IMF POLICY PAPER

QUOTA FORMULA—DATA UPDATE AND FURTHER CONSIDERATIONS

IMF staff regularly produces papers proposing new IMF policies, exploring options for reform, or reviewing existing IMF policies and operations. The following documents have been separately released:

- The **Staff Report** prepared by IMF staff and completed on July 2, 2014.

- **Staff Supplement** on *Quota Formula – Data Update and Further Considerations – Annexes.*

- **Staff Supplement** on *Quota Formula – Data Update and Further Considerations – Statistical Appendix.*

These documents were prepared by IMF staff and were presented to the Executive Board in an informal session on July 24, 2014. Such informal sessions are used to brief Executive Directors on policy issues, and to receive feedback from them. No decisions are taken at these informal sessions. The views expressed in this paper are those of the IMF staff and do not necessarily present the views of the IMF's Executive Board.

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**International Monetary Fund
Washington, D.C.**

INTERNATIONAL MONETARY FUND

QUOTA FORMULA—DATA UPDATE AND FURTHER CONSIDERATIONS

EXECUTIVE SUMMARY

Data update. The quota database has been updated by one year through 2012. It also incorporates the recently released 2011 International Comparison Program (ICP) global estimates of purchasing power parity (PPP) rates.

- The 2011 ICP estimates are based on broader country coverage than the 2005 estimates as well as further methodological improvements. The 2011 ICP PPP estimates point to a markedly higher aggregate share of emerging markets and developing countries (EMDCs) in global PPP GDP (58.1 percent versus 52.8 percent on the basis of 2005 ICP data), with Asia recording the largest gains and the largest reductions recorded predominantly by the largest advanced countries.

- Overall, the results of the quota database update continue the broad trends observed in previous updates. Using the current quota formula, the calculated quota share (CQS) of EMDCs as a group increases by 2.1 percentage points (pp) to 47.4 percent relative to the 2013 update. This reflects a further increase of 1.2 pp from updating the data by one year and an additional 1.0 pp from incorporating the new ICP PPP data.

Quota variables—taking stock. The paper takes stock of previous discussions and revisits those aspects of the quota formula that appear to have generated the most intense discussions. On PPP GDP, the paper discusses the main changes introduced with the 2011 ICP and their impact on individual members' PPP GDP. Staff also revisits the PPP data quality in light of the ICP update and concludes that the quality of PPP data is broadly comparable to other data used in the quota formula. On openness, the paper reexamines its characteristics and finds that the data update does not materially change the broad outcomes reported in earlier staff work.

Illustrative simulations. The paper presents a limited set of illustrative simulations of possible reforms of the quota formula using the updated quota data. The simulations take as a starting point the outcome of the comprehensive review of the quota formula (QFR) and the informal discussion in June 2013. All simulations exclude variability and explore alternative methods to re-distribute the weight of this variable. Different options for the weight of PPP GDP in the GDP blend as well as a number of alternative openness measures are also considered, as is an increase in compression. *These simulations are purely illustrative and do not represent proposals.*

Approved By	Prepared by the Finance Department
Andrew Tweedie	(In collaboration with the Statistics Department)

CONTENTS

INTRODUCTION[1]

1.   **This paper presents a further update of the quota database.** It includes the impact of updating the data on GDP, openness, variability, and reserves by another year through 2012 and incorporating the 2011 global estimates of PPP rates, which were released by the International Comparison Program in April 2014.

2.   **The paper also revisits those aspects of the quota variables that have generated the most intense discussions to date and presents illustrative simulations of possible reforms to the quota formula.** The simulations are based on earlier Board discussions, including the informal meeting in June 2013, and are purely illustrative.[2] Recognizing that progress in narrowing the remaining differences and agreeing on a new quota formula is only likely in the broader context of work on the 15th General Quota Review, no staff proposals are made at this stage.

UPDATED QUOTA DATABASE

3.   **Staff has updated the quota database through 2012.** The update advances by one year the data presented last June, using the same sources as in past updates (see Box 1 and the Statistical Appendix).[3] It also reflects the recently released 2011 International Comparison Program (ICP) global estimates of purchasing power parity (PPP) rates.[4] The new ICP PPP estimates for 2011 reflect broader country coverage (179 countries versus 146 previously) as well as further methodological improvements. The new quota data continue to reflect the global financial crisis, although the impact is gradually diminishing.

4.   **The results in terms of calculated quota shares (CQS) for the main country groups and individual members are shown in Tables 1 and A1.** These results and those presented in the rest of this section are based on the current quota formula. The IMFC has urged the Executive Board to agree on a new quota formula as part of its work on the 15th General Review.[5]

5.   **The new data continue the broad trends observed in previous updates.** Based on the current quota formula, the CQS of emerging market and developing countries (EMDCs) as a group increases by 2.1 percentage points (pp) to 47.4 percent relative to the 2013 update (Table 1).[6] This

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[1] This paper was prepared by a staff team led by S. Bassett, and comprising H. Treichel, C. Janada, R. Zhang, B. Hacibedel, I. Lamba, A. Perez, and C. Borisova (all FIN). K. Zieschang (STA) and T. Krueger (FIN) also contributed.

[2] Individual country data and simulation results, as well as some additional technical material, are presented in the Statistical Appendix and Annexes (circulated separately).

[3] *Quota Formula—Data Update and Further Considerations* (6/5/13) http://www.imf.org/external/np/pp/eng/2013/060513.pdf.

[4] See: *http://siteresources.worldbank.org/ICPEXT/Resources/ICP_2011.html*.

[5] IMFC Communiqué, October 2013.

[6] The current formula includes four variables (GDP, openness, variability, and reserves), expressed in shares of global totals, with the variables assigned weights totaling to 1.0. The formula also includes a compression factor that

(continued)

reflects a further increase of 1.2 pp from updating the data by one year (similar in magnitude to the results of last year's update) and an additional 1.0 pp gain from incorporating the new ICP PPP rates (see below). The largest gains in EMDC shares continue to be recorded by Asia, followed by Middle East, Malta, and Turkey, while remaining regions register modest increases. Among the advanced economies (AEs), the largest economies account for over three fourths of the 2.1 pp decline in share—all countries in this group record a decline. The share of other advanced economies as a group falls by 0.5 pp, compared to a decline of 0.2 pp in the previous update.

6.   **Over a longer timeframe, there have been sizable shifts in CQS since the current quota formula was agreed in 2008.** The aggregate CQS of EMDCs has risen by about 11.2 pp since the 2008 reform, which was based on data through 2005 (and by 5.7 pp since the 14th Review, based on data through 2008). Most of this increase has come at the expense of the major advanced economies, while other advanced economies have recorded a more moderate decline (Figure 1). Within the group of EMDCs, the shifts in CQS have diverged significantly. China has accounted for close to half of the increase, while India, Saudi Arabia, Russia, and Brazil also recorded sizable increases. Some EMDCs have lost CQS over the same period, while the aggregate share of LICs increased by about one third. All major advanced economies recorded sizable declines, led by the US and Japan.

Box 1. Data Sources and Methodology 1/

The data sources and methodology remain broadly in line with past practice. The primary data source is the Fund's International Financial Statistics (IFS). Missing data were supplemented in the first instance by the World Economic Outlook (WEO) database. Remaining missing data were computed based on staff reports and, in very few instances, country desk data. As is customary, a cutoff date of January 31, 2014 for incorporating new data in the quota database was employed for IFS; consistent with this cutoff, the Fall 2013 publication was used for WEO data.

The PPP GDP data have been updated to reflect the purchasing power parity (PPP) rates from the recent 2011 International Comparison Program (ICP) and are consistent with the WEO methodology used in previous updates. The PPP GDP data are calculated by dividing a country's nominal GDP in its own currency by its corresponding PPP factor. The 2011 International Comparison Program (ICP) PPP factors were extended to include 2010 and 2012 using WEO methodology. As discussed in Annex I, the new ICP PPP rates provide broader country coverage and include methodological changes, which result in significant changes at the aggregate and country level.

The data for openness and variability reflect the ongoing implementation of BPM6, which was introduced in the previous update. Country coverage has broadened with this update to include 42 members compared

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reduces dispersion in calculated quota shares. The formula is CQS = (0.50*GDP + 0.30*Openness +0.15*Variability + 0.05*Reserves)^K. GDP is blended using 60 percent market and 40 percent PPP exchange rates; K is a compression factor of 0.95.

> **Box 1. Data Sources and Methodology (concluded)**
>
> with 20 previously. Under the BPM6 methodology, the full value of goods for processing is no longer counted under the reported (gross) exports and imports (these are goods processed under contract for an explicit fee by a non-resident processing entity, where the goods being processed do not change ownership); rather only the fees from processing are recorded under services. As discussed in Annex I of *Quota Formula—Data Update and Further Considerations*, June 5, 2013, the overall impact of this change is relatively modest.
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> 1/ See the Statistical Appendix for additional details.

Table 1. Distribution of Quotas and Calculated Quotas
(In percent)

	Quota Shares		Calculated Quota Shares 1/ 2/			
	Post Second Round 3/	14th Review 4/	2008 Reform (2005) 5/	14th General Review	Previous (2011)	Current (2012)
Advanced economies	60.4	57.6	63.8	58.2	54.7	52.6
Major advanced economies	45.3	43.4	47.6	42.9	39.5	37.9
United States	17.7	17.4	19.0	17.0	15.6	14.9
Japan	6.6	6.5	8.0	6.5	6.1	6.0
Germany	6.1	5.6	6.2	5.7	5.4	5.3
France	4.5	4.2	4.0	3.8	3.5	3.3
United Kingdom	4.5	4.2	4.4	4.7	3.8	3.5
Italy	3.3	3.2	3.3	3.0	2.9	2.7
Canada	2.7	2.3	2.6	2.3	2.2	2.2
Other advanced economies	15.1	14.3	16.2	15.3	15.2	14.7
Spain	1.7	2.0	2.3	2.2	2.1	2.0
Netherlands	2.2	1.8	1.9	1.9	2.0	1.9
Australia	1.4	1.4	1.3	1.4	1.5	1.6
Belgium	1.9	1.3	1.5	1.3	1.3	1.2
Switzerland	1.5	1.2	1.2	1.2	1.3	1.3
Sweden	1.0	0.9	1.0	0.9	1.0	1.0
Austria	0.9	0.8	0.9	0.8	0.8	0.8
Norway	0.8	0.8	0.8	0.8	0.8	0.8
Ireland	0.5	0.7	1.2	1.1	0.8	0.8
Denmark	0.8	0.7	0.9	0.7	0.7	0.6
Emerging Market and Developing Countries 6/	39.6	42.4	36.2	41.8	45.3	47.4
Africa	5.0	4.4	2.8	3.1	3.4	3.5
South Africa	0.8	0.6	0.6	0.6	0.6	0.6
Nigeria	0.7	0.5	0.3	0.5	0.5	0.5
Asia	12.6	16.0	15.8	17.7	20.6	21.7
China 7/	4.0	6.4	6.4	7.9	10.1	10.5
India	2.4	2.7	2.0	2.4	2.8	3.0
Korea, Republic of	1.4	1.8	2.2	2.1	2.0	1.9
Indonesia	0.9	1.0	0.9	0.9	1.1	1.3
Singapore	0.6	0.8	1.0	1.2	1.3	1.3
Malaysia	0.7	0.8	0.9	0.8	0.8	0.8
Thailand	0.6	0.7	0.8	0.8	0.9	1.0
Middle East, Malta & Turkey	7.2	6.7	4.8	6.2	6.4	7.1
Saudi Arabia	2.9	2.1	0.8	1.3	1.4	1.7
Turkey	0.6	1.0	1.0	1.1	1.1	1.1
Iran, Islamic Republic of	0.6	0.7	0.6	0.7	0.7	0.8
Western Hemisphere	7.7	7.9	6.6	7.0	7.3	7.4
Brazil	1.8	2.3	1.7	2.2	2.3	2.4
Mexico	1.5	1.9	2.0	1.8	1.7	1.7
Venezuela, República Bolivariana de	1.1	0.8	0.4	0.5	0.5	0.5
Argentina	0.9	0.7	0.6	0.6	0.6	0.6
Transition economies	7.1	7.2	6.2	7.7	7.6	7.7
Russian Federation	2.5	2.7	2.1	2.9	2.6	2.8
Poland	0.7	0.9	0.9	0.9	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum Item:						
EU 28	32.0	30.4	33.1	31.5	29.8	28.4
LICs 8/	4.4	4.1	2.2	2.5	2.8	3.0

Source: Finance Department.

1/ These results are based on the current quota formula. The IMFC has called for agreement on a new formula as part of the work of the 15th Review. The quota formula is typically used to inform discussions on the allocation of quota increases, but other considerations are also taken into account.

2/ Based on the current formula: $CQS = (0.50*GDP + 0.30*Openness + 0.15*Variability + 0.05*Reserves)^K$. GDP blend using 60 percent market and 40 percent PPP exchange rates. K is a compression factor of 0.95.

3/ The "post second round" reflects the ad hoc quota increases for 54 members under the 2008 reform, which became effective in March 2011. Includes South Sudan which became a member on April 18, 2012. For the two countries that have not yet consented to and paid for their quota increases, 11th Review proposed quotas are used.

4/ Includes South Sudan which became a member on April 18, 2012; reflects the proposed doubling of its quota after the 14th Review becomes effective.

5/ Reflects the impact of adjustments to current receipts and payments for re-exports, international banking interest, and non-monetary gold.

6/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.

7/ Including China, P.R., Hong Kong SAR and Macao SAR.

8/ PRGT-eligible countries.

Figure 1. Evolution of CQS 2005 - 2012 1/
(In percent)
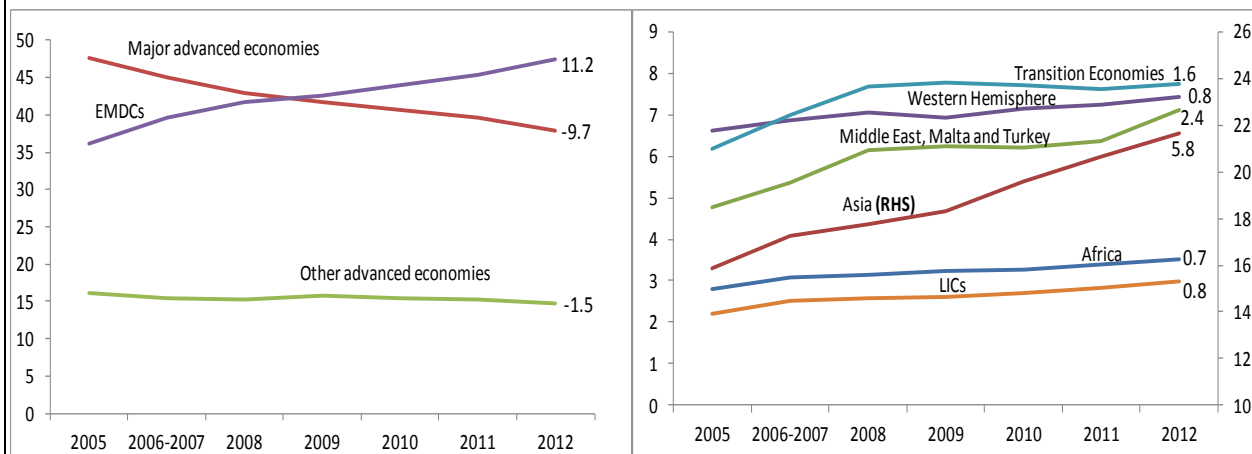
Source: Finance Department.
1/ Figures adjacent to each line denote the change in percentage points between the current CQS based on data through 2012, relative to the CQS based on data through 2005.

