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November 18, 1999

To: Members of the Committee on Administrative Policies

From: The Committee Secretary

Subject: **Staff Compensation System—Further Review of Selected Elements**

The attached paper reviewing selected elements of the staff compensation system will be taken up at a meeting of the Committee on Tuesday, December 7, 1999.

Mr. J. Kennedy (ext. 34665) and Mrs. Shannon (ext. 37258) are available to answer technical or factual questions relating to this paper prior to the discussion.

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Staff Compensation System: Further Review of Selected Elements

Prepared by the Human Resources Department

Approved by Margaret R. Kelly

November 18, 1999

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I. Introduction and Executive Summary

1. **During the Executive Board's discussion of the 1998 review of staff salaries, the staff was asked to re-examine certain elements of the compensation system, which had been adopted by the Executive Boards of the Fund and Bank in 1989**. The areas to be studied included the composition of the U.S. comparator market, the "shape" of the Fund's payline, and technical procedures for calculating the increase in the Fund's salary structure. During 1998, it also became necessary to consider the effects of the decision of the Bank's Executive Board to depart from the joint compensation system.[1] A number of adjustments to the Fund's compensation system were found to be necessary in order to re-focus the system on the staffing objectives and requirements of the Fund alone and to ensure that the Fund's salaries continued to be appropriately related to markets in which it competes for staff.

2. **The results of this review and recommendations on changes to the system were presented to the Committee on Administrative Policies (CAP) in February 1999 and were then incorporated in the compensation system in conjunction with the 1999 review of staff salaries.[2] However, during the Executive Board's discussion of the salary review, questions were raised regarding some of these changes and it was agreed that the staff would consider further four aspects of the system**: the sector weights for the U.S. market, the source of data for the U.S. financial sector, the shape or market alignment of the Fund's payline, and the method used to measure the difference between the Fund and U.S. market payline at Grades A9–B2. This paper presents the results of these further reviews and options with respect to them that have been identified for consideration by Executive Directors. The specific issues and options are the following:

3. **The weight to be assigned to each sector in aggregating the market data on comparators' salaries**. The original equal weighting of the three sectors (public, private financial, and private industrial) was revised for the U.S. market in 1999 to weights of 35 percent for the public sector, 40 percent for the private financial sector, and 25 percent for the private industrial sector. The issue to be considered was whether the public sector weight should be raised to 40 percent, with a corresponding reduction in the weight of the private industrial sector. Such an adjustment of the weights would lower the level of salaries for the U.S. comparative market and the Fund's salary structure by 0.5 percent. In the view of the staff, raising the weight of the public sector to 40 percent is not supported by the recent

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[1]The Bank's new system was described in a paper entitled "Summary of the World Bank's Proposed Changes in Staff Compensation and Benefits Policies" (EBAP/98/133, November 30, 1998). The results of the Bank's 1999 salary review are briefly described in Attachment I.

[2]See "The Staff Compensation System—Review of the Comparator Markets and Shape of the Fund Payline" (EB/CAP/99/2, February 18, 1999), and "Staff Compensation—1999 Review" (EBAP/99/32, March 29, 1999).

recruitment and retention experience and would increase concerns about competitiveness with the private sector.

4. **The source(s) of survey data on the private financial sector in the U.S. market**. In light of deficiencies in the longstanding source of financial sector data (Hay Management Consultants), a second set of data was incorporated in the 1999 salary review (Towers Perrin). More recently, Hay has advised the staff that it can no longer provide financial sector data that meet the Fund's requirements. In response, the staff has arranged for Towers Perrin to broaden its coverage of the sector by adding more positions and other financial firms. With these developments and in the absence of any alternative, it is recommended that the Towers Perrin survey be used as the sole source of market data on the U.S. financial sector. It is not expected that the use of the Towers Perrin data will have any meaningful effect on the level of salaries for the U.S. comparator market.

5. **The shape of the Fund's payline relative to the U.S. comparator market.**[3] The Executive Board approved a two-stage realignment of the Fund's salary structure relative to the U.S. market in 1999. This involved a modest upward shift in the higher-level B Grades, where Fund salaries are below the market, and a modest downward shift in Grades A9–A10, where Fund salaries are above the market. The main issue was whether additional downward adjustments could be made to lower portions of the salary structure so that the overall realignment would have a more neutral effect on the salary structure and costs. This paper discusses possible further adjustments to the Fund's payline at Grades A9–A12 and Grades A1–A8 which would achieve overall neutrality.

- **The main option would be to shift downward the midpoints for Grades A11–A12 by 2 percent and the midpoint of Grade A10 by 1 percent, in addition to the 2.5 percent shift in A10 that was previously approved**. This change, together with the earlier adjustment to Grade A9, would very nearly offset the effects of the upward shifts at Grades B1–B5 on the salary structure. It would, however, have the secondary effect of increasing by about 0.5 percent the size of the increase in the A9–B2 salary structure that would be needed in the year the change is made to bring the Fund's entire payline up to the level of the U.S. market (see paragraph 32). The staff is concerned that a downward adjustment of the salary ranges for Grades A10–A12 would send the wrong signal at a time when an increased recruitment effort is needed.

