

SM/11/120

June 10, 2011

To: Members of the Executive Board

From: The Secretary

Subject: **The Case for a General Allocation of SDRs During the Tenth Basic Period**

The attached paper on the case for a general allocation of SDRs during the tenth basic period, is being circulated as background for the **informal session to engage** Executive Directors that is tentatively scheduled for **Thursday, June 23, 2011**. Issues for discussion appear on pages 16 and 17.

It is not intended that this paper will be published on the Fund's external website.

Questions may be referred to Ms. Mateos y Lago, SPR (ext. 37219), Ms. Prowse, FIN (ext. 38744), Ms. Weeks-Brown, LEG (ext. 36896), Ms. Asmundson, SPR (ext. 36763), Ms. Manno, FIN (ext. 38175), and Ms. Rosenberg, LEG (ext. 37790).

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INTERNATIONAL MONETARY FUND

The Case for a General Allocation of SDRs During the Tenth Basic Period¹

Prepared by the Finance, Legal, and Strategy, Policy, and Review Departments, in consultation with other departments

Approved by Sean Hagan, Reza Moghadam, and Andrew Tweedie

June 10, 2011

Executive Summary

This paper both assesses the case and seeks to ascertain whether there exists broad support for an allocation or cancellation of Special Drawing Rights (SDRs) during the period 2012–2016. As an international reserve asset, SDRs can supplement the existing supply of reserve assets. They are allocated in a general allocation to IMF members who are participants in the SDR Department in proportion to their quotas, and are a potential claim on the freely usable currencies of other IMF members.

Staff sees a potential case for a general SDR allocation over the course of the upcoming tenth basic period: there is a long-term global need for reserves that it would be beneficial to meet in limited part through SDR allocations—both from the standpoint of systemic stability and from that of member countries accumulating precautionary reserves. The analysis in this paper, which focuses on estimates of reserve demand, nature of the supply, and other considerations, suggests an allocation equivalent to about \$350–400 billion could be contemplated; staggering the allocation over three years and postponing the first tranche to 2014 could be envisioned to attenuate concerns about possible inflationary pressures. Given this, staff does not see a case for a cancellation of the previous allocation. That said, discussions are ongoing on the reform of the international monetary system, including on the role of the SDR in promoting its stability, and several issues related to potential further SDR allocations identified in earlier discussions remain outstanding—a key issue being the criteria for determining the composition of the SDR basket.

Following consultation with the Executive Board, the Acting Managing Director will submit either a proposal regarding an allocation or cancellation of SDRs, which would need to be concurred in by the Executive Board, or a report to the Board of Governors and the Executive Board concluding that no proposal could be made that would be consistent with the Articles and would attract the necessary broad support. It is a requirement under the Articles of Agreement that either one of these steps be taken by June 30, 2011.

¹ This paper was prepared by a team comprising Irena Asmundson and Chris Marsh, with inputs from Linda Kaltani (all SPR); Elena Budras, Maria Manno, and Rossen Rozenov (all FIN); and Gabriela Rosenberg and Bernhard Steinki (both LEG), led by Isabelle Mateos y Lago (SPR), Susan Prowse (FIN), and Rhoda Weeks-Brown (LEG).

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I. INTRODUCTION

1. **Special Drawing Rights (SDRs) are an international reserve asset.** The SDR was created in 1969 through the First Amendment of the Articles of Agreement, under a system where exchange rates were fixed to the U.S. dollar, to supplement the existing supply of reserve assets when the demand was expected to outstrip the willingness of reserve issuers to create more assets. In a general allocation, SDRs are allocated to IMF members who are participants in the SDR Department in proportion to their quotas,² and are a potential claim on the freely usable currencies of other IMF members (at present, the euro, Japanese yen, pound sterling, and U.S. dollar). They are neither a currency nor a claim on the IMF, and may only be held by SDR Department participants and official prescribed holders (for the most part official multilateral institutions like the Bank for International Settlements). A general allocation can only be made if there is a long-term global need to supplement existing reserve assets and if it will not lead to inflationary pressures.³ If allocated SDRs were found to no longer meet this test, they could be cancelled. There are currently 204 billion SDRs outstanding (about \$327 billion), 183 billion of which were allocated in 2009, during the global financial crisis, to fill an immediate expression of a long-term global need.⁴

2. **Legal requirement.** Decisions by the Fund on general allocations or cancellations of SDRs take place in the context of consecutive basic periods of normally five years (Article XVIII, Section 2). The ninth basic period (2007–2011) is scheduled to end on December 31, 2011, and the tenth basic period (2012–2016) will commence on January 1, 2012. The Managing Director must make a proposal to the Board of Governors no later than six months before the end of each basic period regarding a general allocation or cancellation in the next basic period, if the Managing Director is satisfied that there is a proposal that, in the Managing Director's view: (i) is consistent with the objective of meeting the long-term global need to supplement existing reserve assets as described in Article XVIII, Section 1(a); and (ii) would have broad support among participants (Article XVIII, Section 4(b) and (c)). A decision of the Board of Governors approving such a proposal of the Managing Director requires an 85 percent majority of the total voting power of participants in the SDR Department (Article XVIII, Section 4(d)). If the Managing Director ascertains that there is no proposal consistent with Article XVIII, Section 1(a) that has broad support

² Members must be participants in the SDR Department to receive an allocation—currently all IMF members are participants.

³ Under Article XVIII, Section 1(a) general allocations or cancellations of SDRs “shall seek to meet the long-term global need, as and when it arises, to supplement existing reserve assets in such a manner that will promote the attainment of the Fund's purposes and that will avoid economic stagnation and deflation, as well as excess demand and inflation in the world”.

⁴ See SDR Factsheet, <http://www.imf.org/external/np/exr/facts/sdr.htm>.

among participants, the Managing Director must so report to the Board of Governors and to the Executive Board. The Managing Director is required to hold consultations with SDR Department participants in order to make this judgment.

3. **Purpose.** This paper is intended to inform a discussion of the Executive Board in order to ascertain if there is broad support among SDR Department participants for an allocation or cancellation of SDRs in the tenth basic period. It does not present a specific proposal but sets out the considerations that would be relevant to a proposal, in order to elicit the views of Directors. Depending on the outcome of the consultation, the Acting Managing Director will submit by June 30, 2011 either a proposal to the Board of Governors regarding an allocation or cancellation of SDRs in the next basic period, which would need to be concurred in by the Executive Board, or a report to the Board of Governors and the Executive Board concluding that no proposal could be made that would be consistent with the Articles and would attract the necessary broad support. In the absence of broad support six months before the start of the basic period, it would still remain open to the Managing Director to make proposals for an allocation or cancellation later, at the Managing Director's own initiative or at the request of the Board of Governors or of the Executive Board, if the Managing Director is satisfied at that time that the conditions under the Articles are fulfilled, including the requirement for broad support of participants.

4. **Context.** Discussions on the reform of the international monetary system, including on the scope for an enhanced role of the SDR in promoting a more stable and diversified system, are ongoing within the international community.⁵ The last such discussion identified a number of policy issues that would warrant further consideration. An important pending issue is the rules relating to the composition of the SDR basket, which are currently under review, along with other valuation parameters.

5. **Overview.** Section II spells out a case for a general SDR allocation during 2012–2016, based on an update of the approach used at the time of the 2009 allocation to estimate reserve demand, an additional estimate applying the new reserve metric recently discussed by the Executive Board, and other considerations. It also discusses the expected lack of inflationary impact and the absence of case for cancelling previous allocations. Section III discusses possible modalities for a general allocation; in particular staggering the allocation over three years and postponing the first tranche to 2014 could be envisioned to attenuate concerns about possible inflationary pressures. Section IV proposes issues for discussion. Annex I provides details on the estimation of the global need for reserves. Annex II provides first insights from experience under the 2009 SDR allocations.

⁵ See *Enhancing International Monetary Stability: A Role for the SDR*, SM/11/3.

II. THE CASE FOR AN ALLOCATION

6. **Concept of global need.** As noted, under the Articles of Agreement, a general allocation must be justified first and foremost by the existence of a “long-term global need to supplement existing reserve assets”. In today’s world, where unlike in 1969, the supply of reserve assets is effectively endogenous, demand-driven, and potentially infinite, the meaning of this concept is not entirely straightforward. However, legislative history and experience have guided the evolution of the concept, with the Fund following a two-step process since 1978 in considering a general SDR allocation: first, the need for reserves to hold is projected, and second, a judgment is made about the extent to which this need could or should be met through an allocation of SDRs.⁶ Need has traditionally been interpreted as a need to supplement members’ international reserve assets based on standardized indicators for reserve adequacy; thus any further expected reserve accumulation based on such indicators has been considered need for reserves. It has also long been recognized that a global need can exist even if a number of individual countries do not need additional reserves: a finding of global need instead requires a broad assessment that the projected level of reserves in the world economy as a whole, in the absence of supplementation, would be inadequate or would result in suboptimal performance of the global economy.⁷ As discussed below and in Annex I, a number of factors (including those considered in the context of the 2009 allocation proposal) point to the existence of a long-term global need.