Figure 2. Average Real GDP Growth Rates
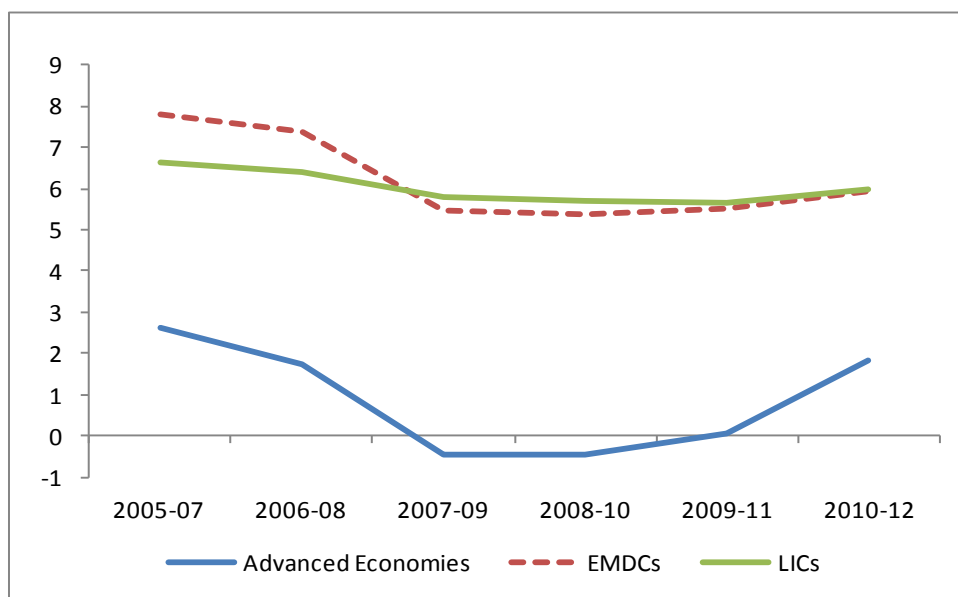
Source: Finance Department.

7.   **The 2011 ICP PPP estimates point to a markedly higher aggregate share of EMDCs in global PPP GDP** (see below and Annex I for details). Table 2b compares GDP and CQS shares based on the 2011 ICP factors with those estimated previously for 2005. The aggregate share of EMDCs as a whole in global PPP GDP rises to 58.1 percent, a 6.1 pp increase relative to the estimate in the previous update of the quota database. Of this increase, 5.3 pp is accounted for by the new ICP factors (given that PPP GDP has a 20 percent weight in the current formula, this accounts for the 1.0 pp gain noted above), and 0.8 pp reflects the one-year data update to 2012 (with unchanged 2005 ICP factors). In terms of regional breakdown, EMDCs in Asia recorded the largest gains, reflecting, among others, significant increases for Indonesia, India, and China. Russia and Saudi Arabia also record large increases. The largest reductions were recorded predominantly by the largest advanced countries—the U.S., Japan, and UK—as well as Korea.[7]

8.   **The gain in GDP share for EMDCs also reflects a continued divergence in global growth rates.** As shown in Figure 2, the growth divergence has narrowed somewhat in the latest update, but nonetheless remains sizable. EMDCs also recorded gains in their share of global openness and, to a lesser extent, variability, associated with the rebound in external flows in the wake of the global financial crisis (Table 2a and Figure 3). The share of EMDCs in global reserves declined slightly to 75.7 percent from 76.8 percent, largely influenced by the decline in China's share of 0.7 pp.

Figure 3. Developments in External Flows

Current Receipts and Net Capital Flows (billions of SDRs)

Legend: Advanced Economies — EMDCs — LICs (RHS)

Source: Finance Department.

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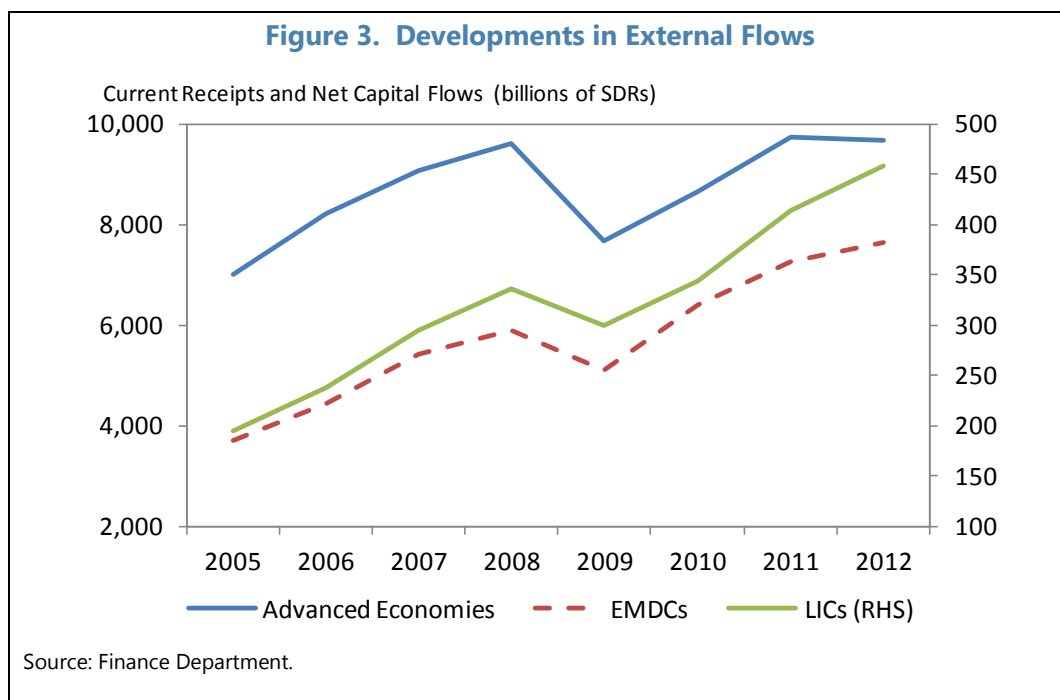
[7] Korea is one of several WEO advanced countries that continues to be included in the EMDC group to preserve continuity with the presentation of previous quota results (see *Quota Formula Review—Data Update and Issues*, Annex II, 8/17/11) http://www.imf.org/external/np/pp/eng/2011/081711.pdf.

9.   There were significant changes for some individual members. As was the case with the previous update, all the largest gainers were EMDCs. China again recorded the largest individual increase in CQS although by less than in previous updates (0.39 pp in the current update vs. 0.71 in 2013 and 0.79 in 2012). India, Saudi Arabia, and Indonesia recorded significant gains (0.25, 0.22, 0.21 pp respectively), benefitting substantially from the 2011 ICP estimates, while Russia and Brazil recorded more moderate increases (0.15 and 0.09 pp, respectively). All of the 10 largest declines in CQS (except for Korea) were recorded by AEs, with a more pronounced decline on account of the 2011 ICP estimates. The United States saw the largest individual decline (-0.7 pp), followed by the United Kingdom, France, Italy, and Germany (Table 3).

10.   Out-of-lineness based on the current formula has increased further compared to the last update. Comparing CQS with 14th Review quota shares, at the aggregate level AEs are over-represented and EMDCs under-represented by 5.1 pp, compared with 2.9 pp in the previous update (Table 4). Compared to current quota shares ("Post Second Round") EMDCs are underrepresented by 7.9 pp. Total over- and under-representation also increased since the last update. The number of underrepresented members increased to 74 compared with 68 in the previous update, and these members are under-represented by 8.7 pp of total quota shares. Almost half of this shortfall is accounted for by China.

11.   From a longer-term perspective, the CQS gains recorded by EMDCs in recent data updates reflect rising shares across all variables, except reserves. Figure 4 shows the contributions of the five quota variables to CQS for major groups during the last four data updates.[8] For EMDCs as a group, the contributions of market GDP, PPP GDP and openness are broadly similar in scale based on the latest data update (Figure 4, bottom panel). Over the four years combined, the increased contribution of PPP GDP to EMDCs' CQS is similar to that of market GDP after taking account of the 2011 ICP estimates. For advanced countries, the reverse applies as this group has steadily lost share across all 3 variables (market GDP, PPP GDP and openness). Market GDP makes the most important contribution for the major advanced economies (Figure 4, top panel), while openness is most important in the case of other advanced economies. PPP GDP makes a significantly smaller contribution in both cases.

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[8] The contribution of each quota variable is defined as each major group's aggregate share multiplied by its coefficient in the quota formula (i.e., 0.3 for market GDP and 0.2 for PPP GDP). The contributions will not equal the corresponding CQS due to compression.

Table 2a. Distribution of Quotas and Updated Quota Variables
(In percent)

	14th General Review Quota Shares 1/	GDP Blend 4/		Openness		Variability 5/		Reserves	
		Current 2/	Previous 3/	Current 2/	Previous 3/	Current 2/	Previous 3/	Current 2/	Previous 3/
Advanced economies	57.6	53.0	56.6	59.2	60.7	56.8	57.0	24.3	23.2
Major advanced economies	43.4	43.2	46.1	39.6	40.7	38.0	37.8	16.6	16.3
United States	17.4	20.5	21.6	12.9	13.0	14.8	15.8	1.5	1.5
Japan	6.5	7.0	7.5	4.3	4.3	5.7	5.1	11.9	11.5
Germany	5.6	4.5	4.8	7.8	8.0	5.9	5.4	0.7	0.7
France	4.2	3.3	3.7	4.4	4.5	2.4	2.2	0.5	0.6
United Kingdom	4.2	3.1	3.4	4.7	5.1	4.2	4.4	0.8	0.8
Italy	3.2	2.7	3.0	3.1	3.2	3.0	2.8	0.5	0.5
Canada	2.3	2.1	2.2	2.5	2.6	2.0	2.1	0.6	0.6
Other advanced economies	14.3	9.8	10.5	19.6	20.0	18.8	19.2	7.8	6.9
Spain	2.0	1.9	2.1	2.3	2.4	2.2	2.1	0.3	0.2
Netherlands	1.8	1.0	1.1	3.0	3.1	2.8	2.9	0.2	0.2
Australia	1.4	1.7	1.6	1.5	1.4	1.4	1.4	0.4	0.4
Belgium	1.3	0.6	0.7	2.1	2.1	1.6	1.6	0.2	0.2
Switzerland	1.2	0.7	0.7	2.0	2.0	0.7	0.8	3.6	2.7
Sweden	0.9	0.6	0.6	1.2	1.3	1.5	1.6	0.4	0.5
Austria	0.8	0.5	0.6	1.1	1.1	0.9	0.9	0.1	0.1
Norway	0.8	0.5	0.5	0.9	0.9	1.4	1.5	0.5	0.5
Ireland	0.7	0.3	0.3	1.3	1.4	1.2	1.3	0.0	0.0
Denmark	0.7	0.4	0.4	0.8	0.9	0.7	0.7	0.8	0.9
Emerging Market and Developing Countries 6/	42.4	47.0	43.4	40.8	39.3	43.2	43.0	75.7	76.8
Africa	4.4	2.8	2.7	2.8	2.7	4.1	4.0	3.8	3.9
South Africa	0.6	0.6	0.6	0.5	0.5	0.3	0.3	0.4	0.4
Nigeria	0.5	0.4	0.4	0.4	0.4	0.6	0.6	0.4	0.4
Asia	16.0	23.5	21.4	19.7	18.9	14.7	15.4	44.8	46.2
China 7/	6.4	12.6	11.7	8.7	8.5	5.8	5.9	31.5	32.2
India	2.7	4.2	3.7	2.0	1.8	1.6	1.6	2.6	2.9
Korea, Republic of	1.8	1.6	1.7	2.5	2.4	1.1	1.3	3.0	3.1
Indonesia	1.0	1.6	1.2	0.8	0.7	0.8	0.8	1.0	1.1
Singapore	0.8	0.4	0.4	2.2	2.1	1.9	2.3	2.4	2.4
Malaysia	0.8	0.5	0.5	1.0	1.0	1.0	0.9	1.3	1.3
Thailand	0.7	0.7	0.6	1.0	1.0	1.3	1.3	1.6	1.8
Middle East, Malta & Turkey	6.7	6.1	5.1	5.8	5.4	8.7	8.0	11.0	10.4
Saudi Arabia	2.1	1.2	0.8	1.2	1.1	2.7	2.7	5.8	5.0
Turkey	1.0	1.2	1.2	0.9	0.9	1.2	1.3	0.8	0.9
Iran, Islamic Republic of	0.7	0.9	0.9	0.4	0.4	0.5	0.3	1.0	0.9
Western Hemisphere	7.9	8.2	8.1	5.2	5.0	6.5	6.2	7.4	7.1
Brazil	2.3	3.2	3.1	1.2	1.1	1.6	1.5	3.5	3.4
Mexico	1.9	1.8	1.8	1.6	1.5	1.7	1.5	1.5	1.3
Venezuela, República Bolivariana de	0.8	0.5	0.5	0.3	0.3	0.6	0.6	0.1	0.1
Argentina	0.7	0.7	0.7	0.4	0.4	0.5	0.6	0.4	0.5
Transition economies	7.2	6.4	6.1	7.4	7.2	9.3	9.4	8.5	9.2
Russian Federation	2.7	3.0	2.7	2.2	2.1	2.7	2.8	4.5	4.8
Poland	0.9	0.8	0.8	1.1	1.1	1.0	1.0	0.9	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum Items:									
EU 28	30.4	22.1	24.2	38.2	39.7	33.8	33.3	7.4	7.8
LICs 8/	4.1	2.5	2.3	2.3	2.2	3.1	3.0	1.9	1.9

Source: Finance Department.

1/ Includes South Sudan which became a member on April 18, 2012; reflects the proposed doubling of its quota after the 14th Review becomes effective.

2/ Based on IFS data through 2012.

3/ Based on IFS data through 2011.

4/ GDP blend using 60 percent market and 40 percent PPP exchange rates.

5/ Variability of current receipts minus net capital flows (due to change in sign convention in BPM6).

6/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.

7/ Including China, P.R., Hong Kong SAR, and Macao SAR.

8/ PRGT- eligible countries.