- **The paper also discusses a 2 percent downward adjustment of the salary ranges of Grades A1–A8**, which, in combination with the additional realignment of Grades A10–A12, would result in full neutrality of the adjustments to the payline

[3]The Fund's payline is a line connecting the range midpoints of the salary structure. Under the compensation system, the Fund's payline for Grades A9–B2 is related to the 75th percentile of comparators' salaries for employees with responsibilities equivalent to those for each Fund grade; these salaries constitute the market payline.

approved in 1999. However, with the salary ranges for Grades A1–A8 falling within the established testing range, no need for a downward adjustment of these ranges is indicated.

6. **The methodology used to measure the difference between the Fund and U.S. market paylines at Grades A9–B2 and to determine the size of the structural increase**. Several statistical methods had been identified that could more accurately measure the differences between the two paylines than the current methodology (i.e., the arithmetic average of the percentage differences at each grade of the U.S. market over the Fund range midpoints, weighted by the number of Fund staff at each grade). The issue was to determine which method is most appropriate on both statistical and compensation grounds. The principal choice is between the present procedure and a method that minimizes the mean squared error, expressed in percentage terms, of the differences between the Fund and market paylines. In the view of the staff, the minimization procedure is preferable to the present method on both statistical and compensation grounds. The effect of adopting this method would be to raise the size of the structural increase by about 1 percent, on a one-time basis.

7. **If any of the changes were to be introduced, Table 3 in the concluding section provides a detailed illustration of their effects on the salary ranges of individual grades and the salary structure as a whole**. This table also shows what would be the combined effect of these changes and those approved with the 1999 salary review. Table 4 shows the resulting salary structure, assuming that all the changes—both those approved in 1999 and those discussed in this paper—had been in place on May 1, 1999.

8. **In addition to these four issues, the staff had indicated in the February 1999 paper for the CAP (EB/CAP99/2) that two aspects of the 1999 changes in the composition of the comparator markets were still being considered and would be implemented at a later date**. These were (a) the application of the revised sector and occupational weights adopted for the U.S. market to the French and German comparator markets, and (b) the addition of other agencies with responsibilities in the areas of economics and finance as comparators within the U.S. public sector market. Regarding the **French/German market**, the staff has concluded that the revised sector weights and the main occupational weights (i.e., for the economic/financial occupations and the administrative occupations) of the U.S. market can be used in aggregating the public, private financial and private industrial market data for France and Germany, and that the detailed occupational weights can be used for, at least, the private financial and industrial sectors. Regarding the **U.S. public sector**, two additional civil service agencies with economic/financial responsibilities (i.e., the Office of Management and the Budget and the Federal Deposit Insurance Corporation) can appropriately be added as comparators in the public sector market. It was found, however, that an increase in the number of regional Federal Reserve Banks would not add sufficient value to the public sector survey to justify the substantial added cost of their inclusion. These changes, which are described in Attachment II, are not expected to have any material impact, plus or minus, on the level of salaries in the respective comparator markets. As indicated previously, they will be implemented in conjunction with the 2000 compensation review.

9. **The following sections of this paper provide background information on the four major issues summarized above**. Section II discusses the issue of the sector weights for the U.S. comparator market; Section III discusses the source of data on the U.S. private financial sector; Section IV considers the questions concerning the shape and market alignment of the Fund's payline; and Section V addresses the methods for measuring the differences between the Fund and market paylines. A summary and conclusions are provided in Section VI.

II. Sector Weights for the U.S. Comparator Market

The issue

10. **The U.S. comparator market on which Fund salaries for Grades A9–B2 are based incorporates salary data on three sectors: the public sector, the private financial sector, and the private industrial sector**. The objective has been for the salary surveys to cover all market sectors and occupations from which the Fund recruits staff and which, in turn, might seek to recruit Fund staff, but with emphasis on the sectors with which the Fund is most actively in competition.[4] The market data for the various market sectors are combined into a single, composite market payline, representative of the market as a whole, to which the Fund's internal payline—the midpoints of its salary ranges—is related. The consolidation of the market data has been done as a weighted average of the salaries for the three sectors, with the weights broadly reflecting the relative importance of the sectors to the Fund's recruitment and retention of staff.

11. **Equal weights were originally assigned to the three market sectors by the Joint Fund/Bank Committee of Executive Directors on Staff Compensation (JCC) in 1989**. These weights were revised in 1999 to 35 percent for the public sector; 40 percent for the private financial sector; and 25 percent for the private industrial sector. The basis of this change was the review of the comparator markets presented in the February paper for the CAP (EB/CAP99/2). The new weights were applied to the U.S. comparator market in the 1999 compensation review. The changes, which focussed on the relative emphasis given to the financial and industrial sectors within the private sector market, were a response to the growing importance of the financial sector as a source of competition for Fund staff, and a recognition of the limited relevance to the Fund of the industrial sector, for which the original one-third weight had reflected the staffing needs of the World Bank. The relative weights of the private sector as a whole (65 percent) and the public sector (35 percent) were left essentially unchanged.