7. **Use of SDRs to Meet Needs.** The second step of the analysis requires an assessment that an SDR allocation would be appropriate to meet the identified long-term global need, even if there are other ways to satisfy this need such as market borrowing. Relevant considerations to meet a global need for reserves with an SDR allocation include qualitative attributes of the SDR as owned reserves, in contrast to borrowed resources, and cost considerations of holding reserves through SDRs versus other means.

⁶ See for example *The Case for a General SDR Allocation*, FO/DIS/09/65 (4/15/2009) paragraph 2. For a more detailed discussion, see also *Allocations of SDRs—Legislative History of the Concept of “Global Need” to Supplement Existing Reserves*, SM/84/148, 6/27/1984 (which reviews the evolution of the “long-term global need concept, noting that, unlike the analysis in 1969 for the first general allocation (1970–1973), now the case for a general allocation is based on the expectation “that it would primarily affect the composition of reserve increases”).

⁷ See for example *SDR Allocation in the Eighth Basic Period—Basic Considerations*, SM/01/347 (11/16/2001), *Proposal for General Allocation of SDRs* SM/09/145 (6/9/2009), and *Allocations of SDRs—Legislative History of the Concept of “Global Need” to Supplement Existing Reserves*, SM/84/148 (6/27/1984).

A. Long-Term Global Need to Supplement Reserve Assets

Estimating reserve demand⁸

8. **Reserve demand over the next five years will be influenced by heightened uncertainty in the economic environment.** Although the worst of the global financial crisis appears to have passed, these events are a fresh and stark reminder of the vulnerabilities facing all economies. Moreover, significant risks remain post-crisis that are unlikely to dissipate any time soon. To highlight just a few of the key concerns and their implications for reserve demand (see Figure 1):

Commodity prices. Large fluctuations in the real price of key commodities are a further source of uncertainty. Paradoxically, such volatility can encourage both exporters and importers of commodities to accumulate greater buffers—both fearing an adverse terms of trade shift.

Financing uncertainty. Capital flows to emerging markets have traditionally been prone to sudden stops or reversals. As such, while the recovery in capital inflows from the lows of the crisis is welcome, it also creates future risks that need to be guarded against—in particular, the risk of rapid current account reversal and growing external liabilities.

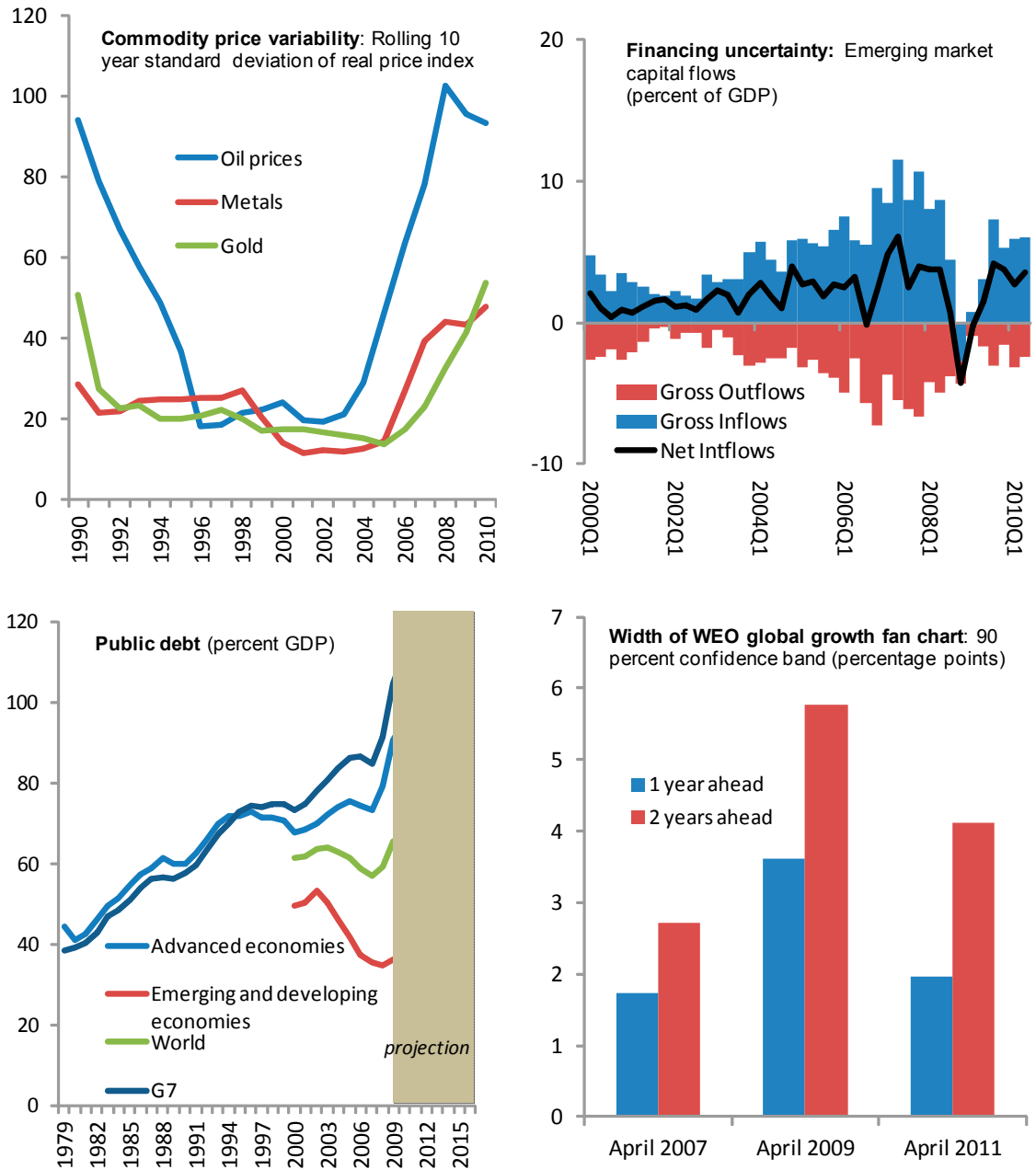
Public debt. Most advanced economies face elevated public debt stocks and sluggish growth prospects, which under adverse circumstances expose them to a potential debt shock, entailing a sharp rise in benchmark yields. The latter, particularly if sudden, would likely have negative implications for financing conditions or even market access of emerging markets—another risk calling for adequate precautionary buffers.

Growth risks. More generally, heightened post-crisis uncertainty is reflected in a widening of the World Economic Outlook global growth fan chart. The fan chart maps the spread of likely outcomes (to a 90 percent confidence interval) around a central scenario—the wider the fan, the more uncertainty. Although the spread of likely scenarios has narrowed since the peak of the crisis, the spread surrounding the two-year projection remains more than one percentage point wider than early-2007.

Assuming unchanged risk aversion from countries in the next basic period, such heightened uncertainty would seem consistent with persistently higher reserve demand.

⁸ Further details are provided in Annex I.

Figure 1. Post-Crisis Heightened Uncertainty



Source: IMF World Economic Outlook, various editions

9. **Updating the 2009 reserve demand estimates suggests additional reserve asset demand of \$800–1,600 billion over the next basic period.** The approach taken to identify a long-term global need in the Managing Director’s proposal for the 2009 general allocation of SDRs for the current basic period suggests that over a five-year horizon additional reserve demand in the range \$800–1,600 billion can be expected. This is higher than the projection in 2009 which gave a range of \$700–900 billion for the same horizon. This estimate is based on three standard metrics that link reserve demand to coverage of: (i) imports; (ii) short-term

external debt; and (iii) broad money. The metrics are calculated for a reference group of 118 emerging markets and developing countries excluding China and fuel exporters, with a view to focusing the estimation on precautionary reserve demand.⁹ Using WEO forecasts of key variables gives the expected stock of reserves over a period of 5 and 10 years.¹⁰ The difference between this figure and the existing (end-2011 projected) stock of reserve assets provides an estimate of reserve demand for our sample.

Table 1: Projected Demand for Reserve Assets: Standard Metrics (billions \$)

Metric	2011 Results		2009 Results	
	Updated parameters 1/		2009 parameters	
	5 year	10 year	5 year	10 year
Import	917	2,364	709	1,762
Short-term external debt	824	2,187	801	1,876
Broad money	1,571	3,357	892	2,054
Range	\$824 to 1,571	\$2,187 to 3,357	\$709 to 892	\$1,762 to 2,054

1/ 6.2 months of imports (the average of 2007-09); 167 percent of short-term external debt (2009 figure); and 32 percent of broad money (2009 figure).

10. **The new reserve adequacy metric recently proposed by staff¹¹ suggests demand of about \$550 billion over the forecast horizon** (see Table 2). Different metrics were recommended for fixers versus floaters.