Table 2b. Updated GDP Blend Variable
(in percent)

	14th General Review Quota Shares 1/	Calculated Quota Shares 2/ 3/		GDP		PPP GDP 6/			GDP Blend 7/		
		2011 ICP 4/	2005 ICP 4/	Current 3/	Previous 5/	Current 3/		Previous 5/	Current 3/		Previous 5/
						2011 ICP 4/	2005 ICP 4/		2011 ICP 4/	2005 ICP 4/	
Advanced economies	57.6	52.6	53.6	60.4	62.3	41.9	47.2	48.0	53.0	55.1	56.6
Major advanced economies	43.4	37.9	38.8	48.9	50.4	34.5	39.2	39.7	43.2	45.0	46.1
United States	17.4	14.9	15.4	22.6	22.8	17.2	19.9	19.7	20.5	21.5	21.6
Japan	6.5	6.0	6.1	8.4	8.6	4.9	5.7	5.9	7.0	7.3	7.5
Germany	5.6	5.3	5.3	5.0	5.3	3.7	3.9	4.0	4.5	4.6	4.8
France	4.2	3.3	3.3	3.9	4.2	2.6	2.8	2.9	3.3	3.4	3.7
United Kingdom	4.2	3.5	3.6	3.5	3.6	2.4	2.9	3.0	3.1	3.3	3.4
Italy	3.2	2.7	2.8	3.0	3.3	2.2	2.3	2.4	2.7	2.7	3.0
Canada	2.3	2.2	2.2	2.5	2.4	1.6	1.8	1.8	2.1	2.2	2.2
Other advanced economies	14.3	14.7	14.8	11.4	12.0	7.4	8.0	8.4	9.8	10.1	10.5
Spain	2.0	2.0	2.0	2.0	2.3	1.6	1.8	1.9	1.9	1.9	2.1
Netherlands	1.8	1.9	1.9	1.2	1.3	0.8	0.9	0.9	1.0	1.0	1.1
Australia	1.4	1.6	1.6	2.1	1.9	1.1	1.2	1.2	1.7	1.7	1.6
Belgium	1.3	1.2	1.2	0.7	0.8	0.5	0.5	0.5	0.6	0.6	0.7
Switzerland	1.2	1.3	1.3	0.9	0.9	0.4	0.4	0.5	0.7	0.7	0.7
Sweden	0.9	1.0	1.0	0.7	0.7	0.4	0.5	0.5	0.6	0.6	0.6
Austria	0.8	0.8	0.8	0.6	0.6	0.4	0.4	0.5	0.5	0.5	0.6
Norway	0.8	0.8	0.8	0.7	0.7	0.3	0.3	0.3	0.5	0.5	0.5
Ireland	0.7	0.8	0.8	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3
Denmark	0.7	0.6	0.6	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.4
Emerging Market and Developing Countries 8/	42.4	47.4	46.4	39.6	37.7	58.1	52.8	52.0	47.0	44.9	43.4
Africa	4.4	3.5	3.4	2.3	2.3	3.6	3.3	3.3	2.8	2.7	2.7
South Africa	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.4	0.3	0.6	0.5	0.5	0.4	0.4	0.4
Asia	16.0	21.7	21.2	18.7	17.5	30.6	27.9	27.1	23.5	22.4	21.4
China 9/	6.4	10.5	10.4	10.8	10.0	15.2	14.7	14.2	12.6	12.3	11.7
India	2.7	3.0	2.9	2.6	2.5	6.5	5.7	5.5	4.2	3.8	3.7
Korea, Republic of	1.8	1.9	2.0	1.6	1.6	1.6	2.0	2.0	1.6	1.7	1.7
Indonesia	1.0	1.3	1.1	1.2	1.1	2.3	1.4	1.4	1.6	1.3	1.2
Singapore	0.8	1.3	1.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Malaysia	0.8	0.8	0.8	0.4	0.4	0.7	0.6	0.6	0.5	0.5	0.5
Thailand	0.7	1.0	0.9	0.5	0.5	1.0	0.8	0.8	0.7	0.6	0.6
Middle East, Malta & Turkey	6.7	7.1	6.8	5.1	4.8	7.5	5.8	5.6	6.1	5.4	5.1
Saudi Arabia	2.1	1.7	1.6	0.9	0.7	1.5	1.0	0.9	1.2	1.0	0.8
Turkey	1.0	1.1	1.1	1.1	1.1	1.4	1.3	1.3	1.2	1.2	1.2
Iran, Islamic Republic of	0.7	0.8	0.8	0.7	0.6	1.3	1.2	1.3	0.9	0.9	0.9
Western Hemisphere	7.9	7.4	7.4	7.9	7.7	8.7	8.7	8.7	8.2	8.2	8.1
Brazil	2.3	2.4	2.4	3.3	3.3	3.1	2.9	2.9	3.2	3.1	3.1
Mexico	1.9	1.7	1.8	1.6	1.6	2.1	2.2	2.1	1.8	1.9	1.8
Venezuela, República Bolivariana de	0.8	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.7	0.9	0.9	0.7	0.7	0.7
Transition economies	7.2	7.7	7.6	5.6	5.4	7.6	7.0	7.2	6.4	6.1	6.1
Russian Federation	2.7	2.8	2.7	2.7	2.4	3.5	3.0	3.0	3.0	2.8	2.7
Poland	0.9	1.0	1.0	0.7	0.7	0.9	1.0	1.0	0.8	0.8	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum Item:											
EU 28	30.4	28.4	28.7	24.5	26.4	18.5	20.0	20.8	22.1	22.7	24.2
LICs 10/	4.1	3.0	2.9	1.8	1.7	3.5	3.2	3.1	2.5	2.4	2.3

Source: Finance Department.

1/ Including South Sudan which became a member on April 18, 2012; reflects the proposed doubling of its quota after the 14th Review becomes effective.

2/ Based on the following formula: CQS = (0.50*GDP + 0.30*Openness +0.15*Variability + 0.05*Reserves)^K. GDP blended using 60 percent market and 40 percent PPP exchange rates. K is a compression factor of 0.95.

3/ Based on IFS data through 2012.

4/ The 2011 ICP column shows PPP GDP for the period 2010-12 based on the new 2011 factors published by the International Comparison Program (ICP) in April 2014; the 2005 column shows the PPP GDP series for the same period based on the 2005 ICP benchmark published in 2007. The two columns utilize the same nominal GDP data in local currency as well as deflators, both obtained from WEO.

5/ Based on IFS data through 2011.

6/ Current PPP-GDP data were retrieved from the WEO database for 187 countries. For the country with no WEO data (Somalia), PPP-GDP was estimated.

7/ GDP blend using 60 percent market and 40 percent PPP exchange rates.

8/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.

9/ Including China, P.R., Hong Kong SAR and Macao SAR. PPP GDP only include China P.R. and Hong Kong SAR.

10/ PRGT-eligible countries.

Table 3. Top 10 Positive and Negative Changes in Calculated Quota Shares
(In percentage points)

	Difference between Current and Previous Shares 1/	Contribution of Variables to Change in CQS 2/			
Top 10: Positive Change	Calculated Quota Share	GDP Blend 3/	Openness	Variability	Reserves
China 4/	0.392	0.461	0.048	-0.014	-0.034
India	0.249	0.239	0.053	-0.008	-0.017
Saudi Arabia	0.220	0.186	0.019	-0.014	0.036
Indonesia	0.205	0.197	0.019	-0.003	-0.004
Russia	0.148	0.164	0.030	-0.018	-0.015
United Arab Emirates	0.122	0.058	0.031	0.033	-0.001
Brazil	0.085	0.048	0.020	0.017	0.007
Qatar	0.082	0.025	0.024	0.026	0.004
Iraq	0.072	0.060	0.010	-0.003	0.002
Egypt	0.060	0.051	0.001	0.013	-0.006
Top 10: Negative Change					
United States	-0.663	-0.560	-0.035	-0.147	-0.002
United Kingdom	-0.295	-0.151	-0.133	-0.029	0.001
France	-0.176	-0.157	-0.050	0.028	-0.004
Italy	-0.149	-0.130	-0.050	0.028	-0.001
Germany	-0.146	-0.170	-0.049	0.068	-0.001
Spain	-0.144	-0.124	-0.042	0.015	0.005
Japan	-0.132	-0.261	0.010	0.098	0.017
Netherlands	-0.107	-0.061	-0.023	-0.025	0.000
Korea, Republic of	-0.081	-0.072	0.023	-0.029	-0.004
Canada	-0.064	-0.036	-0.007	-0.020	0.001

Source: Finance Department.

1/ Current and previous calculations are based on data through 2012 and 2011 respectively, using the existing formula.

2/The difference between the current dataset through 2012 and the previous dataset through 2011, multiplied by the variable weight in the quota formula. The change in CQS also reflects the effect of compression.

3/ GDP blended using 60 percent market and 40 percent PPP factors.

4/ Includes China, P.R., Hong Kong SAR, and Macao SAR.

Table 4. Under- and Overrepresented Countries by Major Country Groups 1/
(In percentage points)

	14th General Review Quota Share 2/ (In percent)	Difference 3/		Number of Countries		Post Second Round Quota Share 6/ (In percent)	Difference 7/
		Current 4/	Previous 5/	Current	Previous		
Advanced economies	**57.6**	**-5.1**	**-2.9**	**26**	**26**	**60.5**	**-2.2**
Underrepresented	-	0.8	1.1	10	12	--	1.8
Overrepresented	-	-5.9	-4.0	16	14	--	-4.1
Emerging Market and Developing Countries	**42.4**	**5.1**	**2.9**	**162**	**162**	**39.5**	**2.2**
Underrepresented	-	7.9	6.4	64	56	--	8.9
Overrepresented	-	-2.8	-3.5	98	106	--	-6.7
Total Underrepresented Countries	**37.2**	**8.7**	**7.5**	**74**	**68**	**30.7**	**10.7**
Total Overrepresented Countries	**62.8**	**-8.7**	**-7.5**	**114**	**120**	**69.3**	**-10.7**
Memorandum Items:							
EU 28	30.4	-2.0	-0.6	28	28	32.0	-0.5
Underrepresented	-	0.8	1.2	13	15	--	2.2
Overrepresented	-	-2.8	-1.8	15	13	--	-2.8
LICs 8/	4.1	-1.1	-1.3	74	74	4.3	-1.8
Underrepresented	-	0.2	0.1	13	10	--	0.1
Overrepresented	-	-1.3	-1.5	61	64	--	-1.9

Source: Finance Department.

1/ Under- and over-represented countries for the two datasets, respectively.

2/ Includes South Sudan which became a member on April 18, 2012; reflects the proposed doubling of its quota after the 14th Review becomes effective.

3/ Difference between calculated quota shares and 14th General Review quota shares.

4/ Based on IFS data through 2012.

5/ Based on IFS data through 2011.

6/ The "post second round" reflects the ad hoc quota increases for 54 members under the 2008 reform, which became effective in March 2011. For the two countries that have not yet consented to and paid for their quota increase 11th Review proposed quotas are used.

7/ Difference between calculated quota shares based on IFS data through 2008 and post second round quota shares.

8/ PRGT-eligible countries.

Figure 4. Contributions of Quota Variables to CQS by Vintages and Major Groups 1/

Major Advanced Economies--CQS 37.9 Percent

Other Advanced Economies--CQS 14.7 Percent

EMDCs--CQS 47.4 Percent
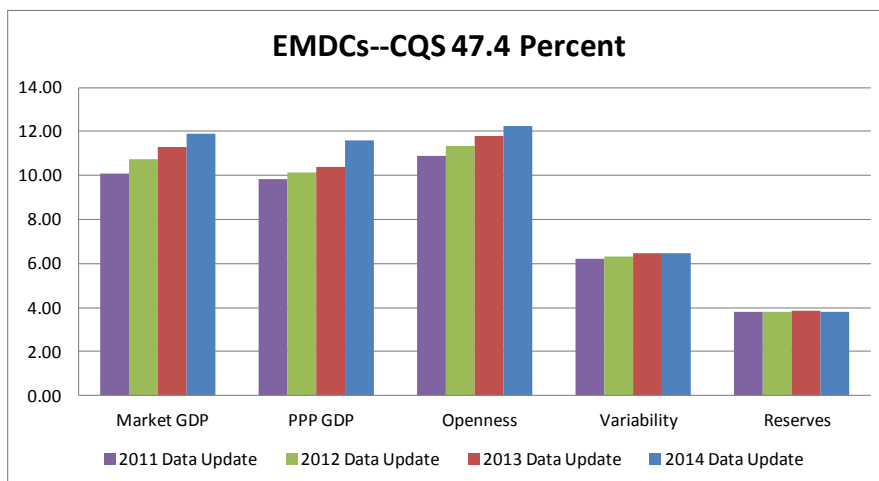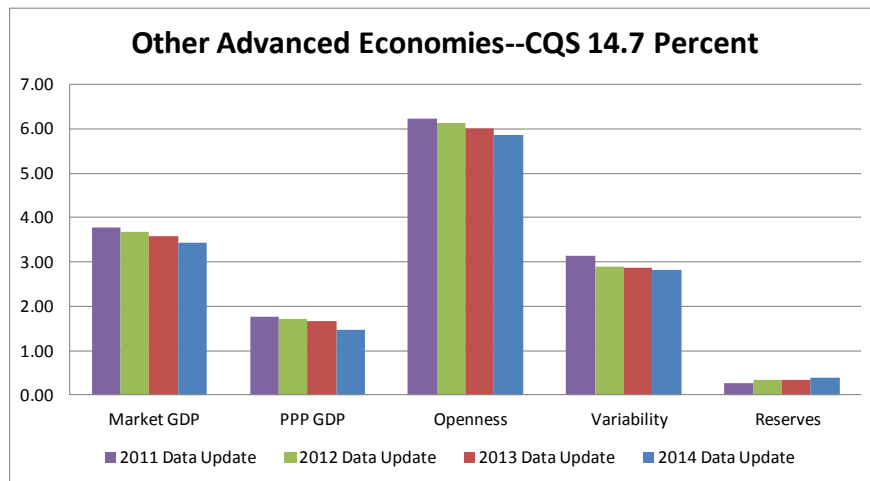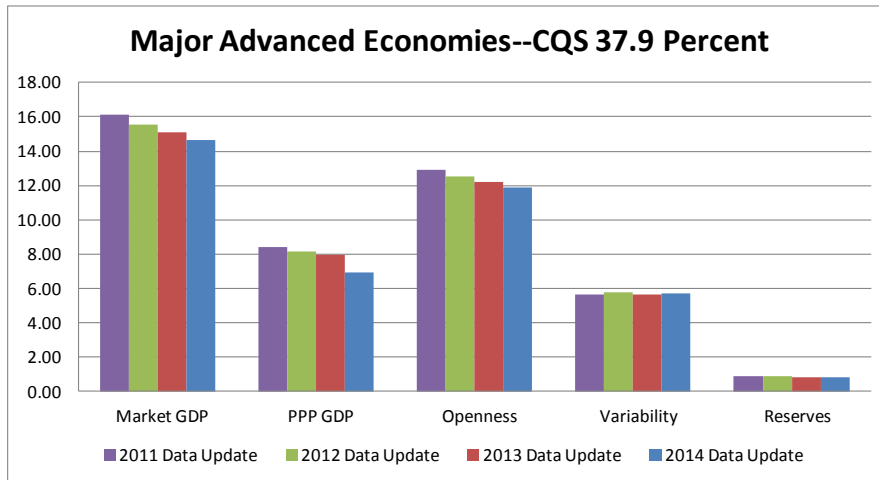
Source: Finance Department.

