Increase
France	1946	Low initial level
Paraguay	1946	Low initial level
Egypt	1948	Low initial level
Iran	1948	Low initial level
Honduras	1952	Its quota was reduced at its request in 1948, but restored to the original amount in 1952.
Philippines	1958	Low initial level
Australia	1960	"Catch-up" to 1959 review
Chile	1960	"Catch-up" to 1959 review
Colombia	1960	"Catch-up" to 1959 review
Yugoslavia	1960	"Catch-up" to 1959 review
Egypt	1962	Export variability
Israel	1964	"Borderline" case associated with increases in the quotas for other members linked to the Compensatory Financing Decision of 1963
Malaysia	1964	"Borderline" case associated with increases in the quotas for other members linked to the Compensatory Financing Decision of 1963
Italy	1964	Improve Fund liquidity and comparability with quotas of other members
Lao People's Dem. Rep.	1969	"Catch up" to Fourth Review
China	1980	Change in representation
Saudi Arabia	1981	Improve Fund liquidity and conclude borrowing arrangement
Cambodia	1994	Resumption of Fund relations
China	2001	Resumption of sovereignty over Hong Kong

1/ The quota increases shown here exclude the quota increases authorized under the small quota policy of 1955 and in connection with the 1963 Decision on Compensatory Financing of Export Fluctuations.

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual Quotas 1/ (In millions of SDRs)	Actual Quota Shares 1/	Existing Five Formulas 2/	GDP 1997-99	Openness 3/ 1995-99	Variability 4/ 1987-99	Reserves 5/ 1999
United States	37,149.3	17.382	16.623	29.459	15.312	15.371	4.778
Japan	13,312.8	6.229	8.472	14.248	7.798	5.209	15.827
Germany	13,008.2	6.087	7.568	7.126	8.859	7.500	4.201
France	10,738.5	5.025	4.654	4.800	5.366	4.166	2.683
United Kingdom	10,738.5	5.025	5.958	4.676	6.860	2.704	2.007
Italy	7,055.5	3.301	3.646	3.960	4.341	3.082	1.642
Saudi Arabia	6,985.5	3.269	0.918	0.467	0.779	1.705	0.956
Canada	6,369.2	2.980	2.765	2.118	3.388	1.821	1.622
China	6,369.2	2.980	4.761	3.745	5.107	3.970	9.754
Russia	5,945.4	2.782	1.301	1.009	1.190	2.100	0.513
Netherlands	5,162.4	2.416	2.957	1.271	3.428	1.587	0.754
Belgium	4,605.2	2.155	2.132	0.830	2.396	2.179	0.754
India	4,158.2	1.946	0.858	1.409	0.732	0.765	1.990
Switzerland	3,458.5	1.618	1.614	0.868	1.862	1.389	2.529
Australia	3,236.4	1.514	1.107	1.307	1.160	1.125	1.006
Spain	3,048.9	1.427	1.989	1.883	2.255	1.972	2.466
Brazil	3,036.1	1.421	1.104	2.374	0.936	0.875	2.445
Venezuela	2,659.1	1.244	0.329	0.322	0.287	0.417	0.760
Mexico	2,585.8	1.210	1.455	1.455	1.641	1.729	2.019
Sweden	2,395.5	1.121	1.368	0.798	1.448	1.760	0.937
Argentina	2,117.1	0.991	0.587	0.978	0.490	0.924	1.514
Indonesia	2,079.3	0.973	0.734	0.505	0.742	0.812	1.633
Austria	1,872.3	0.876	1.153	0.701	1.331	0.815	1.005
South Africa	1,868.5	0.874	0.394	0.460	0.457	0.460	0.338
Nigeria	1,753.2	0.820	0.270	0.338	0.191	0.494	0.332