Table 2 shows projected reserve accumulation for the extremes if all countries in the sample pursued fixed and floating exchange rates, as well as demand based on the IMF's current *de facto* exchange rate arrangement classification.¹² Only 24 percent of the reference group have floating exchange rates,

Table 2: Projected Demand for Reserve Assets: New Reserve Adequacy Metric (billions \$)

	Reserve adequacy metric	
	5 year	10 year
All fixed	845	2,261
Weighted: based on current de facto classification	548	1,845
All floating	0	606
Total range	\$0-845	\$606-2,261

⁹ As in 2009, focusing on emerging markets and developing countries narrows in on those countries most likely to face difficulties accessing external liquidity. And excluding China and fuel exporters avoids artificially inflating reserve benchmarks. That said it is recognized that even among countries in this sample, some of the reserve accumulation may be guided by non precautionary motives.

¹⁰ Beyond 2016, absent WEO forecasts, nominal GDP is projected forward using the average nominal growth from existing projections and other variables held constant as a percent of nominal GDP—as in 2009.

¹¹ *Assessing Reserve Adequacy*, p.25. Negative reserve accumulation implied by the metric is treated as 0.

¹² As some data was unavailable for the reference group, numbers include some uncertainty from estimates used. Exchange rate classifications are based on the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*, countries have been grouped such that those floating or free floating classifications are considered floaters, and all others to have fixed exchange rates.

though they hold around $\frac{3}{4}$ of the reserves in the sample; a simple unweighted average suggests countries in the reference group notionally have a crawling peg arrangement. On existing exchange rate classifications, demand for \$550 billion in reserves for the sub-group can be expected over the next 5 years—increasing to \$1.8 trillion over the next decade.

11. **This approach overlooks possible reserve demand by countries not in the reference group.** Focusing on the reference group has the potential to understate demand over the near future insofar as funding shortfalls in the crisis underscored the incentives for advanced economies to accumulate reserves. Higher reserves may also be needed to cope with bank distress. However, providing a full assessment of possible reserve demand in these cases is difficult. As noted in the *Assessing Reserve Adequacy* paper, while “metrics developed for emerging markets might—in modified form—have relevance for some advanced markets, for most, reserves needs depend on detailed country-specific factors” (p. 44).

12. **There may be mitigating influences.** In addition to possible changes in reserve accumulation behavior from countries in the reference group, e.g., reflecting recent improvements in the IMF lending toolkit, the above developments could be offset at least in part at the global level by lower reserve accumulation for non precautionary purposes (e.g., if the recent surge in capital inflows tapers off, or global current account imbalances narrow faster than currently forecast). Overall demand for reserves would also be lower if some countries decide to lower reserve holdings, as the new reserve adequacy metric suggests at least some have more than adequate levels. However, there are no strong grounds to consider these developments as part of the baseline.

B. Supply of reserve assets

13. **Qualitatively, it can be argued that SDRs are inherently superior** to endogenously generated reserves, in the following ways:

- a. They are costless as long as they are actually held in reserves, unlike borrowed reserves, or reserves accumulated through intervention, that have a substantial opportunity cost (see *Assessing Reserve Adequacy*, SM/11/31).
- b. They are continuously available (unlike borrowed reserves, that need to be rolled over).
- c. They are continuously liquid, and will not lead to procyclical asset price movements if sold in a crisis, as might be the case with some second-tier reserve assets such as were held by a number of central banks in the run up to the 2008 crisis.
- d. They can be accumulated without contributing to global imbalances through current account surpluses and downward pressure on financing costs of reserve issuers.

- e. They would tend to constitute a better store of value than the components of the basket taken separately (of course reserve managers can replicate the currency composition of the basket in their portfolio but would remain exposed to idiosyncratic credit risk and related asset valuation, irrespective of currency fluctuations).

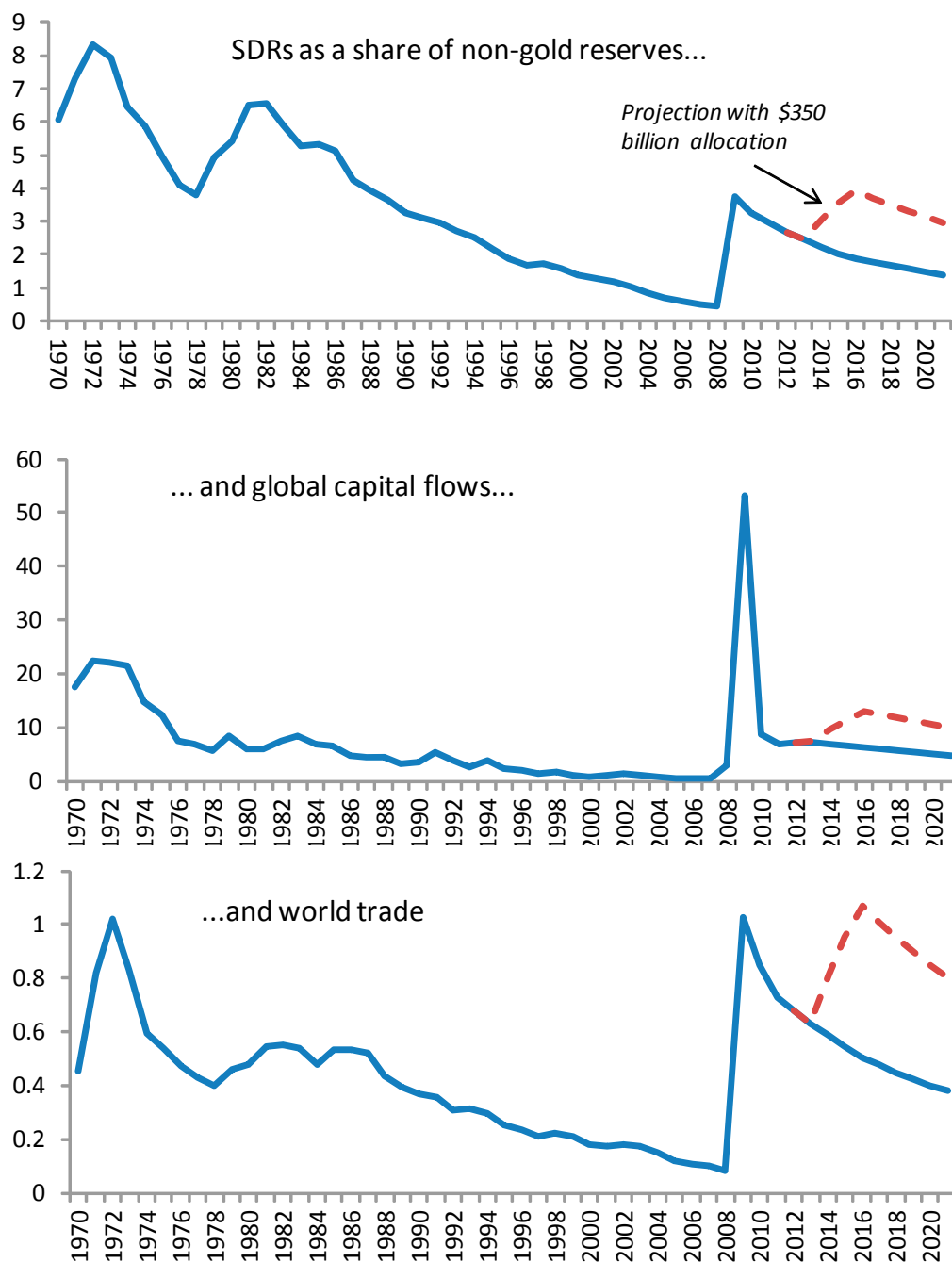
Thus it makes sense—both from the standpoint of systemic stability and, though to varying degrees, of individual members—that at least some fraction of future reserve accumulation be met through SDR allocation. Moreover, they would not undermine the case regarding the benefits of SDR holdings at the individual country level. More generally, an allocation in the tenth basic period would be needed to merely prevent a new erosion of the relative role of the SDR in the international monetary system (see Figure 2).

14. Moreover there are some concerns about the long-term supply of reserves.

Advanced markets debt issuance has been growing very fast as a percent of GDP (see Figure 1). Total G4 (the Euro Area, Japan, U.K., and U.S.) general government gross debt is projected to grow over the next five-year period, but most countries have expressed an intention to shrink their debt levels as soon as it is feasible.¹³ Over the next five years, projected issuance is just under \$11 trillion. As demand for reserves rises, an increasing share of advanced markets debt would be bought by official sources with portfolios large enough to

¹³ Chapter 1 of the April 2011 *Fiscal Monitor* discusses the required fiscal tightening of advanced markets to shrink debt levels.

