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INTERNATIONAL MONETARY FUND

Minutes of Executive Board Meeting 85/182

10:00 a.m., December 16, 1985

R. D. Erb, Acting Chairman

Executive Directors	Alternate Executive Directors
	A. R. Ismael, Temporary
	E. L. Walker, Temporary
	L. Hubloue, Temporary
	S. de Forges
	A. Mustafa, Temporary
	M. Sugita
	B. Goos
	Jaafar A.
Huang F.	
	H. A. Arias
	S. King, Temporary
	O. Isleifsson, Temporary
	G. W. K. Pickering, Temporary
	P. E. Archibong, Temporary
	B. Jensen
	J. E. Suraisry
	J. de la Herrân, Temporary
J. J. Polak	
	A. V. Romuâldez
	H. Alaoui-Abdallaoui, Temporary
	A. Vasudevan, Temporary
	I. Angeloni, Temporary

L. Van Houtven, Secretary
R. S. Franklin, Assistant

Also Present

African Department: A. Tahari. European Department: S. Mitra. Legal Department: G. P. Nicoletopoulos, Director; F. P. Gianviti, Director Designate; W. E. Holder. Research Department: R. R. Rhomberg, Deputy Director. Treasurer's Department: D. Williams, Deputy Treasurer; J. E. Blalock, Y. Kawakami, O. Roncevalles. Personal Assistant to the Managing Director: R. M. G. Brown. Advisors to Executive Directors: M. B. Chatah, L. P. Ebrill, Song G., M. A. Weitz. Assistants to Executive Directors: A. Bertuch-Samuels, N. Haque, H. Kobayashi, K. Murakami, A. J. Tregilgas, H. van der Burg.

1. SDR VALUATION BASKET - TRIAL CALCULATIONS AND ROUNDING PROCEDURES

The Executive Directors considered a staff paper containing trial calculations based on different rounding procedures that might be used in determining the currency amounts for a revised SDR basket effective January 1, 1986 (SM/85/320, 12/2/85; and Sup. 1, 12/13/85).

Mr. Polak made the following statement:

Mr. Chairman, I am grateful to the staff and the computer for all the work that they did and for producing quite revealing calculations. Of course, we are dealing with a matter of detail, but still it is of some considerable importance. What will come out of this calculation, when it is made finally at the end of the year, will determine for five years ahead how precisely each day the value of the SDR is to be calculated. These numbers will be publicly around for five years, and we should, therefore, satisfy ourselves that in addition to the basic criteria which are set out in the paper, they also meet criteria of mathematical acceptability, conveniencce, and presentation.

In broad outline the method of calculation is determined by an earlier decision given in Appendix I, and what we are doing here is filling in certain details, If an answer can be found--as it was found in 1980--that, at the same time, meets the agreed tests and has for each currency only two significant digits, we are home, so to say; we take that one answer.

However, it was somewhat of an accident that that happened in 1980. It is unlikely to happen again. And the question is then: How do we go on if that method doesn't work?

The staff proposal is that we then seek a minimum-digit solution. If we cannot do it in ten digits, let us try it in 11. Let us try all the 11 digits solutions (4x2 + 1x3) and see if we find an answer there. If that still does not work, we go one digit up; and so on. But we probable would not have to go very far. The results of this approach are shown in Table 2. I must say when I first read this I found it plausible, and I would have accepted it if the staff had not given us a number of worked-out samples, which show that it is not acceptable. To show that, I turn to Table 4:

On the second line there is shown the "Revised basket," as it would have worked out on one of the many days for which the staff has made its calculations: 0.45 U.S. cents, 0.54 German pfennige, 1.0 French franc, 34.4 Yen, and 0.088 New Pence Sterling. If you look at these numbers carefully I think you will find them unsatisfactory, and the reason for this is the totally different degree of precision with which the numbers are given. The French franc at 1.0 is given with a precision of 5 points in 100--4.0 means: between 0.95 and 1.05--whereas the yen is given with a precision of half a point in 344.

For anybody who has a little bit of feeling for numbers, this is not acceptable. It is--to transpose it into terms of language--something in between poor style, grammatical error, or misspelling. In any event, something that any editor would throw out as not suitable for publication.