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Norway	1,671.7	0.782	0.786	0.508	0.781	0.752	1.169
Denmark	1,642.8	0.769	1.122	0.581	1.095	1.424	1.359
Korea	1,633.6	0.764	1.842	1.339	2.031	1.510	3.994
Iran	1,497.2	0.701	0.358	0.666	0.235	0.490	0.001
Malaysia	1,486.6	0.696	1.271	0.281	1.132	0.997	1.887
Kuwait	1,381.1	0.646	0.382	0.095	0.229	1.702	0.278
Ukraine	1,372.0	0.642	0.385	0.137	0.244	1.058	0.058
Poland	1,369.0	0.641	0.583	0.512	0.583	1.115	1.749
Finland	1,263.8	0.591	0.597	0.424	0.623	0.997	0.461
Algeria	1,254.7	0.587	0.188	0.161	0.153	0.288	0.329
Iraq	1,188.4	0.556	0.206	0.111	0.085	0.808	0.057
Libya	1,123.7	0.526	0.145	0.107	0.101	0.175	0.451
Thailand	1,081.9	0.506	0.865	0.430	0.923	1.169	1.957
Hungary	1,038.4	0.486	0.341	0.157	0.323	0.578	0.614
Pakistan	1,033.7	0.484	0.164	0.209	0.177	0.128	0.111
Romania	1,030.2	0.482	0.172	0.126	0.143	0.230	0.162
Turkey	964.0	0.451	0.650	0.663	0.672	1.071	1.427
Egypt	943.7	0.442	0.340	0.288	0.256	0.855	1.055
Israel	928.2	0.434	0.472	0.342	0.527	0.517	1.402
New Zealand	894.6	0.419	0.244	0.196	0.263	0.310	0.255
Philippines	879.9	0.412	0.564	0.250	0.534	0.671	0.790
Portugal	867.4	0.406	0.534	0.361	0.598	0.382	0.571
Singapore	862.5	0.404	2.792	0.292	1.847	1.893	4.728
Chile	856.1	0.401	0.286	0.241	0.276	0.392	0.944
Ireland	838.4	0.392	1.123	0.292	1.078	3.143	0.337

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Greece	823.0	0.385	0.372	0.412	0.353	0.692	1.304
Czech Republic	819.3	0.383	0.418	0.184	0.423	0.508	0.775
Colombia	774.0	0.362	0.217	0.324	0.210	0.202	0.531
Bulgaria	640.2	0.300	0.115	0.039	0.083	0.239	0.171
Peru	638.4	0.299	0.151	0.187	0.133	0.305	0.587
United Arab Emirates	611.7	0.286	0.552	0.166	0.481	0.464	0.616
Morocco	588.2	0.275	0.140	0.116	0.153	0.141	0.320
Bangladesh	533.3	0.250	0.102	0.151	0.100	0.101	0.102
Congo, Dem. Republic of	533.0	0.249	0.031	0.025	0.022	0.045	0.009
Zambia	489.1	0.229	0.024	0.012	0.019	0.154	0.004
Yugoslavia	467.7	0.219	0.128	0.048	0.061	0.434	0.018
Sri Lanka	413.4	0.193	0.072	0.052	0.083	0.055	0.111
Belarus	386.4	0.181	0.112	0.046	0.089	0.106	0.021
Ghana	369.0	0.173	0.032	0.025	0.035	0.046	0.025
Kazakstan	365.7	0.171	0.194	0.069	0.094	0.449	0.082
Croatia	365.1	0.171	0.130	0.069	0.124	0.225	0.171
Slovak Republic	357.5	0.167	0.180	0.069	0.163	0.226	0.183
Zimbabwe	353.4	0.165	0.036	0.022	0.039	0.031	0.015
Trinidad and Tobago	335.6	0.157	0.039	0.021	0.039	0.042	0.049
Vietnam	329.1	0.154	0.157	0.092	0.165	0.122	0.104
Cote d'Ivoire	325.2	0.152	0.057	0.038	0.067	0.051	0.050
Sudan	315.1	0.147	0.027	0.033	0.019	0.065	0.009
Uruguay	306.5	0.143	0.057	0.073	0.057	0.056	0.134
Ecuador	302.3	0.141	0.072	0.059	0.079	0.072	0.104
Syrian Arab Republic	293.6	0.137	0.108	0.235	0.079	0.093	0.003

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Tunisia	286.5	0.134	0.100	0.067	0.118	0.068	0.119
Angola	286.3	0.134	0.214	0.023	0.076	0.514	0.014
Luxembourg	279.1	0.131	1.554	0.062	0.763	0.985	0.004
Uzbekistan	275.6	0.129	0.221	0.053	0.053	0.707	0.025
Jamaica	273.5	0.128	0.047	0.024	0.054	0.036	0.042
Kenya	271.4	0.127	0.039	0.037	0.046	0.039	0.045
Qatar	263.8	0.123	0.079	0.038	0.070	0.188	0.074
Myanmar	258.4	0.121	0.029	0.022	0.030	0.050	0.021
Yemen, Republic of	243.5	0.114	0.107	0.021	0.050	0.318	0.071
Slovenia	231.7	0.108	0.146	0.065	0.140	0.096	0.216
Dominican Republic	218.9	0.102	0.116	0.054	0.107	0.111	0.035
Brunei Darussalam	215.2	0.101	0.050	0.015	0.049	0.066	0.003
Guatemala	210.2	0.098	0.049	0.062	0.053	0.065	0.077
Panama	206.6	0.097	0.123	0.031	0.121	0.110	0.061
Lebanon	203.0	0.095	0.076	0.053	0.062	0.165	0.464
Tanzania	198.9	0.093	0.025	0.028	0.026	0.019	0.041
Oman	194.0	0.091	0.108	0.051	0.095	0.091	0.149
Cameroon	185.7	0.087	0.027	0.031	0.029	0.059	0.000
Uganda	180.5	0.084	0.021	0.022	0.020	0.022	0.047
Bolivia	171.5	0.080	0.025	0.028	0.024	0.022	0.052
El Salvador	171.3	0.080	0.054	0.040	0.053	0.065	0.123
Jordan	170.5	0.080	0.071	0.026	0.072	0.115	0.148
Bosnia-Herzegovina	169.1	0.079	0.171	0.012	0.035	0.536	0.016
Costa Rica	164.1	0.077	0.070	0.047	0.081	0.056	0.086
Afghanistan, Islamic State of	161.9	0.076	0.006	0.008	0.005	0.011	0.010



Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Senegal	161.8	0.076	0.023	0.015	0.023	0.028	0.028
Azerbaijan	160.9	0.075	0.038	0.015	0.019	0.098	0.039
Gabon	154.3	0.072	0.045	0.017	0.035	0.049	0.000
Georgia	150.3	0.070	0.017	0.011	0.014	0.038	0.008
Lithuania	144.2	0.067	0.072	0.035	0.063	0.077	0.083
Cyprus	139.6	0.065	0.054	0.030	0.059	0.064	0.099
Namibia	136.5	0.064	0.025	0.011	0.029	0.017	0.017
Bahrain	135.0	0.063	0.186	0.021	0.116	0.399	0.083
Ethiopia	133.7	0.063	0.080	0.020	0.027	0.297	0.025
Papua New Guinea	131.6	0.062	0.035	0.014	0.032	0.046	0.008
Bahamas, The	130.3	0.061	0.027	0.012	0.029	0.025	0.027
Nicaragua	130.0	0.061	0.024	0.007	0.022	0.037	0.030
Honduras	129.5	0.061	0.034	0.017	0.033	0.032	0.066
Liberia	129.2	0.060	0.066	0.003	0.012	0.009	0.000
Latvia	126.8	0.059	0.043	0.021	0.039	0.043	0.052
Moldova	123.2	0.058	0.022	0.005	0.014	0.023	0.012
Madagascar	122.2	0.057	0.013	0.012	0.014	0.018	0.012
Iceland	117.6	0.055	0.031	0.027	0.037	0.034	0.028
Mozambique	113.6	0.053	0.041	0.013	0.019	0.116	0.041
Guinea	107.1	0.050	0.014	0.012	0.013	0.014	0.013
Sierra Leone	103.7	0.049	0.003	0.002	0.002	0.012	0.002
Malta	102.0	0.048	0.052	0.012	0.046	0.037	0.108
Mauritius	101.6	0.048	0.032	0.014	0.035	0.029	0.041
Paraguay	99.9	0.047	0.060	0.029	0.058	0.065	0.053
Mali	93.3	0.044	0.012	0.009	0.012	0.011	0.024

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Suriname	92.1	0.043	0.012	0.003	0.006	0.017	0.005
Armenia	92.0	0.043	0.011	0.006	0.010	0.013	0.020
Guyana	90.9	0.043	0.019	0.002	0.011	0.022	0.016
Kyrgyz Republic	88.8	0.042	0.073	0.005	0.010	0.272	0.013
Cambodia	87.5	0.041	0.018	0.010	0.016	0.017	0.023
Tajikistan	87.0	0.041	0.043	0.004	0.010	0.120	0.000
Congo, Republic of	84.6	0.040	0.028	0.007	0.025	0.081	0.000
Haiti	81.9	0.038	0.014	0.012	0.012	0.028	0.017
Somalia	81.7	0.038	0.002	0.002	0.002	0.002	0.001
Rwanda	80.1	0.037	0.009	0.006	0.006	0.017	0.010
Burundi	77.0	0.036	0.003	0.003	0.002	0.008	0.004
Turkmenistan	75.2	0.035	0.054	0.010	0.023	0.108	0.093
Togo	73.4	0.034	0.011	0.005	0.009	0.018	0.008
Nepal	71.3	0.033	0.020	0.017	0.020	0.023	0.051
Fiji	70.3	0.033	0.017	0.006	0.016	0.013	0.026
Malawi	69.4	0.032	0.011	0.007	0.011	0.012	0.016
Macedonia, FYR	68.9	0.032	0.049	0.012	0.025	0.095	0.022
Barbados	67.5	0.032	0.015	0.008	0.017	0.011	0.021
Niger	65.8	0.031	0.006	0.006	0.006	0.023	0.003
Estonia	65.2	0.031	0.050	0.017	0.048	0.060	0.048
Mauritania	64.4	0.030	0.008	0.003	0.007	0.014	0.013
Botswana	63.0	0.029	0.061	0.017	0.042	0.073	0.374
Benin	61.9	0.029	0.011	0.008	0.010	0.014	0.018
Burkina Faso	60.2	0.028	0.010	0.008	0.010	0.026	0.020
Chad	56.0	0.026	0.007	0.005	0.007	0.007	0.007