Figure 2. A Long-Term Perspective on the SDR, 1970 - 2016
(in percent)

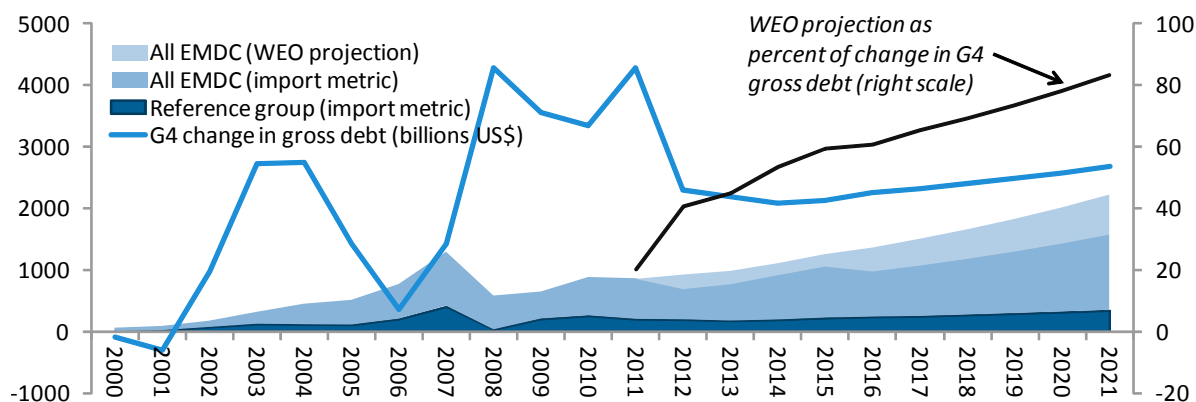


Source: International Financial Statistics and World Economic Outlook.

move prices, which is some distance from the model of competitive markets (see Figure 3). Continued reliance on advanced markets debt would also blunt some of the automatic mechanisms for adjustment in the international monetary system by keeping the costs of advanced markets debt low. For example, Warnock and Warnock (2006)¹⁴ suggest in rough terms that Treasury purchases of 1 percent of U.S. GDP could lower yields on the 10-year benchmark by about 20 basis points. Federal Reserve data show that official purchases were about 1 percent of GDP in 2010.

15. **Other reserve assets supply will remain limited over the next 5 years.** While emerging market debt could in the future become a reserve asset, this will take time, and is unlikely to occur quickly enough to allow the system to smoothly shift: projected issuance by the ten emerging markets rated AA- or above is only \$42 billion during 2011–2016. Of course, there are other assets that reserve managers could—and indeed do—choose to hold, but highly rated sovereign debt provides a lower bound on the potential supply of high quality reserve assets, with substitutes typically not offering to the same degree of liquidity and store of value assurances.

Figure 3. EMDC Reserve Accumulation and G4 Debt Issuance (billions US\$) 1/



Source: World Economic Outlook; and Fund staff estimates.

1/ For consistency with earlier analysis on reserve demand, this chart shows demand using the "import metric" for the reference group as well as all EMDC (using the same projection approach). The chart also shows the WEO projection of change in EMDC reserves and G4 gross debt (as a proxy for new debt issuance) with forecasts beyond 2016 constructed by assuming variables stay constant as a share of nominal GDP (assumed trending upwards).

Potential downsides of supplementing reserve assets with SDRs

16. **A general allocation of SDRs may not place constraints on their use, thus potentially opening the door to destabilizing policies.** Recipients may be tempted to use the allocation to accommodate higher domestic consumption in circumstances where such move could be inflationary or worsen debt sustainability, or more generally as a substitute to

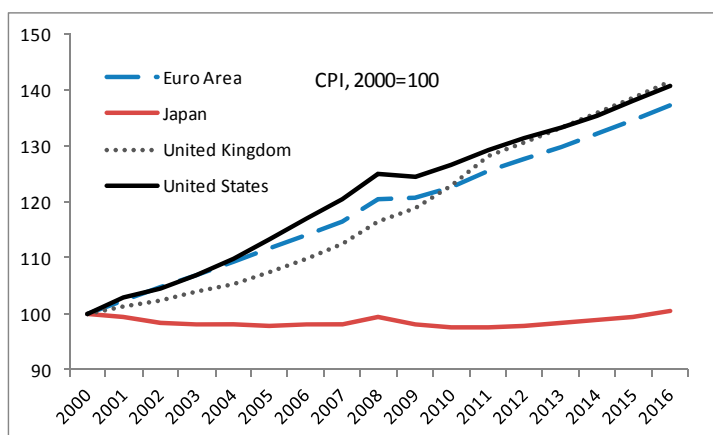
¹⁴ Warnock, F. E., and V. C. Warnock, 2006, "International Capital Flows and U.S. Interest Rates," NBER Working Paper No. 12560, October.

needed adjustment. The risk could be contained by keeping the size of the allocation moderate relative to the countries' quotas, as well as by building procedural safeguards in the context of the Fund's lending and surveillance policies. There is also the risk that providing an alternative reserve asset, by offering a new avenue for diversification, could encourage the perpetuation of policies of excessive reserve accumulation, which may otherwise taper off as authorities internalize the shrinking stock of safe assets to invest in. That said, there is no evidence of such internalization process being at play. Moreover, an SDR allocation would also reduce the systemic costs of such excessive accumulation.

C. Possible Inflationary Impact

17. **Staff does not see a significant risk of additional inflationary pressures arising from an SDR allocation.** There are currently inflationary pressures in many emerging

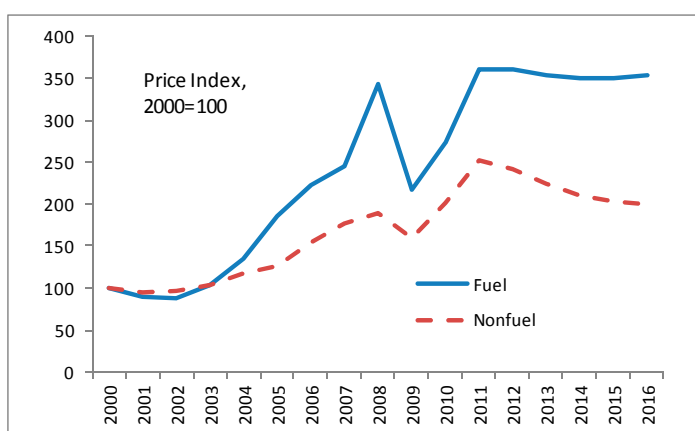
markets and developing economies, as well as some of the major reserve currency issuers (with the notable exception of Japan). Commodity prices have also been rising at a fast pace, as can be seen in both fuel and nonfuel (food, agricultural goods, and metals) prices. However, an SDR allocation would be unlikely to add to inflationary pressures if policymakers respond appropriately, as discussed below.



18. **The policy response to the allocation is unlikely to allow inflationary pressures to develop.**

Box 1 lays out how a general SDR allocation would affect money creation, including likely policy responses, and concludes that the effect would be neutral.

Independently, Cooper (2011)¹⁵ comes to the same conclusion after analyzing the most likely five scenarios that may play out following an allocation of SDRs.



¹⁵ Cooper, Richard. *Is SDR Creation Inflationary?* (2011), Report by an Independent Expert Consultant <http://www.imf.org/external/np/pp/eng/2011/010711.pdf>

An SDR allocation might add to inflationary pressures only if it is used in a context of excess demand, and if the relevant monetary authorities refrain from countering the impact on inflation.

19. **Despite concerns about overabundance of global liquidity, an allocation need not lead to higher inflation.** With many emerging markets facing abundant capital inflows at this time, and overheating worries emerging in some parts of the world, concerns have been expressed of excessive global liquidity. It is an open question whether the total amount of global liquidity is adequate or excessive. But what is clear is that, unlike in the world of 1969, with closed capital accounts and fixed exchange rates, global liquidity bears at most a tenuous relationship with the amount of international reserves held by central banks, and therefore an SDR allocation, in itself, would not materially affect the volume of global liquidity unless it were converted into actual tradable currencies, and even then need not lead to net monetary creation, as discussed above.

D. No Case for Cancellation of Previous Allocations

20. **The existence of a long-term global need to supplement existing reserves implies in and of itself that there is no case for cancelling previous allocations.** As discussed in previous Board papers, as allocations and cancellations are based on opposite findings, arguments cannot be made in good faith that the factors for both exist at the same time.¹⁶ Indeed, given the gap between the outturn in 2011 and the projected levels of need in 2009, the allocation at that time arguably could have been higher. The global economy has weathered the crisis better than had been expected a few years ago. This could lower the need for precautionary reserves, but uncertainty about how the needed medium-term adjustments will be accomplished remains.

¹⁶ See *SDR Allocations and the Situations of New Participants—Legal Aspects*, SM/94/64.

Box 1. Implications of General SDR Allocation for the Central Bank Balance Sheets and Money Creation

This box discusses the implications for central banks' balance sheets, reserves, and global money supply,¹ of various scenarios related to the use of SDRs. A general SDR allocation would increase reserves, but would not per se affect the global money supply.