1/ The contribution of a quota variable to the CQS of each major group is defined as its share (for the relevant group) multiplied by its coefficient in the quota formula. The contributions will not add to the CQS due to compression.

QUOTA VARIABLES: TAKING STOCK

12.   The Board's deliberations on the quota formula review (QFR) provided important building blocks for agreement on a new quota formula that better reflects members' relative positions in the world economy.[9] It was agreed that the principles that underpinned the 2008 reform remained valid. Thus, the formula should be simple and transparent, consistent with the multiple roles of quotas,[10] produce results that are broadly acceptable to the membership, and be feasible to implement statistically based on timely, high quality and widely available data. Other key results of the review were:

- Agreement that GDP should remain the most important variable, with the largest weight in the formula and scope to further increase its weight.

- Agreement that openness should continue to play an important role in the formula, and concerns regarding this variable need to be thoroughly examined and addressed.

- Considerable support for dropping variability from the formula, with some conditioning their support on other elements of the reform package, including how its weight is reallocated and the adequacy of measures to protect the poorest members.

- Considerable support for retaining reserves with its current weight.

- Consideration will be given to whether or not (i) the weight of PPP GDP in the GDP blend variable and (ii) the current level of compression should be adjusted.

- Consideration will be given to whether and how to take account of very significant voluntary financial contributions through ad hoc adjustments as part of the 15th Review.

- Agreement that measures should be taken to protect the voice and representation of the poorest members, with considerable support for addressing this issue as part of the 15th Review.

13.   Directors had a further informal exchange on these issues in June 2013 in the context of the last data update. The staff paper prepared as background for that discussion presented additional work on the openness variable and on the links between variability and balance of payments difficulties that do not necessarily lead to use of Fund resources.[11] It also presented illustrative simulations of possible reforms of the quota formula, building on the earlier discussions

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[9] See *Report of the Executive Board to the Board of Governors on the Outcome of the Quota Formula Review* (1/30/13) http://www.imf.org/external/np/pp/eng/2013/013013.pdf.

[10] These include their key role in determining the Fund's financial resources, their role in decisions on members' access to Fund resources, their role in determining members' shares in a general allocation of SDRs, and their close link with members' voting rights.

[11] See *Quota Formula—Data Update and Further Considerations* (6/5/13) http://www.imf.org/external/np/pp/eng/2013/060513.pdf.

in the QFR. Directors' views on these issues were broadly unchanged from those expressed previously, with some cautioning against backtracking from the progress made during the QFR.

14.   The remainder of this section focuses on those aspects of the quota formula that appear to have generated the most intense discussions. It first revisits the role of PPP GDP in light of Directors' comments at the June 2013 discussion and the new 2011 ICP estimates. Second, it updates the work on the characteristics of openness in light of the latest data update.

A.   PPP GDP

15.   PPP GDP was introduced into the formula for the first time as part of the 2008 Reform. It was seen as complementing the traditional role of market GDP as an indicator of economic size, and in particular as providing a relevant measure of members' weight in the global economy from the perspective of the Fund's non-financial activities, including surveillance and capacity building (recognizing that market GDP remains most relevant for the Fund's financial activities). Its inclusion also followed the release of the 2005 ICP estimates, which provided a consistent database on PPP GDP for a broad range of the Fund's members using a common benchmark year. The agreement to include PPP GDP in the blend GDP variable represented a difficult compromise,[12] and views on the relative importance of market and PPP GDP in the formula have continued to diverge, including at the June 2013 discussion. Some have favored a higher or lower weight of PPP GDP in the blend variable, while others have argued that, given the difficult compromise reached in 2008, the weights in the blend should not be reopened.

16.   In response to questions raised by a number of Directors, staff provided an assessment of the quality of the PPP GDP data in 2012.[13] This assessment was based on the 2005 ICP round and concluded that, while there are a number of measurement challenges in implementing PPPs, the PPP data are broadly comparable in quality to the other data used in the quota calculations. It also noted that the (then forthcoming) 2011 ICP round sought to make further progress in strengthening the PPP data.

17.   Staff has revisited the data quality issue in light of the 2011 round. As noted above, a number of methodological improvements were introduced in the 2011 round, including an update of the underlying price surveys and enhancement of their quality, as well as a significant expansion in country coverage (see Annex I). Improvements were also introduced for the international comparison of government services, dwelling rentals, and construction. In addition, the methodologies for linking the different regions for which PPP data are compiled were strengthened. While it is difficult to trace the sources of changes in PPP in individual countries between the 2005

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[12] Reflecting this compromise, it was agreed to include PPP GDP (and compression) in the formula for a period of 20 years, after the scope for retaining them should be reviewed.

[13] See Annex II of *Quota Formula Review—Further Considerations* (11/8/12) http://www.imf.org/external/np/pp/eng/2012/110812a.pdf.

and 2011 ICP rounds, recent analysis conducted for the ICP Global Office suggests that the improvement in regional linking methodology may help explain the substantial gains in PPP GDP shares recorded by EMDCs as a group based on the 2011 ICP.[14]

18.   **Overall, staff remains of the view that the quality of PPP data is broadly comparable to other data used in the quota formula.** In general, the PPP data are as reliable as the national GDP and price statistics from which they are constructed. The linking methodology is also important and, as noted, this methodology was strengthened in the 2011 ICP. While the implementation of PPPs confronts certain measurement challenges as with any economic statistics, considerable effort has been put into addressing these challenges and strengthening the quality of the PPPs over the last two ICP rounds. It should also be noted that these data are widely used, including by academic and policy researchers, as well as by international and regional organizations.

19.   **Table 5 updates previous staff analysis of the distributional impact of increasing the share of PPP GDP.** Based on the latest data update, almost 90 percent of EMDCs would stand to benefit from an increase in the share of PPP GDP in the blend variable, compared with no AEs. The benefits from a higher weight of PPP GDP in the blend are also inversely related to income—almost all countries in the bottom quartile of the income distribution benefit from a higher weight on PPP GDP relative to market GDP, and they also record the largest relative gains. This pattern is to be expected, as PPP GDP shares of countries with low per capita income tend to be significantly higher than their market-based GDP shares, reflecting in part low wage costs in services that are not tradable. Size does not appear to be strongly related to the benefits of a higher share of PPP GDP.

Table 5. Countries that Benefit from PPP GDP and Compression

	By Size (Market GDP) 1/				By Income (GDP per Capita) 1/				By Grouping				Total
	Top Quartile	3rd	2nd	Bottom Quartile	Top Quartile	3rd	2nd	Bottom Quartile	AE (26)	EMDC excl. LIC (88)	LIC (74)		
PPP / Market GDP Shares													
Number of countries who benefit (ratio >1)	24	43	43	35	17	44	38	46	0	81	64		145
Median 2/	1.3	1.6	1.6	1.5	1.1	1.3	1.7	1.8	n.a.	1.4	1.7		1.5
Average 2/	1.5	1.7	1.7	1.6	1.2	1.4	1.7	1.9	n.a.	1.5	1.8		1.6
CQS / uncompressed linear combination													
Number of countries who benefit (ratio >1)	38	47	47	47	41	45	46	47	20	85	74		179
Median 2/	1.1	1.2	1.2	1.4	1.1	1.2	1.3	1.3	1.1	1.2	1.3		1.2
Average 2/	1.1	1.2	1.2	1.4	1.1	1.2	1.3	1.3	1.1	1.2	1.3		1.2

Source: Finance Department
1/ Each quartile includes 47 countries.
2/ Average or median ratio among the countries which have ratios greater than 1.

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[14] See Deaton, A. and B. Aten, 2014, *Trying to Understand the PPPs in ICP 2011: Why Are the Results So Different?* This paper highlights the improvement in the regional linking methodology of the 2011 ICP as compared with 2005, and notes that "the ICP 2011 estimates are the most accurate that we have, and [our findings] provide no grounds for doubting them."
http://www.princeton.edu/~deaton/downloads/Deaton_Aten_Trying_to_understand_ICP_2011_V3_1.pdf

B. Openness

20.   Views on openness have continued to diverge. Some stress that economic and financial openness is central to the Fund's mandate, and captures inter-connectedness and members' stakes in international economic engagement. As such, they argue that openness should play a key role in the quota formula. Others argue that openness is more a reflection of economic size (smaller economies tend to be more open) and question its relevance for members' stakes in global economic and financial stability. They also argue that the current gross measure leads to double counting, which can exaggerate the importance of openness. As noted, it was concluded as part of the QFR that openness should continue to play an important role in the formula, and concerns regarding this variable need to be thoroughly examined and addressed.

21.   Against this background, staff sought in the June 2013 paper to highlight several characteristics of the openness variable. This work has been revisited in light of the data update, and the conclusions are broadly unchanged. The key conclusions are:

- **Openness benefits many smaller economies.** More than two-thirds of the membership (128 countries based on the latest data update) gain from the inclusion of openness in the formula relative to GDP (Table 6). The number of countries that benefit from openness is inversely related to size (27 out of 47 members in the top quartile in terms of market GDP benefit from openness, compared with 39 out of 47 for the bottom quartile).

Table 6. Countries that Benefit from Openness and Variability

	By Size (Market GDP) 1/				By Income (GDP per Capita) 1/				By Grouping			
	Top Quartile	3rd	2nd	Bottom Quartile	Top Quartile	3rd	2nd	Bottom Quartile	AE (26)	EMDC excl. LIC (88)	LIC (74)	Total
Openness / GDP Blend Shares												
Number of countries who benefit (ratio >1)	27	26	36	39	43	31	34	20	23	61	44	128
Median 2/	1.6	1.5	1.4	1.8	2.0	1.5	1.6	1.3	1.8	1.5	1.5	1.5
Average 2/	2.0	2.2	1.6	2.1	2.5	1.7	1.8	1.6	2.8	1.8	1.8	2.0
Variability / GDP Blend Shares												
Number of countries who benefit (ratio >1)	26	29	38	41	38	33	33	30	20	61	53	134
Median 2/	1.7	2.0	2.0	1.8	2.2	1.9	1.6	1.9	1.9	1.9	1.8	1.82
Average 2/	2.0	2.9	3.2	3.0	3.6	2.3	2.1	3.2	4.4	2.3	2.8	2.82

Source: Finance Department
1/ Each quartile includes 47 countries.
2/ Average or median ratio among the countries which have ratios greater than 1.

- **The gains from openness are positively related to income.** Over 90 percent of countries (43 out of 47) in the top quartile in terms of per capita income gain from openness, compared with less than half (20 countries) in the bottom quartile. Among the gainers, high income countries also gain more on average than low income countries (the average ratio of openness to GDP for gainers in the top income quartile is 2.5, compared with 1.6 for gainers in the bottom income quartile). These results are also reflected in the distribution of openness shares across major country groupings (Figure 5). The main gainers from openness at the aggregate level are small

advanced countries, whose openness share on average is roughly double their share in the GDP blend. Smaller EMDCs in aggregate gain modestly from openness (though some individual countries have large gains), while other country groups, including LICs as a whole, do not gain from openness.

- **Openness and variability shares are closely linked.** This can be seen from several angles. In terms of correlations among the quota variables, once the largest economies are excluded (their weight tends to dominate the comparisons of size-related variables), the correlation between openness and variability is 0.91, significantly above that between other variables (Table 7). Similarly, the distribution of gainers from variability is broadly similar to that for openness, in terms of both size and income levels, as well as across the major country groupings (Table 6). Regarding the latter, small advanced countries gain the most from variability, benefiting almost as much as from openness (Figure 6). Smaller EMDCs and LICs also gain from variability relative to GDP, but the gains are more modest. At the individual country level, many of the countries that gain the most from openness also have relatively high shares in variability (Figure 7).

- **The distribution of members' shares in openness relative to GDP is highly skewed.** While the median *ratio of openness to market GDP* for the membership as a whole is close to 1, 12 countries have ratios greater than 2 (with the highest being close to 10) and 31 have ratios above 1.5 (Figure 8a). In terms of *openness relative to GDP blend shares*, roughly two-thirds of members have shares of less than 1.5 (this group is divided roughly equally between countries that gain and lose from openness relative to GDP in the formula). However, 36 members have a share of openness that is more than double their share in the GDP blend variable, and one member has ratio of openness to GDP blend share close to 17 (Figure 8b).

22.   **In sum, while many countries benefit from the inclusion of openness in the formula, the gains for a narrower group of countries are very large.** These gains arise from the very high shares of openness (relative to GDP) in some cases, and also from the combined effect of openness and variability, which are highly correlated and together have a 45 percent weight in the formula. The resulting CQS for some countries under the current formula appear large in relation to other measures of their relative economic positions.

Figure 5. Openness and Variability Shares Relative to GDP Share 1/
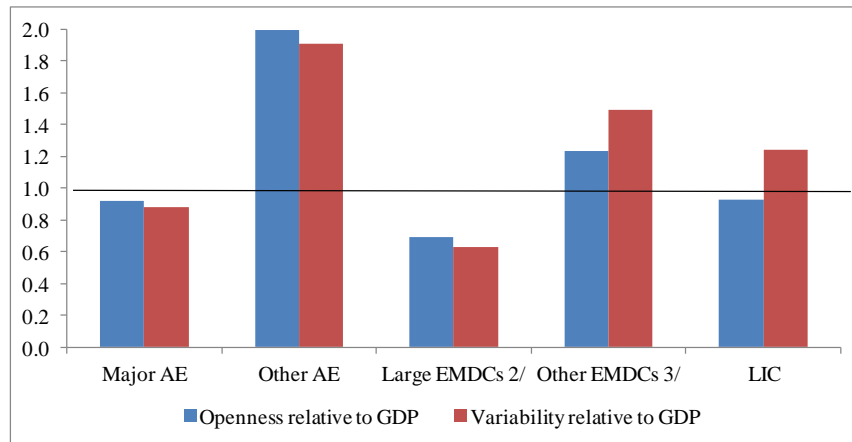
Source: Finance Department
1/ The ratio of the openness share of the relevant group to its GDP blend share and the ratio of the variability share of the relevant group to its GDP blend share.
2/ Large EMDCs are those for which the GDP Blend share is greater than 1.0 percent.
3/ Other EMDCs excluding LICs.