Now the interesting thing is that this is to some extent a new problem, because if you look at the line above, the problem was much less obvious in--1980. At that time, the numbers--reading each of them to significant two digits varied no more than from 34 to 74, a ratio of about 1 to 2. By the nature of the developments that have taken place the numbers in the "Revised basket" vary from 10 to 88, which is a ratio of 1 to 9, and that, really, makes for a new problem that virtually did not exist in 1980.

One can devise a solution to this new problem, while staying within the general line fo the staff--namely, adding one digit at a time. But this would have to be done not in a random way but trying three digits first or the French franc--the currency with the smallest two-digit coefficient--second for the French franc and the yen combined, and so on. But I wonder if it is worth the trouble. It seems to me that considering that if we do not manage with two digits for every currency and end up with three digits for probably two and perhaps three currencies, why not go to the neat three-digit solution all around?

In the first paragraph, page 9, the staff has marshaled some arguments against that solution, but these are not very strong. "Simplicity in making calculations": I presume, people interested will do this by a computer. "Risk of error in transmission": these numbers will be available in printed form, not transmitted every day by telex. The fear that one more digit would "make the SDR more unwieldy" or the fear that the market would drop some of the digits--both seems to me illusory. I think the telling argument is that the European Communities (EC)--which is certainly not doing worse than the SDR in market acceptance--had from the start been defined in three significnt digits. It seems to me that is the easiest solution for us to go to, and then we would know for sure what we have.

I want to make two further procedural points:

The first is that the staff argues that if we could, we ought to stay within "the 1980 guidelines." But the fact is that the 1980 guidelines, as approved by the Board and as reprinted on page 2 (SM/85/320), are totally unspecific in paragraph (3) how you move from two digits--if that does not work--to more digits.

> And while the staff may have had ideas as to what it would have done in 1980 if they could not have succeeded with two digits, the Board has never been a party to this; so there is no questions of changing a precedent.
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> The second observation--also of a procedural nature--is that unless we are quite certain what we are doing, and can define the rule so as to know the nature of the outcome on December 31, we should not handle this on a lapse of time basis but have a Board meeting on December 31. The matter is important enough for the Board to know what comes out of it. However, if we adopt either the three-digit solution or the adjusted minimum-digit solution that I indicated above, I am satisfied that the result will be satisfactory, and I would be happy to proceed on a lapse of time basis.

Mr. Archibong observed from the various trial calculations included in Tables 1 and 2 of the staff paper that it would not be a simple matter to meet the requirements of Executeive Board Decision No. 6631 of 1980 (EBM/80/145, 9/17/80). Using existing guidelines, the calculations would not produce any solution in which all five currency units in the basket could be rounded to two significant digits. The staff was fairly hopeful of finding a solution that, on the basis of the 1980 guidelines, would result in an expression of most of the five constituent currencies in the basket to two significant digits. To achieve a solution in which all five currencies could be expressed in three significant digits would be possible only by modifying aspects of the existing guidelines so as to accept only baskets with currency amounts expressed uniformly in the same number of significant digits.

The staff calculations using the uniform significant digits approach had the advantage of producing the smaller average deviation from the agreed weights, whereas the currency amounts calculated strictly on the basis of the 1980 guidelines deviated more widely, Mr. Archibong continued. Given that the existing procedure required selecting the basket with the smallest average deviation from the agreed weights, an approach which employed a uniform number of significant digits for all currency amounts, would seem to be attractive.

If an increase in the number of digits in the currency amounts tended to complicate matters presentationally, the staff might consider a proposal to round the weights to the nearest 1 percent, a solution that would be simple and would not conflict with the 1980 decision, Mr. Archibong remarked. However, notwithstanding such changes aimed at improving the calculations, the 1980 guidelines could still be used; according to the trial calculations, it was probable that solutions could be found on the basis of the guidelines that would express most of the five currencies in the basket to two digits and the remaining one or two currency amounts to three digits. In that case, at least, some aspects of the requirements of the 1980 guidelines would be met.