Net international reserves would increase for every participating country. SDR holdings are classified as assets in central banks' balance sheets, while SDR allocations are treated as long-term liabilities² that are not netted out against the reserve assets. Hence, a general SDR allocation would normally increase both gross and net reserves of all countries receiving the allocation, and global reserves would go up by the full amount of the allocation.

The central bank of the country that sells its SDR holdings in exchange for a reserve currency (say, country A) would experience a change in the composition of its reserves. On the asset side of the central bank's balance sheet, the amount of SDR holdings decreases while that of the reserve currency increases. On the liability side, SDR allocations remain unchanged. Domestic and global money supply remain unaffected (until the seller central bank spends the reserve currency, see below).

The central bank balance sheet implications for the country buying SDRs (say, country B) would depend on whether or not it issues the reserve currency.³ If country B does not issue the reserve currency, holdings of SDR would increase while those of the reserve currency would decrease, implying a shift in the composition of reserves. Domestic and global money supply would remain unchanged. However, for a country issuing the reserve currency, SDR holdings (assets) and foreign liabilities would increase. As the liability is toward a foreign central bank, again domestic and global money supply would remain unchanged.⁴

It is natural to conceive that country A would use the reserve currency to intervene in the market, then the amount of the reserve currency in circulation would increase globally, while that of the local currency would decline.⁵ For example, the authorities may want to resist pressure on the exchange rate in the face of a speculative attack or balance of payment needs. Global money supply would remain unchanged—unless there is an exchange rate effect—but its composition would have changed.

The market participant that acquired the reserve currency might use such currency to import goods or buy assets from residents of country B. In this case, the world will end up not only with a change in composition of money supply (less of currency of country A and more of the one of B) but also with a geographic reallocation (more money in country A and less in B).

Countries may choose to sterilize their change in domestic money supply, as country A (B) may fear deflationary (inflationary) pressures. If both countries sterilize in the same amount, global money supply remains unchanged, and the initial composition is restored. To the extent that countries differ in the extent of sterilization, global money supply would change.

Overall, the creation and use of SDR are likely to have a neutral effect on global money supply. Some effects may arise from asymmetric sterilization policies or from a change in the policy incentives induced by the availability of additional reserves, especially for countries facing binding constraints on external financing.

¹ A version of this box appeared in the 2009 paper *Proposal for a General Allocation of SDRs*. The analysis in this Box reflects the fact that many members' SDR positions are shown in their central bank's balance sheets. Global money supply here refers to the liabilities of the global banking system (that is, all central and commercial banks).

² See the *Balance of Payments and International Investment Position Manual*, sixth edition.

³ There are several possible ways in which the buyer country can provide liquidity to the seller country, each of which may have different implications for money supply in the buyer country. For simplicity, here we assume that the buyer central bank creates a credit line for the seller central bank, so the effect on global money supply is unchanged.

⁴ According to the *Monetary and Financial Statistics Manual*, money holders are "usually defined to include all resident sectors except depository corporations and the central government."

⁵ While waiting to use the reserve currency for intervention, country A may choose to invest it in the assets of country B in order to gain interest. During this period and depending from which sector in country B the assets are purchased, money supply in country B, as well as global money supply may increase. This would be reversed when country A sells the assets or if country B sterilizes the increase.

III. MODALITIES OF A POSSIBLE GENERAL SDR ALLOCATION

21. A case can be made for a general allocation of SDRs equivalent to \$350–400 billion to meet the long-term global need to supplement existing reserve assets.

Reserve demand for the reference group, which holds about 21 percent of Fund quotas, and therefore would receive that share of any allocation, is projected to be \$800–1,600 billion over the next five years, rising to over \$2,100 billion over ten years.¹⁷ The reference group's share of the SDR allocation of \$74–84 billion would cover around 5–11 percent of their projected demand for reserves over the next five years, in the same range as the 2009 allocation (6–7 percent). With respect to the overall scale of the allocation for the tenth basic period and its modalities, a proposal along the following lines could be contemplated:

- a. The total size of the general allocation would be equivalent to \$350–400 billion (SDR 219–250 billion) in the Tenth Basic Period.
- b. The general allocation split into three equal tranches, with annual allocations equivalent to \$117–133 billion (SDR 73–83 billion), and
- c. The general allocation to start in 2014, with allocations made at the beginning of each calendar year.

The delayed start and contemplated three-year tranching of the allocation would be intended to allow the proposal to gather broader support in case some members were concerned about adding to inflationary pressures at the current juncture, notwithstanding staff's analysis that the requirements for an allocation starting in 2012 would be met. A staggered approach was adopted at the time of the first (1970–72) and second general allocations (1979–81) with three annual tranches in both cases to address concerns about prevailing inflationary pressures.

IV. CONCLUSION AND ISSUES FOR DISCUSSION

22. In sum, a case can be made that there is a “long-term global need to supplement existing reserve assets.” A case can also be made that this need should be met in small part through an SDR allocation that would have benefits for individual members and for the stability of the system, and would not per se be inflationary. It is recognized however, that discussions on the role of the SDR in strengthening the international monetary system have not reached closure, and further operational work may be desirable to provide clarity on the full range of possible side-effects of a general SDR allocation before any decision on such an allocation is taken.

¹⁷ Based on coverage of imports, short-term external debt, and broad money. If the reserve adequacy metric were used, the range would be \$550–\$1600. Exchange rate of 1.600770 US\$/SDR from May 31, 2011 used.

23. While recognizing the large degree of uncertainty underlying the various staff estimates, do Directors see a long-term global need to supplement existing reserve assets during the tenth basic period?
24. If so, what are Directors' views on a general allocation of SDRs during that period to meet this need, as well as its possible scale and modalities?
25. As noted in paragraph 2, depending on the outcome of the Board discussion, either a proposal for a general allocation in the tenth basic period will be prepared and circulated to the Executive Board for concurrence prior to its submission to the Board of Governors, or a report to the Board of Governors and the Executive Board will be prepared stating that no proposal can be made at this stage that would be consistent with the substantive requirements set forth in the Articles and would have broad support among participants.

Annex I: Estimating Reserve Demand

1. **Updating the 2009 reserve demand estimates suggests that reserve asset demand will keep rising briskly;** in the range \$800–1,600 billion can be expected. This is higher than the projection in 2009 which gave a range of \$700–900 billion for the same horizon. This estimate is based on three standard metrics, calculated for a reference group of 118 emerging markets and developing countries excluding China and fuel exporters.¹ The difference between the projected stock of reserves using forecasts of WEO variables and the existing (end-2011 projected) stock of reserve assets provides an estimate of reserve demand for our sample.

2. **As in 2009, current ratios are taken as indicative of future behavior.** It is assumed that the current level of reserves as a proportion of relevant metrics serves as a revealed preference for optimal reserve holdings—not in a normative sense, but simply as an indication of likely targets for reserves over the forecast horizon. Recently introduced IMF facilities could arguably serve to reduce demand for precautionary reserves. However, the recent survey of reserve managers conducted for the Assessing Reserve Adequacy paper (SM/11/31, p.17) revealed that “almost all of the reserve managers who responded to the survey considered their level of reserves to be ‘about right.’ This suggests that these ratios can serve as a good guide to future behavior.

3. **Each metric suggests that demand for reserves over the next five years will be greater than previously projected**—in particular, the upper bound estimates over the next 5 years are \$700 billion above the 2009 projection (see Table 1). As in 2009, figures for demand over a 10-year horizon are also provided. Several factors drive projected demand for reserves (see Annex I Figure 1):

Rapid import recovery. Imports are expected to be higher than thought at the height of the crisis in 2009—when uncertainties about the depth of the recession were at their highest. This drives up the reserves needed for coverage of imports—by around \$500 billion more over the 10-year period than for the decade following the 2009 paper.

Short-term external debt has been revised up. At the height of the crisis there were some worries that countries would find it difficult to roll over short-term debt. Those fears have proven to be less important than had been thought.

Stronger broad money growth. This is mainly due to a faster recovery.

¹ As in 2009, focusing on emerging markets and developing countries narrows in on those countries most likely to face difficulties accessing external liquidity. And excluding China and fuel exporters avoids artificially inflating reserve benchmarks.

Table 1: Projected Demand for Reserve Assets: Standard Metrics (billions \$)

Metric	2011 Results		2009 Results	
	Updated parameters 1/		2009 parameters	
	5 year	10 year	5 year	10 year
Import	917	2,364	709	1,762
Short-term external debt	824	2,187	801	1,876
Broad money	1,571	3,357	892	2,054
Range	\$824 to 1,571	\$2,187 to 3,357	\$709 to 892	\$1,762 to 2,054

1/ 6.2 months of imports (the average of 2007-09); 167 percent of short-term external debt (2009 figure); and 32 percent of broad money (2009 figure).

4. **Moreover, as a robustness check, using 2009 assumptions about reserve coverage does not alter the overall picture.** If 2009 assumptions of 6.1 months of imports, 200 percent of short-term external debt, and 28 percent of broad money are used, the 5-year need is \$900–\$1,200 billion, while the 10-year need is \$2,300–\$3,100 billion.