Table 7. Correlations between Quota Variables

Advanced Economies

	Blend GDP	Openness	Variability	Reserves
Blend GDP	1.00			
Openness	0.92	1.00		
Variability	0.97	0.96	1.00	
Reserves	0.33	0.25	0.32	1.00

EMDCs

	Blend GDP	Openness	Variability	Reserves
Blend GDP	1.00			
Openness	0.95	1.00		
Variability	0.89	0.93	1.00	
Reserves	0.95	0.94	0.86	1.00

All Countries 1/

	Blend GDP	Openness	Variability	Reserves
Blend GDP	1.00			
Openness	0.92	1.00		
Variability	0.94	0.96	1.00	
Reserves	0.58	0.54	0.44	1.00

All Members excluding Top 10 2/

	Blend GDP	Openness	Variability	Reserves
Blend GDP	1.00			
Openness	0.81	1.00		
Variability	0.80	0.91	1.00	
Reserves	0.56	0.57	0.61	1.00

Source: Finance Department.
1/ Given the heterogeneity of data and differing distributions, it is possible for correlations for the full sample to fall outside of the range for the two sub samples.
2/ Large members in terms of share of GDP blend (60 percent market GDP and 40 percent PPP GDP).

Figure 6. Shares of Major Groups in Each Quota Variable
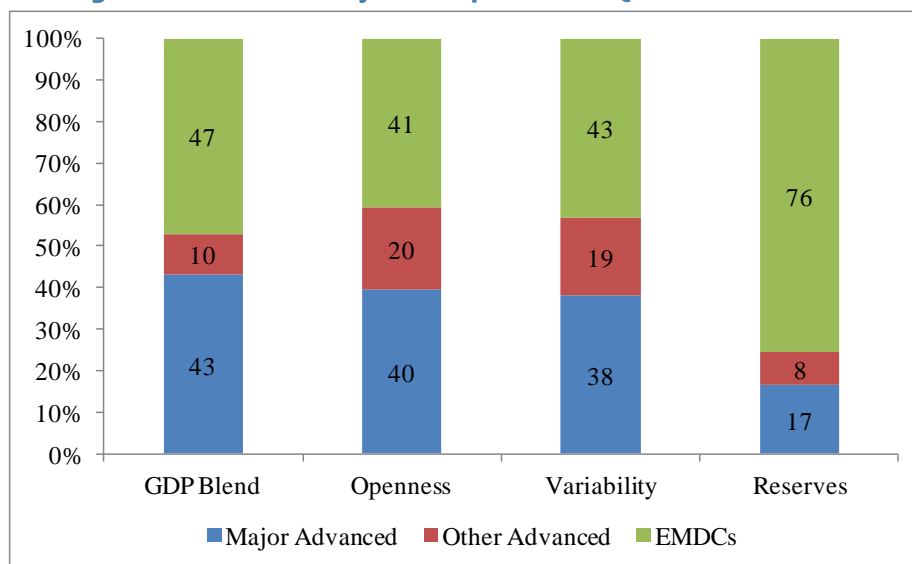
Source: Finance Department

Figure 7. Top 15 Countries - Ratio of Openness Share to GDP Blend Share and Variability Share to GDP Blend Share 1/
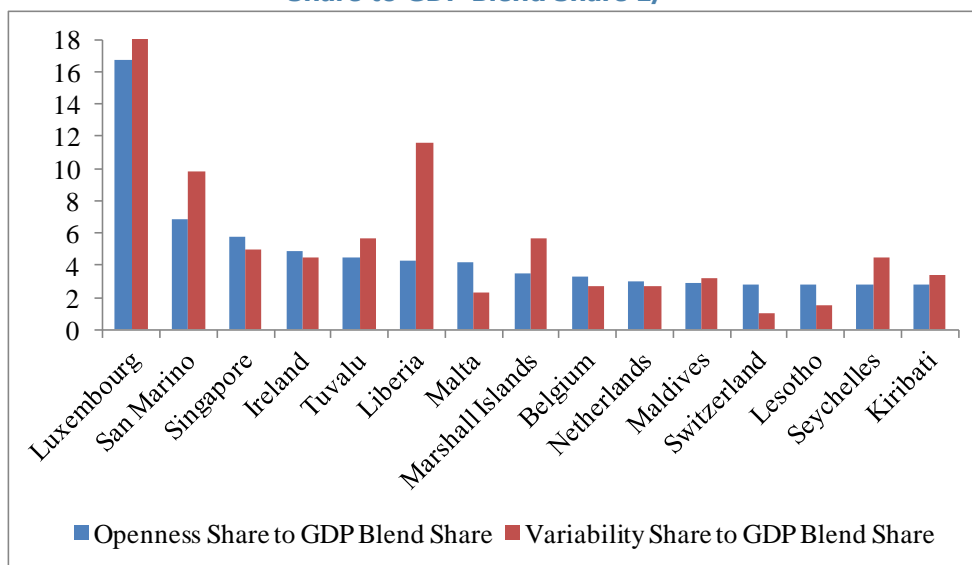
Source: Finance Department
1/ Countries ranked by openness share to GDP blend share.

Figure 8a. Ratio of Openness to Market GDP

Luxembourg 9.66

Top 15 Countries: Luxembourg, San Marino, Singapore, Liberia, Ireland, Malta, Tuvalu, Lesotho, Seychelles, Maldives, Marshall Islands, Hungary, Belgium, Republic of Congo, Slovak Republic

Mean = 1.14
Median = 1.01

Ratio of 2 or more: 12 countries
Ratio of 1.5 or more: 31 countries
Ratio of 1 or more: 98 countries
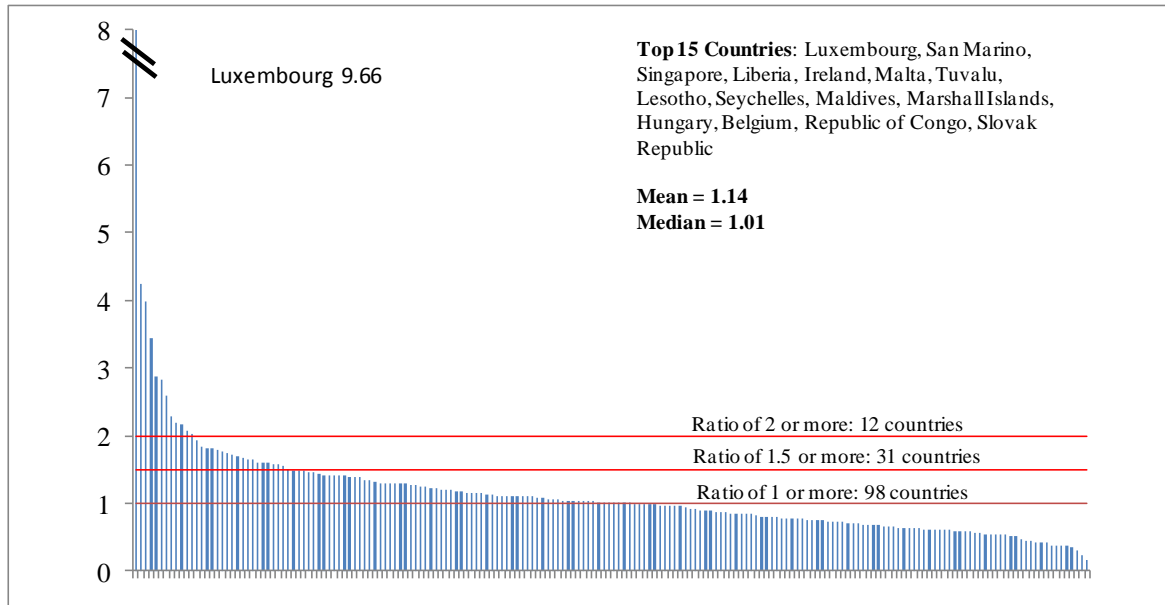
Source: Finance Department

Figure 8b. Ratio of Openness Shares to GDP Blend Shares

Luxembourg 16.76

Top 15 Countries: Luxembourg, San Marino, Singapore, Ireland, Tuvalu, Liberia, Malta, Marshall Islands, Belgium, Netherlands, Maldives, Switzerland, Seychells, Kiribati, Lesotho

Mean = 1.56
Median = 1.30

Ratio of 2 or more: 36 countries
Ratio of 1.5 or more: 71 countries
Ratio of 1 or more: 128 countries
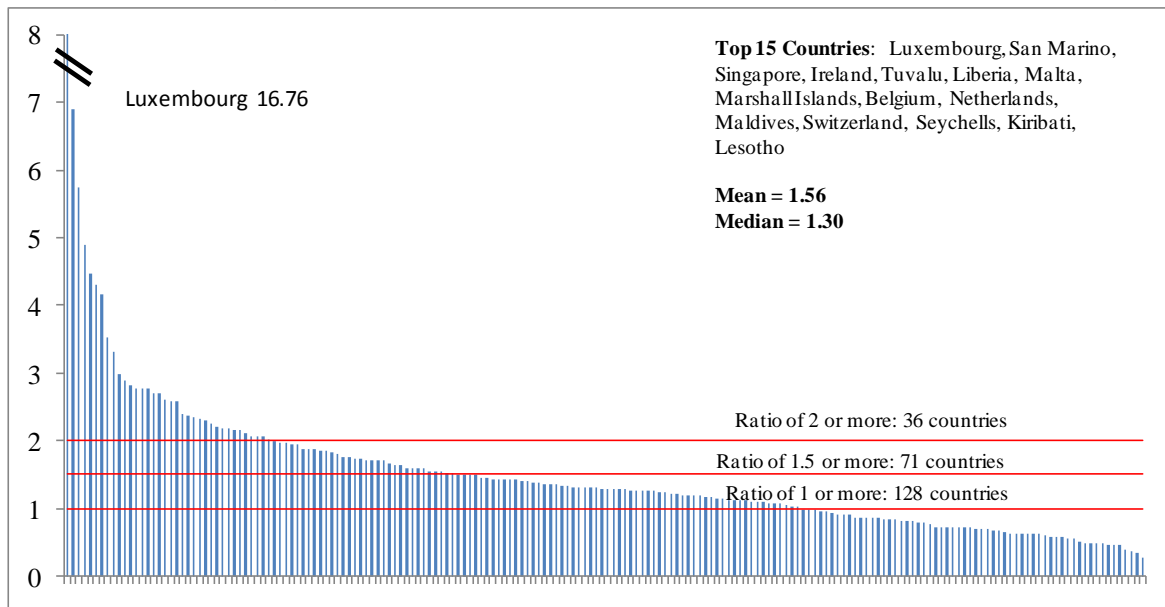
Source: Finance Department

23.   Staff has explored various options to address these issues in the past:

- Ad hoc adjustments were made to the quota data prior to the 2008 reform in an attempt to dampen the impact of certain activities (large entrepot trade, international financial centers, and the processing of goods for re-export). However, this practice was seen as arbitrary and lacking a strong conceptual basis and it was discontinued in 2008.

- The move to BPM6 removes one form of double-counting relating to goods that are processed for a fee by non-residents. However, the majority of members still report trade data under BPM5, and the quantitative impact of this change is estimated to be small on average—gross trade flows are still included when there is a change of ownership, and BPM6 does not address the problems with large financial centers (investment income is also recorded on a gross basis).

- The June 2013 paper reported on recent efforts by the OECD and WTO to estimate trade data on a value added basis. Some further improvements in these estimates are planned for later this year (increasing the number of countries covered by 4 to 58, and updating the estimates through 2010). However, these estimates still cover less than 1/3 of the membership, are only available for selected years, and only cover part of total current account flows (investment income flows are excluded). Also, unlike other quota data, they are not directly provided by country authorities, but rather are estimates based on country data and input-output tables and require a number of strong assumptions.

24.   Given the constraints in terms of the underlying data, previous staff papers explored two other approaches. One is to maintain the current definition of openness but to modestly lower its weight in the formula. If this was combined with dropping variability, such an approach could significantly moderate the overall impact on CQS of the highly skewed distribution of openness (and variability). An alternative would be to introduce a cap that limits the overall boost that individual countries can receive from openness. Two types of openness caps were explored: one capping the absolute level of openness in relation to market GDP (absolute cap) and the second capping the ratio of openness to GDP blend shares (shares cap).[15] Both approaches require an element of judgment in determining where to set the cap, and also add some complexity to the calculations. Staff also explored the approach of compressing the openness ratio.

25.   Staff has reproduced the results of these approaches based on the updated quota data (Table 8). The thresholds are the same, except for the middle cap on openness shares which has been set at 1.8 rather than 1.7, thus maintaining the cap at a level broadly corresponding to the top quartile of the distribution based on the new data.[16] Further work to refine the threshold would be needed if there is interest in pursuing such an approach.

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[15] See *Quota Formula—Data Update and Further Considerations*, Annex III for a detailed discussion http://www.imf.org/external/np/pp/eng/2013/060513.pdf.

[16] In the June 2013 paper, the 1.7 cap on the ratio of the openness share to GDP blend share was equivalent to the 75th percentile of the distribution of this ratio. Based on the current data, 1.8 would be equivalent to the 75th percentile (1.7 would be equal to the 71st percentile).

Table 8. Openness Shares Under Caps and Compression 1/
(In percent)