It was important to note the problem caused by exchange rate fluctuations in the determination of currency amounts and, hence, in the stability of the basket vis-à-vis the five constituent currencies, Mr. Archibong said. In principle, the value of the SDR was expected not to change over time in terms of currencies in general; in practice, as noted by the staff, "the shares of currencies in the basket, which initially are set equal or close to the weights for the currencies in the basket, do not remain constant over time, as they fluctuate around their initial values in consequence of appreciating or depreciating trends in exchange rates." That development, according to the staff, had led to a substantial increase in the value of the U.S. dollar in SDR terms and a corresponding increase in its share in the basket. If the SDR was to be promoted over the long term as the principal reserve asset in the international monetary system, the effect on the basket of exchange rate fluctuations of constituent currencies must be minimized. In that connection, the staff might consider moving away from the practice of calculating the value of the SDR as the arithmetic mean of the five component currencies and use the geometric mean in an effort to eliminate the need for those periodic revisions of weights that were required to retain the original weighting in circumstances where one currency in the basket had appreciated or depreciated relative to the others.

Although the staff felt that the change in the SDR interest rate likely to result from a change in the currency amounts would be minimal, it was to be hoped that the change would not lead to higher SDR interest rates payable by borrowing developing countries, Mr. Archibong commented. Possible adjustments in interest rates on SDR assets at the time that the SDR interest rate basket was revised would depend on the latest changes in exchange rates and interest rates of the constituent currencies, developments that were exogenous to developing countries but that might cause them considerable economic and financial losses. In that connection, it might be necessary to consider a mechanism that would allow SDR charges to developing countries to be lowered relative to the rate of interest.

Mr. Suraisry remarked that, as he understood it, the argument in favor of a two-digit solution was to make the SDR as simple as possible, a move he found important if the SDR was to be promoted. While he was prepared to endorse the proposal of the staff, he wished first to hear the staff's response to Mr. Polak's comments.

Mrs. Walker stated that while she too would be interested in hearing the staff's response to Mr. Polak's concerns, she tended toward relying on the staff's judgment on such technical matters and maintaining the 1980 procedures for calculating the currency amounts.

The Deputy Treasurer replied that while not impossible, it was unlikely that the calculations would produce two significant digits for each of the currencies in the basket. In the circumstances, it was important for the Board to agree on the procedure that would be applied on December 31, when the calculations were made.

There were two main reasons why the staff had not felt it necessary to suggest a change in procedure at the present stage, the Deputy Treasurer continued. The existing procedure had the advantage of maintaining continuity and was familiar to the public. Second, the approach minimized the number of digits for each currency. It was likely that four of the currencies could be rounded to two digits; only one would need to be rounded to three. Choosing the approach suggested by Mr. Polak could lead to a situation in which the pound sterling would be carried out to five places after the decimal point, an outcome that might not be altogether acceptable to Directors on the commercial market. Of course, the argument in favor of the three-digit approach was that the deviation from the original weights of the basket would be reduced. In the end, however, the question was mainly one of presentation; and, in that respect, the staff would argue that the presentation of the currencies in the basket would be more readily understandable if the approach employed in presenting them did not stray too far from that employed in 1980.

The suggestion had been raised by Mr. Archibong to resolve the problems of rounding by expanding the margin of tolerance to 1 percent, the Deputy Treasurer recalled. In fact, that approach had been suggested by the staff in 1980 as a way of nearly ensuring that the calculations would produce two significant digits for each of the five currencies in the basket. However, the approach would result in a departure from the original weights somewhat; and, indeed, during the previous discussion, one Executive Director representing a country whose currency was included in the basket had felt that extending the margin to 1 percent led to too much of a deviation.

Mr. Polak remarked that he would be quite willing to support an extension of the margin to 1 percent if doing so produced two significant digits for each of the currencies in the basket.

Mr. Goos observed that Mr. Polak's recommended approach might be somewhat more elegant or more precise than the existing procedure but would require a change in the rules. He had understood Mr. Polak to suggest that the 1980 guidelines did not preclude a move to the three-digit approach; while that might be correct, his own recollection was that the move was a halting one in which the two-digit approach was employed to the extent possible, using three digits only when necessary. In the circumstances, his preference was to maintain the approach in the 1980 guidelines.

Mr. Sugita said that he too could go along with the staff proposal to maintain the rounding procedures in the 1980 guidelines.