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual	Actual Quota	Existing Five	GDP	Openness 3/	Variability 4/	Reserves 5/
	Quotas 1/ (In millions of SDRs)	Shares 1/	Formulas 2/	1997-99	1995-99	1987-99	1999
Central African Republic	55.7	0.026	0.006	0.003	0.005	0.007	0.009
Lao, People's Dem. Republic	52.9	0.025	0.008	0.005	0.008	0.009	0.007
Mongolia	51.1	0.024	0.011	0.003	0.008	0.051	0.006
Swaziland	50.7	0.024	0.018	0.005	0.018	0.011	0.023
Albania	48.7	0.023	0.023	0.010	0.013	0.053	0.023
Lesotho	34.9	0.016	0.016	0.003	0.012	0.010	0.034
Equatorial Guinea	32.6	0.015	0.008	0.002	0.007	0.009	0.000
Gambia, The	31.1	0.015	0.004	0.001	0.004	0.006	0.007
Belize	18.8	0.009	0.004	0.002	0.005	0.004	0.004
San Marino	17.0	0.008	0.036	0.003	0.023	0.015	0.000
Vanuatu	17.0	0.008	0.003	0.001	0.003	0.005	0.003
Eritrea	15.9	0.007	0.008	0.003	0.006	0.012	0.009
Djibouti	15.9	0.007	0.005	0.002	0.004	0.007	0.004
St. Lucia	15.3	0.007	0.005	0.002	0.006	0.003	0.005
Guinea-Bissau	14.2	0.007	0.002	0.001	0.001	0.004	0.002
Antigua and Barbuda	13.5	0.006	0.005	0.002	0.006	0.007	0.004
Grenada	11.7	0.005	0.003	0.001	0.003	0.002	0.003
Samoa	11.6	0.005	0.002	0.001	0.002	0.001	0.004
Solomon Islands	10.4	0.005	0.003	0.001	0.003	0.004	0.003
Cape Verde	9.6	0.004	0.003	0.002	0.004	0.003	0.001
St. Kitts and Nevis	8.9	0.004	0.002	0.001	0.002	0.004	0.003
Comoros	8.9	0.004	0.001	0.001	0.001	0.002	0.002
Seychelles	8.8	0.004	0.005	0.002	0.005	0.004	0.002
St. Vincent and the Grenadine	8.3	0.004	0.003	0.001	0.003	0.002	0.002
Maldives	8.2	0.004	0.005	0.002	0.005	0.003	0.008

Quotas and Updated Variables by Member  
(In percent, unless otherwise noted)

	Actual Quotas 1/ (In millions of SDRs)	Actual Quota Shares 1/	Existing Five Formulas 2/	GDP 1997-99	Openness 3/ 1995-99	Variability 4/ 1987-99	Reserves 5/ 1999
Dominica	8.2	0.004	0.002	0.001	0.002	0.002	0.002
Timor-Leste	8.2	0.004	n.a.	n.a.	n.a.	n.a.	n.a.
Sao Tome and Principe	7.4	0.003	0.000	0.000	0.000	0.001	0.001
Tonga	6.9	0.003	0.001	0.001	0.001	0.002	0.002
Bhutan	6.3	0.003	0.004	0.001	0.003	0.006	0.017
Kiribati	5.6	0.003	0.003	0.000	0.001	0.001	0.017
Micronesia, Fed. States of	5.1	0.002	0.004	0.001	0.002	0.007	0.009
Marshall Islands	3.5	0.002	0.001	0.000	0.001	0.002	0.001
Palau, Republic of	3.1	0.001	0.002	0.000	0.001	0.004	0.001

Sources: *Alternative Quota Formulas—Further Considerations—Statistical Appendix*, Tables 1, 3 and 5; and quota for Timor-Leste. Data converted into shares in world totals where needed.

1/ For the five countries that have not yet consented to and paid for their quota increases, 11th Review proposed quotas are used.

2/ Based on 1987-99 data and computed as traditionally specified, except that current receipts and payments have not been adjusted for official transfers, reexports, and international banking interest (see Box A.1 and *Alternative Quota Formulas—Further Considerations—Statistical Appendix*, Box 2).

3/ Average sum of current receipts and current payments, not adjusted for official transfers, reexports, and international banking interest.

4/ Variability of current receipts and net capital inflows, measured as a standard deviation from centered 3-year trend.

5/ Average international reserves in 1999 based on end-month data.