	Openness Shares	Capped Openness (Shares)			Capped Openness (Absolute)			Compressed Openness		GDP blend Shares
		2.0	1.8	1.5	95th 2/	85th 2/	75th 2/	0.95	0.7	
Advanced economies	59.21	58.46	58.16	57.32	59.33	59.28	59.32	59.25	59.46	52.99
Major advanced economies	39.63	42.74	43.17	43.49	40.57	41.25	42.11	40.20	42.85	43.16
United States	12.87	13.88	14.20	15.32	13.18	13.40	13.68	13.35	15.77	20.45
Japan	4.34	4.68	4.78	5.16	4.44	4.52	4.61	4.52	5.47	6.99
Germany	7.79	8.40	8.05	6.71	7.97	8.11	8.28	7.68	7.06	4.47
France	4.35	4.69	4.80	5.02	4.46	4.53	4.63	4.36	4.34	3.35
United Kingdom	4.68	5.05	5.16	4.60	4.79	4.87	4.97	4.65	4.44	3.07
Italy	3.05	3.29	3.37	3.63	3.12	3.18	3.24	3.08	3.15	2.72
Canada	2.55	2.75	2.81	3.03	2.61	2.65	2.71	2.57	2.62	2.11
Other advanced economies	19.58	15.72	15.00	13.84	18.76	18.02	17.21	19.05	16.62	9.83
Spain	2.30	2.48	2.54	2.74	2.35	2.39	2.44	2.30	2.29	1.86
Netherlands	3.01	2.01	1.81	1.51	3.08	2.82	2.41	2.89	2.33	1.01
Australia	1.46	1.57	1.61	1.74	1.49	1.52	1.55	1.50	1.68	1.67
Belgium	2.05	1.24	1.11	0.93	2.10	1.74	1.49	1.96	1.54	0.62
Switzerland	2.01	1.43	1.28	1.07	2.05	2.09	1.86	1.94	1.63	0.71
Sweden	1.22	1.23	1.11	0.92	1.25	1.27	1.30	1.20	1.09	0.62
Austria	1.10	1.01	0.91	0.75	1.13	1.15	1.17	1.07	0.94	0.50
Norway	0.86	0.93	0.95	0.82	0.88	0.90	0.92	0.86	0.83	0.55
Ireland	1.34	0.55	0.49	0.41	1.02	0.76	0.65	1.26	0.90	0.27
Denmark	0.84	0.76	0.69	0.57	0.86	0.87	0.89	0.82	0.73	0.38
Luxembourg	1.15	0.14	0.12	0.10	0.26	0.20	0.17	1.01	0.53	0.07
Emerging Market and Developing Countries 3/	40.79	41.54	41.84	42.68	40.67	40.72	40.68	40.75	40.54	47.01
Africa	2.77	2.95	2.99	3.09	2.83	2.85	2.88	2.76	2.69	2.84
South Africa	0.50	0.54	0.56	0.60	0.52	0.53	0.54	0.51	0.54	0.60
Nigeria	0.42	0.46	0.47	0.50	0.43	0.44	0.45	0.42	0.41	0.43
Asia	19.65	19.49	19.71	19.97	19.06	18.99	18.97	19.60	19.39	23.47
China 4/	8.69	9.37	9.59	10.35	8.90	9.05	9.24	8.86	9.60	12.57
India	1.97	2.13	2.17	2.35	2.02	2.05	2.09	2.01	2.22	4.16
Korea	2.51	2.71	2.77	2.37	2.57	2.62	2.67	2.48	2.26	1.58
Indonesia	0.79	0.85	0.87	0.94	0.81	0.82	0.84	0.81	0.92	1.62
Singapore	2.23	0.78	0.70	0.58	1.22	0.92	0.78	2.05	1.35	0.39
Malaysia	1.01	1.02	0.92	0.77	1.04	1.00	0.85	0.97	0.80	0.51
Thailand	1.05	1.13	1.15	1.03	1.07	1.09	1.04	1.02	0.87	0.68
Middle East, Malta and Turkey	5.75	6.00	5.98	6.05	5.88	5.95	5.94	5.73	5.60	6.08
Saudi Arabia	1.20	1.29	1.32	1.43	1.23	1.25	1.27	1.19	1.15	1.16
Turkey	0.88	0.95	0.97	1.05	0.90	0.92	0.93	0.90	0.98	1.24
Iran, Islamic Republic of	0.43	0.46	0.47	0.51	0.44	0.45	0.46	0.44	0.51	0.94
Western Hemisphere	5.22	5.61	5.72	6.11	5.34	5.43	5.52	5.34	5.96	8.23
Brazil	1.21	1.30	1.33	1.44	1.24	1.26	1.28	1.28	1.69	3.23
Mexico	1.56	1.68	1.72	1.86	1.60	1.62	1.66	1.58	1.64	1.81
Venezuela, República Bolivariana de	0.34	0.37	0.38	0.41	0.35	0.36	0.36	0.35	0.40	0.54
Argentina	0.38	0.41	0.42	0.46	0.39	0.40	0.41	0.40	0.46	0.67
Transition economies	7.40	7.49	7.44	7.46	7.57	7.50	7.36	7.32	6.89	6.40
Russian Federation	2.21	2.38	2.43	2.62	2.26	2.30	2.34	2.24	2.41	3.01
Poland	1.06	1.14	1.17	1.19	1.08	1.10	1.12	1.05	0.97	0.80
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Memorandum items:										
EU28	38.17	36.01	35.17	32.54	37.78	37.16	36.74	37.46	33.93	22.11
LICs 5/	2.33	2.48	2.52	2.59	2.38	2.40	2.39	2.31	2.20	2.51

1/ Shading indicates countries with capped/compressed openness shares lower than their original openness shares.
2/ These correspond to the thresholds on absolute ratios of openness to market GDP of 2.14, 1.58, and 1.32 for the 95th, 85th and 75th percentile caps, respectively.
3/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic and Slovenia.
4/ Including China, P.R., Hong Kong SAR, and Macao SAR.
5/ PRGT-eligible countries.

ILLUSTRATIVE CALCULATIONS

26.   This section presents a limited set of simulations of possible reforms of the quota formula. The simulations are purely illustrative and no proposals are made at this stage. The simulations seek to build on the discussions under the QFR, and the informal discussion in June 2013. Other variants and combinations of the approaches presented below could also be considered.

27.   The simulations take as a starting point the outcome of the QFR. Given the considerable support expressed for dropping variability, all simulations exclude this variable. As discussed in previous papers, staff has undertaken extensive work as background for the QFR and subsequently to explore the links between variability and actual or potential demand for Fund resources and has found no evidence of such a link (see Annex II). Previous staff work has also highlighted the difficulties of identifying a superior measure. This said, it is recognized that some Directors have conditioned their support for dropping variability on other elements of the reform package. The simulations also maintain reserves with its current weight in line with the QFR.

28.   Four different approaches are shown for reallocating the weight of variability (see simulation set 1): (i) split evenly between GDP and openness (thereby increasing the relative weight of openness), (ii) split between GDP (2/3) and openness (1/3) leaving the relative weights of GDP and openness broadly unchanged, (iii) all to GDP (thereby increasing the relative weight of GDP), and (iv) all to GDP and a lower weight for openness (0.25), which as noted in the previous section could be one approach to addressing the concerns with this variable and would effectively increase the weight of GDP to 0.7 in the formula.

29.   A range of options is shown for adjusting the weight of PPP GDP in the GDP blend (see simulation set 2). These include increasing the weight of PPP GDP in the blend to 45 and 50 percent, respectively. A simulation is also shown with the weight of PPP GDP reduced to 35 percent. As regards the latter, it should be noted that a combination of dropping variability and reducing the weight of PPP GDP would lead to a lower CQS for a large number of EMDCs, including LICs.

30.   The simulations also explore the implications of introducing a cap that limits the overall boost the individual countries can receive from openness (see simulation set 3). In line with the approach taken in the June 2013 paper, two types of caps are illustrated: one on absolute openness and the other on openness shares.

31.   The last set of simulations (Set 4) illustrates the impact of introducing more compression into the formula, along the lines illustrated in the June 2013 paper. Summary results for the 35 members with the largest quotas and for major country groups are presented below. Table 9 provides an overview of the results for major country groups and detailed results for all members are presented in the Statistical Appendix (issued separately). The main results can be summarized as follows:

Set 1 – Simplification of the Current Formula – dropping variability, keeping current GDP and openness measures (Table 10).

Dropping variability and allocating part or all of the weight to GDP reduces (compared to the current formula) the CQS of other advanced economies and increases that of major advanced economies and EMDCs as a group. The shifts are larger when the weight of openness is also reduced. The majority of large countries gain from dropping variability, while less than one third of small countries gain.

Set 2 – Same as Set 1, but with different combinations of GDP blend (Tables 11-14).

Increasing the weight of PPP GDP in the GDP blend leads to a higher CQS for EMDCs relative to the current CQS. More EMDCs and small countries gain with an increased weight for PPP GDP relative to Set 1. Conversely, increasing the weight of market GDP in the GDP blend reduces the share of both EMDCs and LICs.

Set 3– Same as Set 1, but with different openness measures (Tables 15-17).

Capping openness tends to reduce the CQS of other advanced economies and increases the CQS for major advanced economies and EMDCs as a group. Also, there are generally a larger number of gainers among both EMDCs and small countries compared with Set 1, including when the weight of openness is reduced, as capping openness redistributes the very large boost received by some countries under the current measure across the rest of the membership.

Set 4– *Same as Set 1, but with higher compression (0.925)* (Table 18).

Higher compression reduces the share of the largest 9 economies and increases the share of all other members. As a result, it leads to the largest number of gainers among EMDCs and LICs, as well as among small countries.

Table 9. Illustrative Calculations: Summary

	Calculated Quota Share (in percent)				Number of Gainers 1/	of which:			of which: 2/	
	Major Advanced	Other Advanced	EMDCs	LIC s		AEs (26)	EMDCs excl. LICs (88)	LICs (74)	Large countries (19)	Small countries (169)
14th Review Quota Share	43.36	14.28	42.36	4.13						
Current CQS	37.92	14.65	47.43	2.98						
Set 1. Current GDP and openness measures, dropping varialbility										
1. Weight of variability split evenly between GDP and openness	38.47	14.06	47.47	2.86	69	9	31	29	12	57
2. Weight of variability split between GDP (2/3) and openness (1/3)	38.56	13.82	47.62	2.87	59	7	25	27	12	47
3. All weight of variability to GDP	38.73	13.34	47.93	2.88	55	6	28	21	13	42
4. Weight of openness reduced to 0.25	38.90	12.86	48.24	2.89	54	6	26	22	13	41
Set 2. Same as Set 1, but with different GDP blends										
1. Weight of variability split evenly between GDP and openness										
a. 50/50 GDP blend	37.70	13.82	48.47	2.97	75	5	36	34	9	66
b. 55/45 GDP blend	38.09	13.94	47.97	2.92	70	7	32	31	11	59
c. 65/35 GDP blend	38.86	14.18	46.96	2.81	57	10	24	23	12	45
2. Weight of variability split between GDP (2/3) and openness (1/3)										
a. 50/50 GDP blend	37.75	13.57	48.67	2.98	69	3	34	32	10	59
b. 55/45 GDP blend	38.15	13.70	48.15	2.93	64	5	29	30	10	54
c. 65/35 GDP blend	38.96	13.95	47.09	2.81	48	9	20	19	12	36
3. All weight of variability to GDP										
a. 50/50 GDP blend	37.86	13.07	49.07	3.00	60	2	31	27	10	50
b. 55/45 GDP blend	38.29	13.21	48.50	2.94	59	4	28	27	12	47
c. 65/35 GDP blend	39.16	13.48	47.36	2.82	49	7	23	19	12	37
4. Weight of openness reduced to 0.25										
a. 50/50 GDP blend	37.96	12.57	49.47	3.03	62	3	32	27	11	51
b. 55/45 GDP blend	38.43	12.72	48.85	2.96	56	4	29	23	12	44
c. 65/35 GDP blend	39.36	13.01	47.63	2.83	48	6	24	18	13	35

Source: Finance Department

1/ Countries with positive change in relation to current CQS.

2/ Countries are classified as "large" if their current GDP blend share exceeds 1.0 percent.

Table 9. Illustrative Calculations: Summary (concluded)

	Calculated Quota Share (in percent)				Number of Gainers 1/	of which:			of which: 2/	
	Major Advanced	Other Advanced	EMDCs	LIC s		AEs (26)	EMDCs excl. LICs (88)	LICs (74)	Large countries (19)	Small countries (169)
14th Review Quota Share	43.36	14.28	42.36	4.13						
Current CQS	37.92	14.65	47.43	2.98						
Set 3. Same as Set 1, but with different openness measures										
1. Weight of variability split evenly between GDP and openness										
a. Nominal openness capped at 85th percentile	39.06	13.47	47.47	2.90	86	13	38	35	16	70
b. Nominal openness capped at 75th percentile	39.37	13.17	47.46	2.89	85	14	37	34	17	68
c. Openness share capped at 1.8	39.75	12.34	47.90	2.95	85	12	40	33	17	68
d. Openness share capped at 1.5	39.88	11.90	48.22	2.98	83	10	40	33	15	68
2. Weight of variability split between GDP (2/3) and openness (1/3)										
a. Nominal openness capped at 85th percentile	39.11	13.27	47.63	2.90	77	11	34	32	16	61
b. Nominal openness capped at 75th percentile	39.40	12.99	47.61	2.90	79	12	36	31	17	62
c. Openness share capped at 1.8	39.76	12.21	48.03	2.95	83	11	38	34	17	66
d. Openness share capped at 1.5	39.87	11.81	48.32	2.98	82	10	39	33	15	67
3. All weight of variability to GDP										
a. Nominal openness capped at 85th percentile	39.20	12.86	47.94	2.91	67	8	30	29	14	53
b. Nominal openness capped at 75th percentile	39.45	12.63	47.92	2.91	67	8	31	28	15	52
c. Openness share capped at 1.8	39.76	11.96	48.28	2.95	73	8	36	29	15	58
d. Openness share capped at 1.5	39.86	11.61	48.53	2.98	76	9	37	30	15	61
Set 4. Same as Set 1, but with higher compression (0.925)										
1. Dropping variability, weight split evenly between GDP and openness	37.43	14.39	48.18	3.12	120	10	55	55	10	110
2. Dropping variability, weight split between GDP (2/3) and openness (1/3)	37.51	14.16	48.33	3.13	118	7	56	55	11	107
3. Dropping variability, all weight to GDP	37.68	13.68	48.64	3.14	113	9	51	53	13	100
4. Dropping variability, weight of openness reduced to 0.25	37.84	13.21	48.95	3.15	107	7	48	52	13	94

Source: Finance Department

1/ Countries with positive change in relation to current CQS.

2/ Countries are classified as "large" if their current GDP blend share exceeds 1.0 percent.

CONCLUDING REMARKS

32.   This paper presents the results of updating the quota data set. The update includes the impact of advancing by one year the data presented last June to cover the period through 2012. It also includes the effects on PPP GDP shares of incorporating the 2011 ICP round, which was released in April. In this context, staff has also revisited the quality of the PPP data in light of the new ICP round and concludes that it is broadly comparable with that of other data used in the quota formula.

33.   Overall, the results reflect a continuation of several broad trends observed in previous updates. In particular, based on the current formula, the calculated quota share of EMDCs as a group has increased further, and now stands at 47.4 percent compared with 45.3 percent at the last update and 41.8 percent at the time of the 14th General Quota Review. This implies that, on the same basis, EMDCs in aggregate would be under-represented by 5.1 pp when compared with the 14th Review quota shares.

34.   The paper also takes stock of previous discussions on the quota variables and revisits those aspects that have generated the most intense discussions to date. This includes the role of PPP GDP in light of the new ICP data, and the role of openness and possible options to address the concerns that have been raised about this variable. The paper finds that the broad characteristics of the quota variables have not changed significantly as a result of the latest data update.

35.   The paper presents several sets of illustrative simulations of possible reforms of the quota formula using the new data. These simulations build on earlier work and take as a starting point the outcome of the QFR. They are intended to be purely illustrative and other variants and combinations could also be considered.

 36.   Directors may wish to comments on the following issues:

- How do Directors assess the relative merits of alternative reforms of the formula in light of the latest data update? Have these views changed in light of the latest data update?

- What are Directors' views on the merits of adjusting the weight of PPP GDP in the GDP blend variable? Do they see any case for adjusting the compression factor, or a combination of these two approaches?

- Has there been any evolution in Directors' views on the openness variable, based on the material presented in this paper? Do Directors see merit in continuing to explore some form of cap on openness? Alternatively, is there a case for leaving the definition of openness unchanged but reducing its weight in the formula? Are there any areas where additional work would be useful?