Mr. Suraisry noted that the three-digit approach was more precise than the two-digit approach. However, for the sake of promoting the SDR and preserving continuity, and given that the difference between the two solutions was minimal, he too could go along with the staff proposal.

Mrs. Walker said that her preference too was to continue with the 1980 guidelines for calculating the currency amounts in the basket.

Mr. de Forges remarked that he had not been convinced by the argument that there was a need to minimize the number of digits; precision was more important, and he could therefore support Mr. Polak's proposal.

Mr. Huang and Mr. Ismael stated that they favored the maintenance of the 1980 guidelines for calculating the currency amounts in the basket.

The Acting Chairman wondered whether Directors would find useful a further meeting at which could be presented trial calculations on the basis of Mr. Polak's proposal. The Board might even wish to meet on December 31 and look at calculations on the basis of the two-digit and the three-digit approach.

Mr. Polak remarked that, at the least, the Board should have an opportunity to see the results of the calculations made on December 31 before agreeing to use them.

Mr. Goos recalled that a meeting on December 31 might not be necessary if the intention was maintained to have the new basket approved on a lapse of time basis. Whenever an Executive Director wished to have a meeting, he could call for it; hence, the calculcations could proceed on the basis of the staff proposal, leaving open the possibility that a Board meeting could be called.

Mr. Suraisry inquired whether the exchange rates available on December 31 were generally reliable.

The Deputy Treasurer replied that the staff had always felt that December 31 was not the best day for a transition to a new basket; however, to change a decision that had already been announced would be awkward.

Mr. Sugita observed that any discussion on December 31 would be rather different from the current discussion because Directors' knowledge at that time of the results of the calculations might influence their choice, and their decision might be based on considerations other than the appropriateness of the methodology or the rounding procedures.

Mrs. Walker inquired whether a decision either at the present meeting or on December 31, once the results were in, would be binding on future valuations.

The Deputy Treasurer replied that any decision adopted by the Board at the present meeting or on December 31 would determine the currency amounts for the next five years. In five years' time, however, the Board would again review the entire matter. What Directors were being asked to do at the present meeting was to determine the way in which the guidelines endorsed by the Executive Board should be applied.

Mr. Polak remarked that applying the 1980 guidelines was not as simple as it sounded. Those guidelines provided for movement from a two-digit approach to a three- or four-digit approach, but they did not define the technique for doing so. In that respect, the staff in its paper was proposing an approach that had never before been described. What he would like was for the staff on December 31 to provide the Board with three things: calculations based on the two-digit approach; calculations based on the three-digit approach; and an in-between solution moving systematically from two to three digits, beginning with the currency with the smallest absolute amount expressed in two digits. That latter approach would prevent the rather awkward results for certain currencies that had appeared in some of the tables in the staff paper.

The Acting Chairman asked in what way the decision on the method of valuation would have to be modified, if at all, to accommodate the approaches that had been put forward.

The Deputy Treasurer replied that there was no reason to modify the decisions; the interpretation of the guidelines on the mode of calculation would be dependent only on the record of the present meeting. The aim would be to define a specific form of calculation that would yield a specific result in terms of the number of digits.

Mr. Angeloni said that he tended to agree with Mr. Sugita that a meeting on December 31 when the outcome of the calculations was known might lead to a decision by the Board that was based on considerations other than the appropriateness of the rounding procedures.

Mr. Polak observed that it was quite possible that the staff's method and calculations would produce a basket on December 31 along the lines shown in Table 4, and he would be happy to endorse that basket. On the other hand, for example, if the calculations produced five significant digits for the pound sterling, the basket would not in his view be a respectable one.

Following a further brief discussion it was agreed that Directors would return to the matter of rounding procedures and trial calculations for the SDR valuation basket on December 23.

DECISION TAKEN SINCE PREVIOUS BOARD MEETING

The following decision was adopted by the Executive Board without meeting in the period between EBM/85/181 (12/13/85) and EBM/85/182 (12/16/85).

2. APPROVAL OF MINUTES

The minutes of Executive Board Meetings 85/35 and 85/36 are approved. (EBD/85/305, 12/9/85)

Adopted December 13, 1985

APPROVED: AUGUST 12, 1986

JOSEPH W. LANG, JR.
Acting Secretary