Table 2: Projected Demand for Reserve Assets: New Reserve Adequacy Metric (billions \$)

	Reserve adequacy metric	
	5 year	10 year
All fixed	845	2,261
Weighted: based on current de facto classification	548	1,845
All floating	0	606
Total range	\$0-845	\$606-2,261

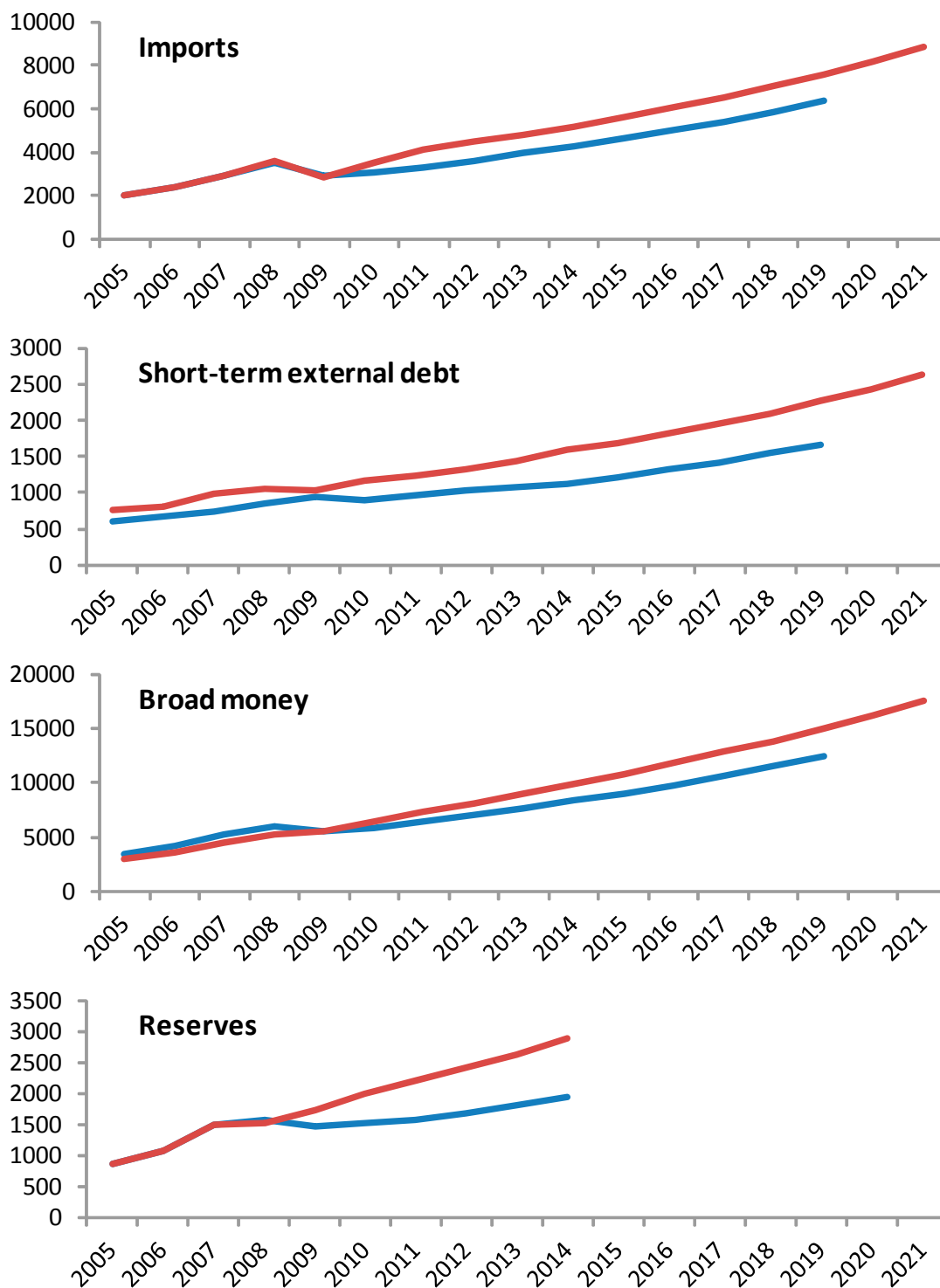
5. **The new reserve adequacy metric recently proposed by staff² suggests similar demand over the forecast horizon** (see Table 2). Different metrics were recommended for fixers versus floaters. Table 2 shows projected reserve accumulation for the extremes if all countries in the sample pursued fixed and floating exchange rates, as well as demand based on the IMF's current *de facto* exchange rate arrangement classification. Only 24 percent of the reference group have floating exchange rates, though they hold around $\frac{3}{4}$ of the reserves in that group; a simple unweighted average suggests countries in the reference group notionally have a crawling peg arrangement. Where the metric implies negative reserve accumulation, we treat it as 0 on the grounds that countries have ample existing reserves. On existing exchange rate classifications, demand for \$548 billion in reserves for the sub-group can be expected over the next 5 years—increasing to \$1.8 trillion over the next decade.

² *Assessing Reserve Adequacy*, p.25.

6. **Uncertainties surrounding the RAM.** Data constraints make the calculation of the new Reserve Adequacy Metric (RAM) difficult for the reference group. The RAM is based on five variables: (i) short-term external debt (at residual maturity); (ii) M2; (iii) exports; and the stock of; (iv) portfolio investment; and (v) other investment liabilities. While data for (i)-(iii) available for our full sample, stock data (iv) and (v) are not available for some countries. For those countries where data was not available, an estimate for (iv) and (v) was calculated based total external liabilities in the Lane and Milesi-Ferretti (2007) External Wealth of Nations database.³

³ Revised and updated version of Lane, P.R. and G.M. Milesi-Ferretti, 2007, *The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004*, Journal of International Economics, Vol. 73, 2007, 223–250

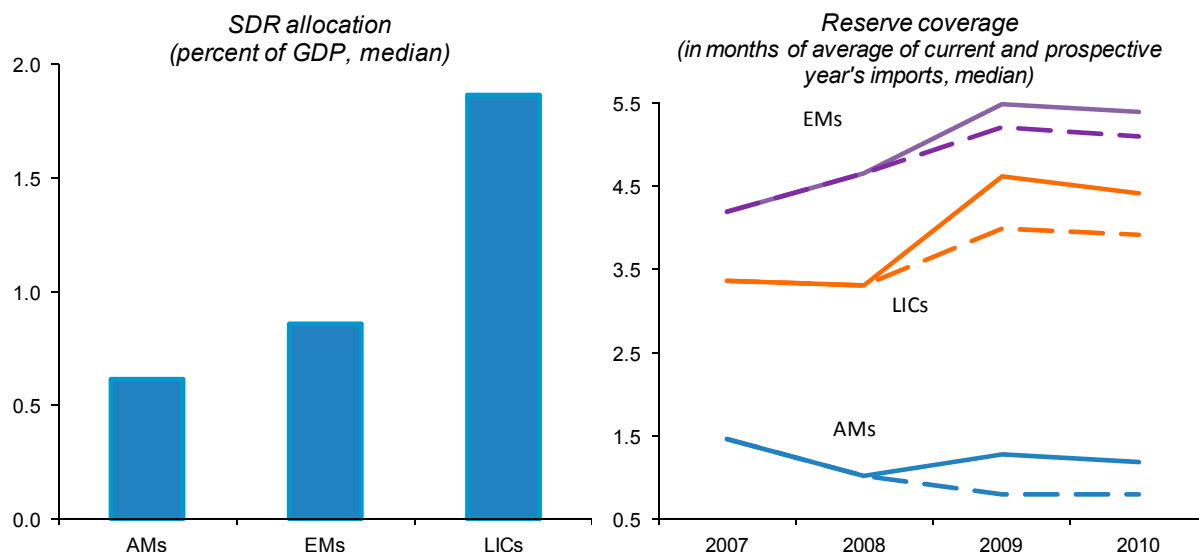
Figure 1. Key macroeconomic projections for standard metrics of reserve accumulation (millions \$)



Source: World Economic Outlook, April 2011; and Fund staff projections.

Annex II: Insights from the 2009 Allocations

1. **The 2009 SDR allocation¹ was largely relative to a variety of economic measures.** The allocation resulted in a more than ten-fold increase in SDR holdings worldwide. It was equivalent to about half of IMF disbursements for members with Fund arrangements during the global financial crisis in 2009–10, and amounted to approximately 1.6 percent of GDP in the median program country.² Given their larger quota sizes, advanced economies were the primary recipient of the SDR allocation, accounting for 62 percent of the total. By contrast, when measured against the sizes of their economies, the allocation was largest for LICs, followed by EMs (see chart below). The allocation contributed to a significant increase in reserve coverage across all member countries. This effect was particularly large for low-income countries (LICs) where reserves increased by nearly one month of imports. Moreover, reserve coverage generally increased in most EMs and LICs at the height of the crisis, suggesting that at least part of the allocation was saved.