Table 10. Illustrative Calculations - Current GDP and Openness Measures, and Dropping Variability
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, and weight spilt:			Formula w/o variability and:
			Even split	GDP (2/3), openness (1/3)	All to GDP blend	Weight of openness reduced to 0.25
Advanced economies	57.6	52.6	52.5	52.4	52.1	51.8
Major advanced economies	43.4	37.9	38.5	38.6	38.7	38.9
United States	17.4	14.9	15.2	15.4	15.7	16.0
Japan	6.5	6.0	6.0	6.0	6.2	6.3
Germany	5.6	5.3	5.3	5.3	5.1	5.0
France	4.2	3.3	3.5	3.5	3.5	3.4
United Kingdom	4.2	3.5	3.5	3.5	3.4	3.3
Italy	3.2	2.7	2.7	2.7	2.7	2.7
Canada	2.3	2.2	2.2	2.2	2.2	2.2
Other advanced economies	14.3	14.7	14.1	13.8	13.3	12.9
Spain	2.0	2.0	2.0	2.0	1.9	1.9
Netherlands	1.8	1.9	1.8	1.7	1.6	1.5
Australia	1.4	1.6	1.6	1.6	1.6	1.6
Belgium	1.3	1.2	1.2	1.1	1.1	1.0
Switzerland	1.2	1.3	1.4	1.4	1.3	1.2
Sweden	0.9	1.0	0.9	0.9	0.8	0.8
Austria	0.8	0.8	0.8	0.7	0.7	0.7
Norway	0.8	0.8	0.7	0.7	0.7	0.7
Ireland	0.7	0.8	0.7	0.7	0.6	0.6
Denmark	0.7	0.6	0.6	0.6	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	47.5	47.6	47.9	48.2
Africa	4.4	3.5	3.3	3.3	3.3	3.3
South Africa	0.6	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	22.6	22.7	22.9	23.1
China 2/	6.4	10.5	11.2	11.3	11.4	11.6
India	2.7	3.0	3.2	3.3	3.4	3.5
Korea, Republic of	1.8	1.9	2.0	2.0	2.0	1.9
Indonesia	1.0	1.3	1.3	1.3	1.4	1.4
Singapore	0.8	1.3	1.2	1.2	1.1	1.0
Malaysia	0.8	0.8	0.8	0.8	0.7	0.7
Thailand	0.7	1.0	0.9	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.7	6.7	6.7	6.7
Saudi Arabia	2.1	1.7	1.4	1.4	1.4	1.4
Turkey	1.0	1.1	1.1	1.1	1.2	1.2
Iran, I.R. of	0.7	0.8	0.8	0.8	0.8	0.9
Western Hemisphere	7.9	7.4	7.5	7.5	7.7	7.9
Brazil	2.3	2.4	2.5	2.5	2.6	2.7
Mexico	1.9	1.7	1.7	1.7	1.8	1.8
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.4	7.3	7.3	7.2
Russia	2.7	2.8	2.8	2.8	2.8	2.9
Poland	0.9	1.0	1.0	0.9	0.9	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
EU28	30.4	28.4	27.8	27.5	26.7	25.9
LICs 3/	4.1	3.0	2.9	2.9	2.9	2.9
Coefficients for quota variables						
GDP		0.300	0.345	0.360	0.390	0.420
PPP GDP		0.200	0.230	0.240	0.260	0.280
Openness		0.300	0.375	0.350	0.300	0.250
Variability		0.150	0.000	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

QUOTA FORMULA—DATA UPDATE

Table 11. Illustrative Calculations - Current Openness Measure, Dropping Variability, Weight Split Evenly Between GDP and Openness, and Different Combinations of GDP Blend
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, current openness measure, weight split evenly between GDP and openness, and GDP blends:		
			50/50	55/45	65/35
Advanced economies	57.6	52.6	51.5	52.0	53.0
Major advanced economies	43.4	37.9	37.7	38.1	38.9
United States	17.4	14.9	14.9	15.0	15.3
Japan	6.5	6.0	5.8	5.9	6.1
Germany	5.6	5.3	5.3	5.3	5.4
France	4.2	3.3	3.5	3.5	3.6
United Kingdom	4.2	3.5	3.4	3.5	3.5
Italy	3.2	2.7	2.7	2.7	2.7
Canada	2.3	2.2	2.2	2.2	2.2
Other advanced economies	14.3	14.7	13.8	13.9	14.2
Spain	2.0	2.0	2.0	2.0	2.0
Netherlands	1.8	1.9	1.7	1.7	1.8
Australia	1.4	1.6	1.5	1.5	1.6
Belgium	1.3	1.2	1.2	1.2	1.2
Switzerland	1.2	1.3	1.4	1.4	1.4
Sweden	0.9	1.0	0.9	0.9	0.9
Austria	0.8	0.8	0.7	0.8	0.8
Norway	0.8	0.8	0.7	0.7	0.7
Ireland	0.7	0.8	0.7	0.7	0.7
Denmark	0.7	0.6	0.6	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	48.5	48.0	47.0
Africa	4.4	3.5	3.4	3.3	3.3
South Africa	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	23.3	23.0	22.3
China 2/	6.4	10.5	11.4	11.3	11.1
India	2.7	3.0	3.4	3.3	3.1
Korea, Republic of	1.8	1.9	2.0	2.0	2.0
Indonesia	1.0	1.3	1.4	1.4	1.3
Singapore	0.8	1.3	1.2	1.2	1.2
Malaysia	0.8	0.8	0.8	0.8	0.8
Thailand	0.7	1.0	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.8	6.7	6.6
Saudi Arabia	2.1	1.7	1.5	1.5	1.4
Turkey	1.0	1.1	1.1	1.1	1.1
Iran, I.R. of	0.7	0.8	0.8	0.8	0.8
Western Hemisphere	7.9	7.4	7.5	7.5	7.4
Brazil	2.3	2.4	2.5	2.5	2.5
Mexico	1.9	1.7	1.8	1.8	1.7
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.5	7.4	7.3
Russia	2.7	2.8	2.8	2.8	2.8
Poland	0.9	1.0	1.0	1.0	0.9
Total	100.0	100.0	100.0	100.0	100.0
Memorandum items:					
EU28	30.4	28.4	27.5	27.7	28.0
LICs 3/	4.1	3.0	3.0	2.9	2.8
Coefficients for quota variables					
GDP		0.300	0.288	0.316	0.374
PPP GDP		0.200	0.288	0.259	0.201
Openness		0.300	0.375	0.375	0.375
Variability		0.150	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 12. Illustrative Calculations - Current Openness Measure, Dropping Variability, Weight Split Between GDP (2/3) and Openness (1/3), and Different Combinations of GDP Blend (In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, current openness measure, weight split between GDP (2/3) and openness (1/3), and GDP blends:		
			50/50	55/45	65/35
Advanced economies	57.6	52.6	51.3	51.9	52.9
Major advanced economies	43.4	37.9	37.8	38.2	39.0
United States	17.4	14.9	15.1	15.2	15.5
Japan	6.5	6.0	5.8	5.9	6.1
Germany	5.6	5.3	5.2	5.2	5.3
France	4.2	3.3	3.4	3.5	3.5
United Kingdom	4.2	3.5	3.4	3.4	3.5
Italy	3.2	2.7	2.7	2.7	2.7
Canada	2.3	2.2	2.2	2.2	2.2
Other advanced economies	14.3	14.7	13.6	13.7	13.9
Spain	2.0	2.0	1.9	2.0	2.0
Netherlands	1.8	1.9	1.7	1.7	1.7
Australia	1.4	1.6	1.5	1.5	1.6
Belgium	1.3	1.2	1.1	1.1	1.2
Switzerland	1.2	1.3	1.3	1.3	1.4
Sweden	0.9	1.0	0.8	0.9	0.9
Austria	0.8	0.8	0.7	0.7	0.7
Norway	0.8	0.8	0.7	0.7	0.7
Ireland	0.7	0.8	0.7	0.7	0.7
Denmark	0.7	0.6	0.6	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	48.7	48.1	47.1
Africa	4.4	3.5	3.4	3.3	3.3
South Africa	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	23.4	23.1	22.4
China 2/	6.4	10.5	11.5	11.4	11.2
India	2.7	3.0	3.5	3.4	3.2
Korea, Republic of	1.8	1.9	2.0	2.0	2.0
Indonesia	1.0	1.3	1.4	1.4	1.3
Singapore	0.8	1.3	1.2	1.2	1.2
Malaysia	0.8	0.8	0.8	0.8	0.8
Thailand	0.7	1.0	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.8	6.8	6.6
Saudi Arabia	2.1	1.7	1.5	1.5	1.4
Turkey	1.0	1.1	1.2	1.1	1.1
Iran, I.R. of	0.7	0.8	0.8	0.8	0.8
Western Hemisphere	7.9	7.4	7.6	7.6	7.5
Brazil	2.3	2.4	2.5	2.5	2.6
Mexico	1.9	1.7	1.8	1.8	1.7
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.5	7.4	7.3
Russia	2.7	2.8	2.8	2.8	2.8
Poland	0.9	1.0	1.0	0.9	0.9
Total	100.0	100.0	100.0	100.0	100.0
Memorandum items:					
EU28	30.4	28.4	27.1	27.3	27.6
LICs 3/	4.1	3.0	3.0	2.9	2.8
Coefficients for quota variables					
GDP		0.300	0.300	0.330	0.390
PPP GDP		0.200	0.300	0.270	0.210
Openness		0.300	0.350	0.350	0.350
Variability		0.150	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 13. Illustrative Calculations - Current Openness Measure, Dropping Variability, All Weight to GDP, and Different Combinations of GDP Blend
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, current openness measure, all weight to GDP, and GDP blends:		
			50/50	55/45	65/35
Advanced economies	57.6	52.6	50.9	51.5	52.6
Major advanced economies	43.4	37.9	37.9	38.3	39.2
United States	17.4	14.9	15.4	15.5	15.9
Japan	6.5	6.0	5.9	6.1	6.3
Germany	5.6	5.3	5.0	5.1	5.1
France	4.2	3.3	3.4	3.4	3.5
United Kingdom	4.2	3.5	3.3	3.4	3.4
Italy	3.2	2.7	2.7	2.7	2.7
Canada	2.3	2.2	2.1	2.2	2.2
Other advanced economies	14.3	14.7	13.1	13.2	13.5
Spain	2.0	2.0	1.9	1.9	2.0
Netherlands	1.8	1.9	1.6	1.6	1.6
Australia	1.4	1.6	1.5	1.6	1.6
Belgium	1.3	1.2	1.1	1.1	1.1
Switzerland	1.2	1.3	1.3	1.3	1.3
Sweden	0.9	1.0	0.8	0.8	0.8
Austria	0.8	0.8	0.7	0.7	0.7
Norway	0.8	0.8	0.7	0.7	0.7
Ireland	0.7	0.8	0.6	0.6	0.6
Denmark	0.7	0.6	0.6	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	49.1	48.5	47.4
Africa	4.4	3.5	3.4	3.4	3.3
South Africa	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	23.6	23.3	22.6
China 2/	6.4	10.5	11.7	11.6	11.3
India	2.7	3.0	3.6	3.5	3.3
Korea, Republic of	1.8	1.9	2.0	2.0	2.0
Indonesia	1.0	1.3	1.5	1.4	1.4
Singapore	0.8	1.3	1.1	1.1	1.1
Malaysia	0.8	0.8	0.8	0.8	0.7
Thailand	0.7	1.0	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.9	6.8	6.6
Saudi Arabia	2.1	1.7	1.5	1.5	1.4
Turkey	1.0	1.1	1.2	1.2	1.1
Iran, I.R. of	0.7	0.8	0.9	0.9	0.8
Western Hemisphere	7.9	7.4	7.8	7.7	7.7
Brazil	2.3	2.4	2.6	2.6	2.6
Mexico	1.9	1.7	1.8	1.8	1.7
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.4	7.4	7.2
Russia	2.7	2.8	2.9	2.9	2.8
Poland	0.9	1.0	0.9	0.9	0.9
Total	100.0	100.0	100.0	100.0	100.0
Memorandum items:					
EU28	30.4	28.4	26.3	26.5	26.9
LICs 3/	4.1	3.0	3.0	2.9	2.8
Coefficients for quota variables					
GDP		0.300	0.325	0.358	0.423
PPP GDP		0.200	0.325	0.293	0.228
Openness		0.300	0.300	0.300	0.300
Variability		0.150	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 14. Illustrative Calculations - Current Openness Measure, Dropping Variability, Weight of Openness Reduced to 0.25, and Different Combinations of GDP Blend
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, weight of openness reduced to 0.25, and GDP blends:		
			50/50	55/45	65/35
Advanced economies	57.6	52.6	50.5	51.1	52.4
Major advanced economies	43.4	37.9	38.0	38.4	39.4
United States	17.4	14.9	15.7	15.9	16.2
Japan	6.5	6.0	6.1	6.2	6.4
Germany	5.6	5.3	4.9	4.9	5.0
France	4.2	3.3	3.3	3.4	3.5
United Kingdom	4.2	3.5	3.3	3.3	3.4
Italy	3.2	2.7	2.6	2.7	2.7
Canada	2.3	2.2	2.1	2.1	2.2
Other advanced economies	14.3	14.7	12.6	12.7	13.0
Spain	2.0	2.0	1.9	1.9	1.9
Netherlands	1.8	1.9	1.5	1.5	1.5
Australia	1.4	1.6	1.5	1.6	1.6
Belgium	1.3	1.2	1.0	1.0	1.0
Switzerland	1.2	1.3	1.2	1.2	1.2
Sweden	0.9	1.0	0.8	0.8	0.8
Austria	0.8	0.8	0.7	0.7	0.7
Norway	0.8	0.8	0.6	0.7	0.7
Ireland	0.7	0.8	0.6	0.6	0.6
Denmark	0.7	0.6	0.5	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	49.5	48.9	47.6
Africa	4.4	3.5	3.4	3.4	3.3
South Africa	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	23.9	23.5	22.7
China 2/	6.4	10.5	11.9	11.8	11.5
India	2.7	3.0	3.7	3.6	3.4
Korea, Republic of	1.8	1.9	1.9	1.9	1.9
Indonesia	1.0	1.3	1.5	1.5	1.4
Singapore	0.8	1.3	1.0	1.0	1.0
Malaysia	0.8	0.8	0.7	0.7	0.7
Thailand	0.7	1.0	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.9	6.8	6.7
Saudi Arabia	2.1	1.7	1.5	1.5	1.4
Turkey	1.0	1.1	1.2	1.2	1.2
Iran, I.R. of	0.7	0.8	0.9	0.9	0.8
Western Hemisphere	7.9	7.4	7.9	7.9	7.8
Brazil	2.3	2.4	2.7	2.7	2.7
Mexico	1.9	1.7	1.8	1.8	1.8
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.4	7.3	7.2
Russia	2.7	2.8	2.9	2.9	2.8
Poland	0.9	1.0	0.9	0.9	0.9
Total	100.0	100.0	100.0	100.0	100.0
Memorandum items:					
EU28	30.4	28.4	25.5	25.7	26.1
LICs 3/	4.1	3.0	3.0	3.0	2.8
Coefficients for quota variables					
GDP		0.300	0.350	0.385	0.455
PPP GDP		0.200	0.350	0.315	0.245
Openness		0.300	0.250	0.250	0.250
Variability		0.150	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 15. Illustrative Calculations - Current GDP Blend, Dropping Variability, Weight Split Evenly Between GDP and Openness, and Different Openness Measures
(In percent)