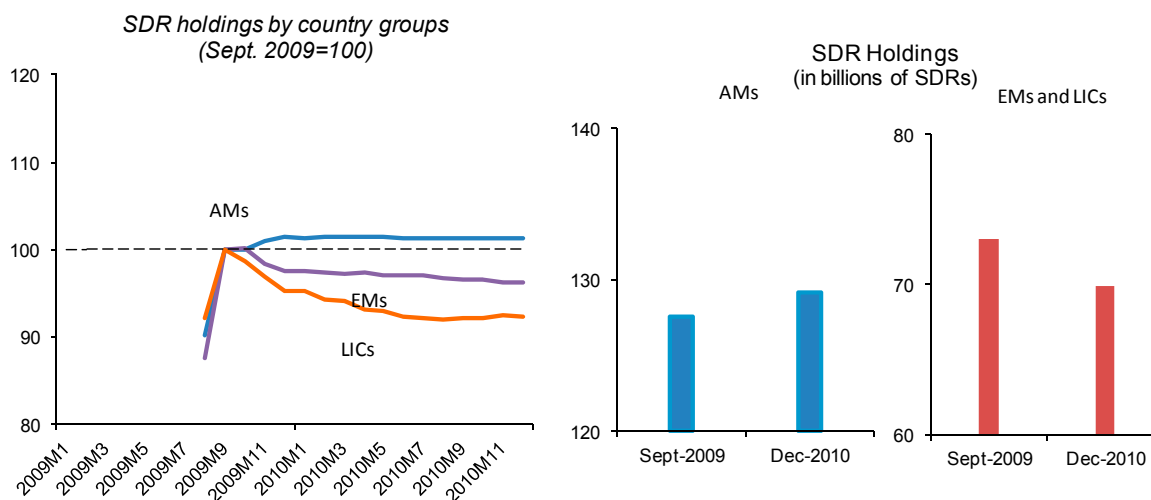


2. **The allocation had an important impact on the currency composition of countries' reserves and reserve management decisions.** With the larger holdings of SDRs after the 2009 allocation, almost 30 percent of LICs and EMs opted to either sell part of the SDRs against currencies of other members or use them in repayments to the IMF between September and December 2009. In either case, this had the effect of rebalancing the currency composition of reserves. At the same time, this rebalancing was generally moderate, with

¹ This refers to the general SDR allocation of August 2009 and the special allocation of September 2009, which amounted to SDR182.6 billion.

² However, in a few emerging market program cases, Fund disbursements were considerably larger than the SDR allocation.

only about 10 percent of EMs and LICs reducing their SDR holdings by more than 20 percent.



3. **What is more difficult to assess is whether the SDR allocation was used to build reserves or to smooth policy adjustment during the crisis.** A change in a country's SDR holdings does not necessarily imply a change in its macroeconomic policy stance as it may simply reflect the desire to rebalance currency holdings. Conversely, unchanged SDR holdings do not necessarily imply that the allocation had no impact on the macroeconomic policy mix, as the higher total reserve level after the allocation may have allowed use of other currencies to smooth external adjustment. Tracing the economic use of the SDR allocation is complicated by the lack of a known counterfactual (i.e., what would have happened without the allocation), especially since it took place at the height of the global financial crisis when economic circumstances were changing rapidly. Information in IMF staff reports on the impact of the allocation on the macroeconomic policy mix is also very limited.

4. **The upcoming Review of Conditionality will discuss the impact of the SDR allocation in the program context, with preliminary findings showing a mixed picture in terms of the impact on macroeconomic policies.** Comparing key macroeconomic variables across WEO vintages, as an indirect way to derive some illustrative findings, indicates that some countries revised up substantially their reserve targets following the allocation, while others did not. This decision seems to have been partly motivated by reserve adequacy considerations, especially in program LICs. The SDR allocation was also accompanied by within-year additional external or fiscal relaxation in some countries, while there were many others that did not allow for significantly higher absorption.

SDR Transactions after the 2009 Allocations

5. **In June 2009, Directors recognized that the proposed general allocation could raise significantly the volume of transactions in which freely usable currencies are requested in exchange for SDRs.**³ In particular, Directors stressed that it would be preferable to handle such transactions through voluntary arrangements and called for ways to expand the transaction capacity of the system of two-way trading arrangements. This could be achieved both by increasing the amounts that participants with existing arrangements are willing to buy and sell, and by broadening the group of participants with standing arrangements, possibly covering all members with sufficiently strong external positions.

6. **Since the 2009 allocations, the voluntary SDR market has been substantially expanded and has been able to absorb all sales requests.** With the broadening of the capacity of the SDR voluntary market, the Designation Plan has remained in precautionary mode throughout the ninth basic period.⁴ The number of participants in two-way arrangements has been expanded to 32 from the 14 in place prior to the allocations (see Box 1). New participants include both advanced countries and a number of large emerging market economies including Chile, China, Korea, and Mexico, as well as Saudi Arabia.

7. **In addition, the trading ranges of these voluntary arrangements have been broadened considerably, providing greater flexibility.** New trading ranges are now defined as a percentage of the net cumulative allocations compared to nominal amounts used before 2009. Therefore in the event of future allocations, the absorption capacity can correspondingly expand. The absorption capacity of the SDR voluntary market is currently SDR 72 billion (end-May 2011), compared with SDR 2.8 billion prior to the 2009 allocations.

8. **Actual post-allocation sales are well below those originally estimated in 2009.** Following the general allocation in August 2009 and a special allocation in September 2009 there was an initial surge in SDR sales. In the first four months after the allocations, 16 countries sold SDR 2.9 billion. With total sales since that period at SDR 3.7 billion (by 26 countries), this initial activity represents over 80 percent of total sales since that period, a third of which have been by low-income countries (see Table 1). A few countries have engaged in multiple SDR transactions and close to two-thirds have sold over 80 percent of their 2009 allocated SDRs. However, actual quarterly sales are now below pre-allocation levels (see Table 2, Annex II Figure 1).

³ See *Summing Up by the Chairman—Proposal for a General Allocation of SDRs* (BUFF/09/111, 7/2/2009).

⁴ For further details on SDR Trading Arrangements and the Designation Plan see the latest quarterly report, *Status of Voluntary SDR Trading Arrangements and SDR Designation Plan for the period May–July 2011* (EBS/11/60, 4/21/11).

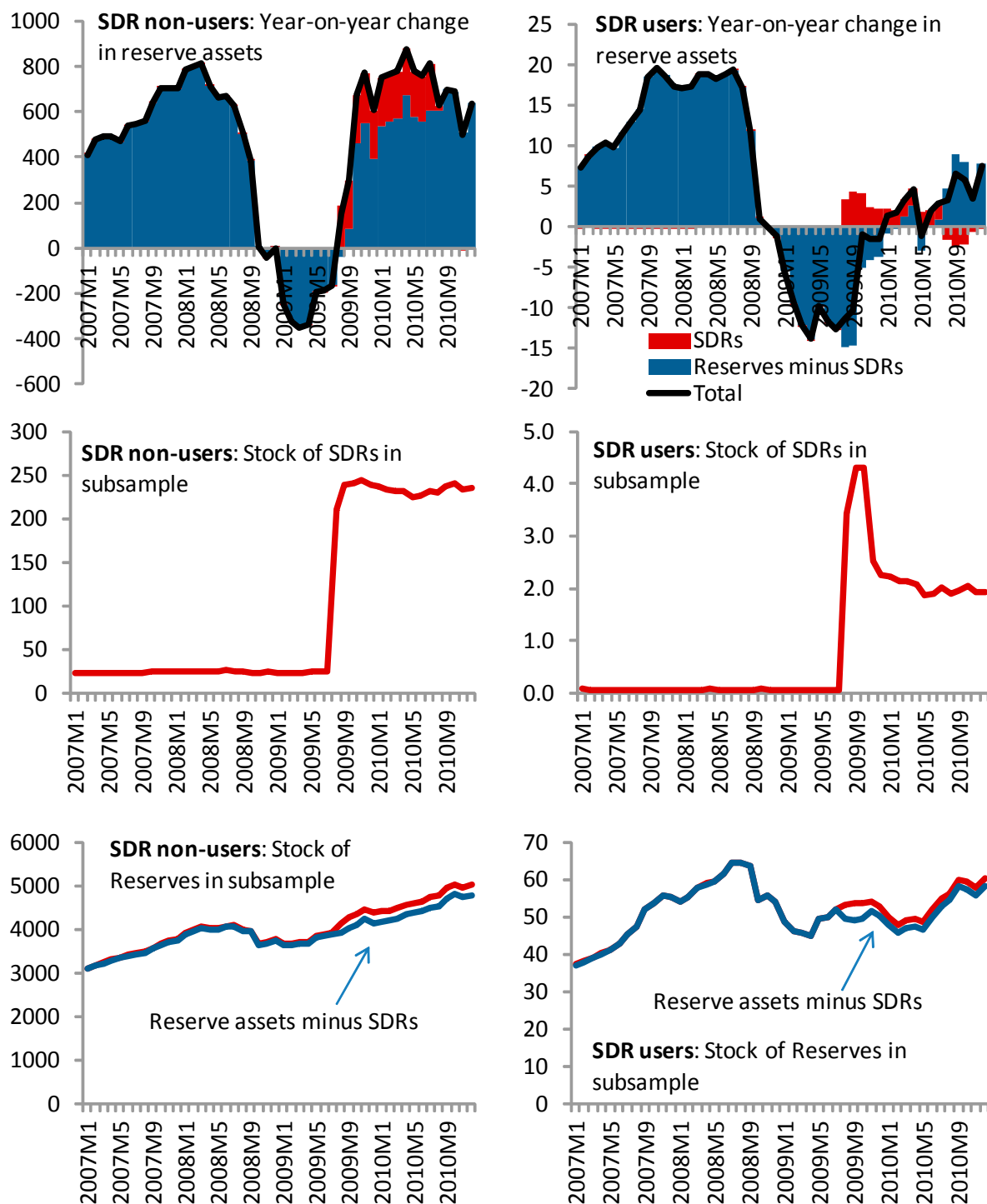
9. **A number of members have used SDR acquisitions to meet forthcoming obligations to the Fund or as part of reserve management.** Since the 2009 allocations, 26 participants and three prescribed holders have acquired SDR 1.3 billion through the voluntary trading arrangements. SDRs have also been used by members to pay the reserve asset portion (RAP) of their quota increases.⁵ With the recent implementation of the 2008 quota reform⁶, sixteen of the eighteen members with voluntary trading arrangements that were eligible for an *ad hoc* quota increase used their SDR holdings to pay the RAP of their quota increase and just one member requested an SDR acquisition to replenish its SDR holdings. Several countries also used their SDR holdings to meet obligations to the Fund, including repurchases, GRA and net SDR charges, and annual assessments.

10. **With the implementation of the 2009 LIC financing package, several donor countries with voluntary trading arrangements have indicated that they will use their SDR holdings to support the loan and subsidy accounts of the PRGT.** Currently there are eight loan and note purchase agreements with the PRGT to provide loan resources in SDRs. The Fund has standing voluntary SDR trading arrangements in place with the member countries of each of these lenders. In addition a number of donor countries are to provide PRGT subsidies in SDRs. Four members have so far provided a total of SDR 10.3 million in grants. Several other donors are considering using their SDR holdings as principal for deposit agreements with the PGRT to generate subsidies for the Trust.

⁵ The Articles of Agreement specify that 25 percent of a quota increase must be paid in SDRs, but the Board of Governors may prescribe that this payment may be made, on the same basis for all members, in whole or in part in the currencies of other members specified, with their concurrence, by the Fund, or in the member's own currency (Article III, section 3(a)).

⁶ Effective on March 3, 2011. See *Entry into Force of the Voice and Participation Amendment (Sixth Amendment) of the Fund's Articles of Agreement—Key Features and Implications* (SM/11/44, 3/3/11).

Figure 1. Reserves and SDR Use: 2007-2010 (billions US\$)



Source: International Monetary Fund.

Table 1. SDR Sales: List of Sellers
September 1, 2009 - May 2011
(In millions of SDRs or percent)

Seller	Amount	Percent of 2009 General and Special Allocations	Fund program at the time of the sale
Advanced economies			
Greece	16	2	SBA
Emerging and developing countries			
Antigua and Barbuda	12	96	SBA
Bosnia and Herzegovina	137	98	SBA
Bulgaria	4	1	No
Ecuador	255	100	No
Fiji	16	27	No
Macedonia	57	100	No
Serbia	388	100	SBA
Ukraine	1,228	94	SBA
Low-income member countries			
Armenia	58	66	SBA
Eritrea	12	76	No
Ethiopia	99	85	ESF
Guyana	70	96	No
Kenya	180	81	ECF
Malawi	54	97	ESF
Mauritania	52	100	ECF
Moldova	114	97	No
Myanmar	200	99	No
Papua New Guinea	106	91	No
São Tomé and Príncipe	3	42	ECF
Sri Lanka	306	94	SBA
St. Lucia 1/	0.1	1	RCF
St. Vincent and the Grenadines 1/	7	90	RCF
Tajikistan	13	15	ECF
Vanuatu	16	98	No
Zimbabwe	97	29	No
Prescribed holders			
Arab Monetary Fund 2/	6	-	n/a
BIS 3/	156	-	n/a
Total (28)	3,661		

1/ Financial assistance under the RCF is provided as an outright one-time disbursement with no expiration date.

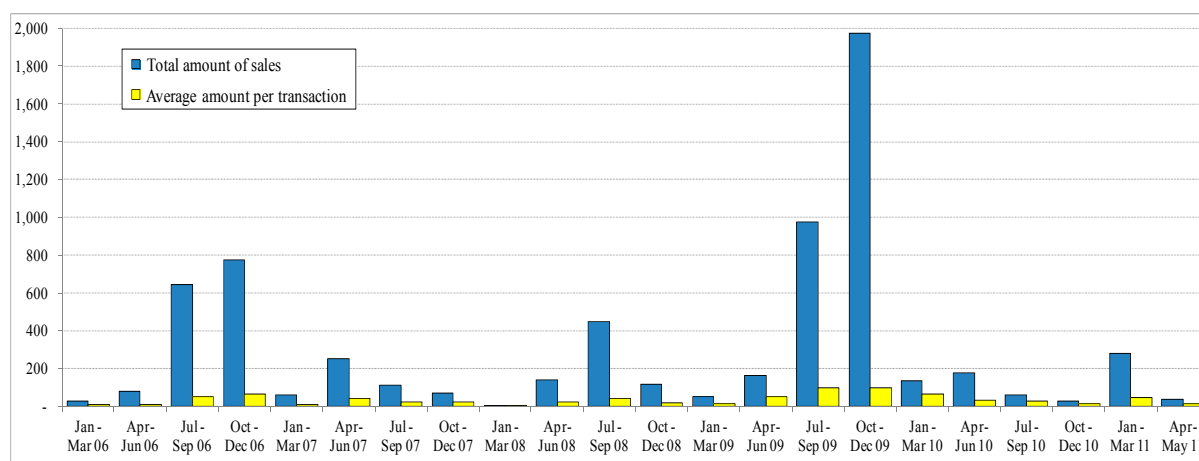
2/ Sale of SDRs from prescribed holder's SDR account.

3/ Sales of SDRs conducted for the benefit of the PRG Trust to facilitate the disbursement of loans in currencies.

Table 2. SDR Sales: Summary of Transactions Before and After 2009 SDR Allocations*(In millions of SDRs, unless indicated otherwise)*

	2006	2007	2008	Jan - Aug 2009	Sep - Dec 2009	2010	Jan - May 2011	Total
Number of sales requests	21	15	19	6	24	10	7	102
of which, by PRGT-eligible members	7	1	6	2	13	5	2	36
Number of transactions ^{1/}	36	19	25	7	29	11	9	136
Sales of SDRs	1,532	493	715	217	2,943	400	319	6,618
of which, by PRGT-eligible members	39	10	381	162	866	243	180	1,882
Average transaction amount	43	26	29	31	101	36	35	49

^{1/} Some sales requests may require more than one transaction and involve multiple counterparties. Therefore, there are more transactions than sale requests.

SDR Sales: Quarterly Levels**January 2006 – May 2011***(In millions of SDRs)*

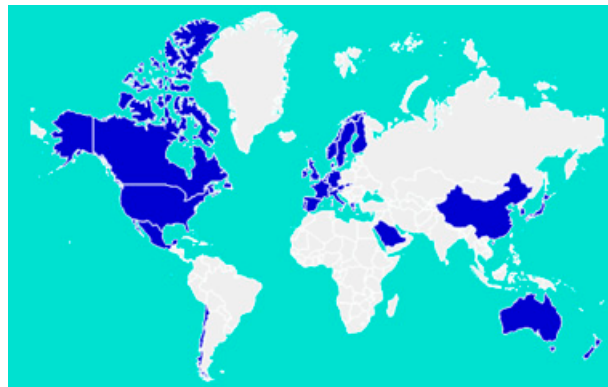
Box 1. Voluntary SDR Trading Arrangements as of end-May 2011

Asia and Pacific: Australia, China, Japan*, Korea, and New Zealand.

Europe: Austria*, Belgium*, Cyprus, Denmark*, ECB*, Finland*, France*, Germany*, Greece, Ireland, Israel, Italy, Malta, Netherlands*, Norway*, Portugal, Slovak Republic, Slovenia, Spain, Sweden*, Switzerland*, and the United Kingdom*.

Middle East & Central Asia: Saudi Arabia.

Western Hemisphere: Canada, Chile, Mexico, and the United States.



* Participants and prescribed holders with voluntary SDR trading arrangements in place prior to the 2009 SDR allocations.