| | 14th General Review Quotas | Current Formula | Formula w/o variability, weight split evenly between GDP and openness, and different openness measures: | | | |
			Nominal openness capped at the 85th percentile	Nominal openness capped at the 75th percentile	Openness shares capped at 1.8	Openness shares capped at 1.5
Advanced economies	57.6	52.6	52.5	52.5	52.1	51.8
Major advanced economies	43.4	37.9	39.1	39.4	39.8	39.9
United States	17.4	14.9	15.4	15.5	15.7	16.0
Japan	6.5	6.0	6.0	6.1	6.1	6.3
Germany	5.6	5.3	5.4	5.5	5.4	5.0
France	4.2	3.3	3.6	3.6	3.7	3.8
United Kingdom	4.2	3.5	3.6	3.6	3.7	3.5
Italy	3.2	2.7	2.8	2.8	2.8	2.9
Canada	2.3	2.2	2.3	2.3	2.3	2.4
Other advanced economies	14.3	14.7	13.5	13.2	12.3	11.9
Spain	2.0	2.0	2.0	2.0	2.1	2.1
Netherlands	1.8	1.9	1.7	1.5	1.3	1.2
Australia	1.4	1.6	1.6	1.6	1.6	1.7
Belgium	1.3	1.2	1.1	1.0	0.8	0.8
Switzerland	1.2	1.3	1.4	1.3	1.1	1.0
Sweden	0.9	1.0	0.9	0.9	0.8	0.8
Austria	0.8	0.8	0.8	0.8	0.7	0.6
Norway	0.8	0.8	0.7	0.7	0.7	0.7
Ireland	0.7	0.8	0.5	0.4	0.4	0.3
Denmark	0.7	0.6	0.6	0.6	0.6	0.5
Emerging Market and Developing Countries 1/	42.4	47.4	47.5	47.5	47.9	48.2
Africa	4.4	3.5	3.3	3.4	3.4	3.4
South Africa	0.6	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	22.4	22.4	22.7	22.7
China 2/	6.4	10.5	11.3	11.4	11.5	11.8
India	2.7	3.0	3.3	3.3	3.3	3.4
Korea, Republic of	1.8	1.9	2.1	2.1	2.1	2.0
Indonesia	1.0	1.3	1.3	1.3	1.4	1.4
Singapore	0.8	1.3	0.7	0.7	0.7	0.6
Malaysia	0.8	0.8	0.8	0.7	0.8	0.7
Thailand	0.7	1.0	0.9	0.9	1.0	0.9
Middle East, Malta and Turkey	6.7	7.1	6.8	6.8	6.8	6.8
Saudi Arabia	2.1	1.7	1.5	1.5	1.5	1.5
Turkey	1.0	1.1	1.1	1.2	1.2	1.2
Iran, I.R. of	0.7	0.8	0.8	0.8	0.8	0.8
Western Hemisphere	7.9	7.4	7.6	7.6	7.7	7.8
Brazil	2.3	2.4	2.5	2.5	2.5	2.6
Mexico	1.9	1.7	1.8	1.8	1.8	1.9
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.4	7.4	7.4	7.4
Russia	2.7	2.8	2.8	2.8	2.9	2.9
Poland	0.9	1.0	1.0	1.0	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
EU28	30.4	28.4	27.4	27.3	26.7	25.8
LICs 3/	4.1	3.0	2.9	2.9	2.9	3.0
Coefficients for quota variables						
GDP		0.300	0.345	0.345	0.345	0.345
PPP GDP		0.200	0.230	0.230	0.230	0.230
Openness		0.300	0.375	0.375	0.375	0.375
Variability		0.150	0.000	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 16. Illustrative Calculations - Current GDP Blend, Dropping Variability, Weight Split Between GDP (2/3) and Openness (1/3), and Different Openness Measures
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, weight split between GDP (2/3) and openness (1/3), and different openness measures:			
			Nominal openness capped at the 85th percentile	Nominal openness capped at the 75th percentile	Openness shares capped at 1.8	Openness shares capped at 1.5
Advanced economies	57.6	52.6	52.4	52.4	52.0	51.7
Major advanced economies	43.4	37.9	39.1	39.4	39.8	39.9
United States	17.4	14.9	15.5	15.6	15.8	16.1
Japan	6.5	6.0	6.1	6.1	6.2	6.3
Germany	5.6	5.3	5.4	5.4	5.3	4.9
France	4.2	3.3	3.6	3.6	3.7	3.7
United Kingdom	4.2	3.5	3.5	3.6	3.6	3.5
Italy	3.2	2.7	2.8	2.8	2.8	2.9
Canada	2.3	2.2	2.3	2.3	2.3	2.4
Other advanced economies	14.3	14.7	13.3	13.0	12.2	11.8
Spain	2.0	2.0	2.0	2.0	2.1	2.1
Netherlands	1.8	1.9	1.6	1.5	1.3	1.2
Australia	1.4	1.6	1.6	1.6	1.6	1.7
Belgium	1.3	1.2	1.0	1.0	0.8	0.8
Switzerland	1.2	1.3	1.4	1.3	1.1	1.0
Sweden	0.9	1.0	0.9	0.9	0.8	0.8
Austria	0.8	0.8	0.8	0.8	0.7	0.6
Norway	0.8	0.8	0.7	0.7	0.7	0.7
Ireland	0.7	0.8	0.5	0.4	0.4	0.3
Denmark	0.7	0.6	0.6	0.6	0.6	0.5
Emerging Market and Developing Countries 1/	42.4	47.4	47.6	47.6	48.0	48.3
Africa	4.4	3.5	3.3	3.4	3.4	3.4
South Africa	0.6	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	22.5	22.5	22.7	22.8
China 2/	6.4	10.5	11.4	11.5	11.6	11.8
India	2.7	3.0	3.3	3.3	3.3	3.4
Korea, Republic of	1.8	1.9	2.0	2.1	2.1	2.0
Indonesia	1.0	1.3	1.4	1.4	1.4	1.4
Singapore	0.8	1.3	0.7	0.7	0.6	0.6
Malaysia	0.8	0.8	0.8	0.7	0.7	0.7
Thailand	0.7	1.0	0.9	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.8	6.8	6.8	6.8
Saudi Arabia	2.1	1.7	1.5	1.5	1.5	1.5
Turkey	1.0	1.1	1.2	1.2	1.2	1.2
Iran, I.R. of	0.7	0.8	0.8	0.8	0.8	0.8
Western Hemisphere	7.9	7.4	7.6	7.7	7.7	7.9
Brazil	2.3	2.4	2.6	2.6	2.6	2.6
Mexico	1.9	1.7	1.8	1.8	1.8	1.9
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.4	7.3	7.4	7.4
Russia	2.7	2.8	2.8	2.8	2.9	2.9
Poland	0.9	1.0	1.0	1.0	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
EU28	30.4	28.4	27.1	26.9	26.4	25.5
LICs 3/	4.1	3.0	2.9	2.9	2.9	3.0
Coefficients for quota variables						
GDP		0.300	0.360	0.360	0.360	0.360
PPP GDP		0.200	0.240	0.240	0.240	0.240
Openness		0.300	0.350	0.350	0.350	0.350
Variability		0.150	0.000	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 17. Illustrative Calculations - Current GDP Blend, Dropping Variability, All Weight to GDP, and Different Openness Measures
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, all weight to GDP, and different openness measures:			
			Nominal openness capped at the 85th percentile	Nominal openness capped at the 75th percentile	Openness shares capped at 1.8	Openness shares capped at 1.5
Advanced economies	57.6	52.6	52.1	52.1	51.7	51.5
Major advanced economies	43.4	37.9	39.2	39.4	39.8	39.9
United States	17.4	14.9	15.9	15.9	16.1	16.4
Japan	6.5	6.0	6.2	6.2	6.3	6.4
Germany	5.6	5.3	5.2	5.2	5.2	4.8
France	4.2	3.3	3.5	3.5	3.6	3.7
United Kingdom	4.2	3.5	3.5	3.5	3.5	3.4
Italy	3.2	2.7	2.7	2.8	2.8	2.9
Canada	2.3	2.2	2.2	2.2	2.3	2.3
Other advanced economies	14.3	14.7	12.9	12.6	12.0	11.6
Spain	2.0	2.0	2.0	2.0	2.0	2.1
Netherlands	1.8	1.9	1.6	1.4	1.3	1.2
Australia	1.4	1.6	1.6	1.6	1.6	1.7
Belgium	1.3	1.2	1.0	0.9	0.8	0.7
Switzerland	1.2	1.3	1.3	1.3	1.1	1.0
Sweden	0.9	1.0	0.9	0.9	0.8	0.7
Austria	0.8	0.8	0.7	0.7	0.7	0.6
Norway	0.8	0.8	0.7	0.7	0.7	0.7
Ireland	0.7	0.8	0.4	0.4	0.4	0.3
Denmark	0.7	0.6	0.6	0.6	0.5	0.5
Emerging Market and Developing Countries 1/	42.4	47.4	47.9	47.9	48.3	48.5
Africa	4.4	3.5	3.3	3.3	3.4	3.4
South Africa	0.6	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	22.7	22.7	22.9	23.0
China 2/	6.4	10.5	11.6	11.6	11.7	11.9
India	2.7	3.0	3.4	3.4	3.4	3.5
Korea, Republic of	1.8	1.9	2.0	2.0	2.0	1.9
Indonesia	1.0	1.3	1.4	1.4	1.4	1.4
Singapore	0.8	1.3	0.7	0.7	0.6	0.6
Malaysia	0.8	0.8	0.7	0.7	0.7	0.7
Thailand	0.7	1.0	0.9	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.8	6.8	6.8	6.8
Saudi Arabia	2.1	1.7	1.5	1.5	1.5	1.5
Turkey	1.0	1.1	1.2	1.2	1.2	1.2
Iran, I.R. of	0.7	0.8	0.8	0.8	0.9	0.9
Western Hemisphere	7.9	7.4	7.8	7.8	7.9	8.0
Brazil	2.3	2.4	2.7	2.7	2.7	2.7
Mexico	1.9	1.7	1.8	1.8	1.8	1.9
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.6
Transition economies	7.2	7.7	7.3	7.3	7.3	7.3
Russia	2.7	2.8	2.9	2.9	2.9	3.0
Poland	0.9	1.0	0.9	1.0	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
EU28	30.4	28.4	26.4	26.2	25.8	25.0
LICs 3/	4.1	3.0	2.9	2.9	2.9	3.0
Coefficients for quota variables						
GDP		0.300	0.390	0.390	0.390	0.390
PPP GDP		0.200	0.260	0.260	0.260	0.260
Openness		0.300	0.300	0.300	0.300	0.300
Variability		0.150	0.000	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050	0.050
Compression factor		0.950	0.950	0.950	0.950	0.950

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.

Table 18. Illustrative Calculations - Current GDP and Openness Measures, Dropping Variability, and Higher Compression (0.925)
(In percent)

	14th General Review Quotas	Current Formula	Formula w/o variability, and weight spilt:			Formula w/o variability and:
			Even split	GDP (2/3), openness (1/3)	All to GDP blend	Weight of openness reduced to 0.25
Advanced economies	57.6	52.6	51.8	51.7	51.4	51.0
Major advanced economies	43.4	37.9	37.4	37.5	37.7	37.8
United States	17.4	14.9	14.5	14.6	15.0	15.3
Japan	6.5	6.0	5.8	5.9	6.0	6.1
Germany	5.6	5.3	5.2	5.1	5.0	4.9
France	4.2	3.3	3.5	3.5	3.4	3.4
United Kingdom	4.2	3.5	3.5	3.4	3.4	3.3
Italy	3.2	2.7	2.7	2.7	2.7	2.7
Canada	2.3	2.2	2.2	2.2	2.2	2.2
Other advanced economies	14.3	14.7	14.4	14.2	13.7	13.2
Spain	2.0	2.0	2.0	2.0	2.0	1.9
Netherlands	1.8	1.9	1.8	1.7	1.6	1.5
Australia	1.4	1.6	1.6	1.6	1.6	1.6
Belgium	1.3	1.2	1.2	1.2	1.1	1.0
Switzerland	1.2	1.3	1.4	1.4	1.3	1.3
Sweden	0.9	1.0	0.9	0.9	0.9	0.8
Austria	0.8	0.8	0.8	0.8	0.7	0.7
Norway	0.8	0.8	0.7	0.7	0.7	0.7
Ireland	0.7	0.8	0.7	0.7	0.7	0.6
Denmark	0.7	0.6	0.6	0.6	0.6	0.6
Emerging Market and Developing Countries 1/	42.4	47.4	48.2	48.3	48.6	49.0
Africa	4.4	3.5	3.5	3.5	3.6	3.6
South Africa	0.6	0.6	0.6	0.6	0.6	0.6
Nigeria	0.5	0.5	0.5	0.5	0.5	0.5
Asia	16.0	21.7	22.4	22.5	22.7	22.8
China 2/	6.4	10.5	10.7	10.8	11.0	11.2
India	2.7	3.0	3.2	3.2	3.4	3.5
Korea, Republic of	1.8	1.9	2.0	2.0	2.0	1.9
Indonesia	1.0	1.3	1.3	1.4	1.4	1.4
Singapore	0.8	1.3	1.2	1.2	1.1	1.0
Malaysia	0.8	0.8	0.8	0.8	0.8	0.7
Thailand	0.7	1.0	0.9	0.9	0.9	0.9
Middle East, Malta and Turkey	6.7	7.1	6.9	6.9	7.0	7.0
Saudi Arabia	2.1	1.7	1.5	1.5	1.5	1.5
Turkey	1.0	1.1	1.2	1.2	1.2	1.2
Iran, I.R. of	0.7	0.8	0.8	0.8	0.9	0.9
Western Hemisphere	7.9	7.4	7.7	7.8	7.9	8.1
Brazil	2.3	2.4	2.5	2.5	2.6	2.7
Mexico	1.9	1.7	1.8	1.8	1.8	1.8
Venezuela, R.B. de	0.8	0.5	0.5	0.5	0.5	0.5
Argentina	0.7	0.6	0.6	0.6	0.6	0.7
Transition economies	7.2	7.7	7.6	7.6	7.6	7.5
Russia	2.7	2.8	2.8	2.8	2.8	2.9
Poland	0.9	1.0	1.0	1.0	1.0	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
EU28	30.4	28.4	28.0	27.7	26.9	26.2
LICs 3/	4.1	3.0	3.1	3.1	3.1	3.2
Coefficients for quota variables						
GDP		0.300	0.345	0.360	0.390	0.420
PPP GDP		0.200	0.230	0.240	0.260	0.280
Openness		0.300	0.375	0.350	0.300	0.250
Variability		0.150	0.000	0.000	0.000	0.000
Reserves		0.050	0.050	0.050	0.050	0.050
Compression factor		0.950	0.925	0.925	0.925	0.925

Source: Finance Department.

1/ Including Czech Republic, Estonia, Korea, Latvia, Malta, Singapore, Slovak Republic, and Slovenia.
2/ Including China, P.R., Hong Kong SAR, and Macao SAR.
3/ PRGT-eligible countries.