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[4]It has not been possible to include the academic sector, which is an important source of Fund staff, in the comparator market because comprehensive data including, in addition to salaries, income from research, consulting, and publications for academic personnel cannot be obtained on a regular basis.

Further review of the sector weights

12. **During the discussion of the 1999 salary review, Executive Directors suggested that the weight for the public sector be raised to 40 percent and the weight for the private industrial sector be reduced accordingly to 20 percent; it was agreed that this issue would be considered further**. The main considerations for the present public sector weight of 35 percent and the alternative 40 percent weight are briefly outlined below.

13. **There are two principal reasons for retaining the 35 percent weight for the public sector. First, recent recruitment and retention experience does not suggest a higher public sector weight**. As was reported in the February paper for the CAP, 32 percent of all professional staff (Grades A9–B5) recruitment and about 30 percent of economist recruitment was from the public sector during the 1994–1998 period; in the same period, about 22 percent of A9–B5 staff separations and 26 percent of economist separations were to the public sector. The differences in the recruitment and retention figures, as well as other information, suggest that the Fund is often not competing with the public sector for staff (particularly with respect to salaries). The Fund is more often competing with the private sector (and other international organizations) for staff from the public sector (and the academic sector).

14. **Second, apart from specific considerations of recruitment and retention patterns, there is a more general need to ensure that the U.S. comparator market is defined in a balanced manner**. Historically, there has been a substantial gap between private and public sector pay in the United States. This has for some time given rise to a concern (including on the part of the JCC in 1989) that assigning too great a weight to the public sector would produce an overall market payline and resulting Fund payline that are pitched too low to maintain competitiveness with the private sector.[5] However, the changes made earlier this year to the public sector comparators for the salary survey did serve to lessen somewhat the differences between the public and private sector and to make the public sector somewhat more representative of the Fund's comparator market as a whole.[6]

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[5]The 1999 compensation survey data indicated that public sector salaries at the equivalent of Grades A9–B2 are, on average, 11 percent below those of the private sector, and that the differences range from 5 percent (at lower grades) up to 30 percent (at higher grades). The Joint Compensation Committee attached importance to ensuring that the Fund and World Bank could compete for staff in all markets and all market sectors.

[6]In the United States market, these included changes in the civil service organizations covered in the salary survey, the occupational weights, and the respective weights assigned to the Federal Reserve System and the civil service. The weight of the Federal Reserve System was raised from 40 percent to 50 percent. The civil service and the Federal Reserve System would continue to have equal weights within the public sector.

15. **Notwithstanding these considerations, Executive Directors cited several reasons to support an increase in the public sector weight to 40 percent.** First, and most importantly, a 40 percent weight was viewed as better reflecting the character and role of the Fund as essentially a public sector organization. Second, while acknowledging that the Fund is not always in direct salary competition with the public sector, the public sector is still the largest single source of Fund staff; this suggest to some that the public sector should not have a weight less than that of the financial sector. Third, others considered that a higher weight for the public sector would compensate for the lack of salary data for the academic sector. Finally, it was noted that Fund employment and compensation practices, such as relatively strong security of tenure and little emphasis on "at risk" pay, are more similar to those of public civil services than to those of the private sector.

16. **In the view of the staff, raising the weight for the public sector to 40 percent is not supported by recent recruitment and retention experience and could increase concerns about competitiveness with the private sector**. If Executive Directors conclude, however, that the weight of the public sector within the U.S. comparator market should be raised to 40 percent, it is estimated that the change would lower the aggregate U.S. market payline by about 0.5 percent. (This estimate is based on the 1999 salary survey data.) It should be noted that the main effect of such a change would be a one-time level adjustment—an increase in the salary structure that would be 0.5 percentage point lower than otherwise indicated—in the year the sector weights are revised. However, the shift in weights would also result in slightly different year-to-year changes in the level of salaries in the aggregate U.S. market and the size of the Fund's salary increases; these would be smaller if public sector salaries are raised by less than the private sector, and larger if public sector salaries are raised by more than private sector salaries.

III. MARKET DATA FOR THE U.S. FINANCIAL SECTOR

17. **The firm of Hay Management Consultants has conducted the annual salary surveys for the Fund (and the World Bank) since the mid-1980s**. However, over the past 2-3 years, Hay's ability to provide appropriate coverage of the financial sector in the U.S. market has deteriorated. A growing number of financial firms have declined to participate in the type of broad-based surveys on which Hay has traditionally relied; other, more closely targeted surveys are more useful for their purposes. Hay has consequently lost the participation of all of the major money-center and investment management firms and nearly all of the major national banks that were covered in earlier surveys. In 1999, Hay's survey covered mainly regional and state banks and subsidiary operating units (as opposed to headquarters personnel of national banks). Hay has found that these trends have continued in their salary survey for this year.

18. **Hay's management has consequently concluded that they are no longer able to provide survey data that are sufficiently representative of the financial sector to meet the needs of the Fund, and that they should discontinue this portion of the Fund's survey**. The staff has reviewed the coverage of the U.S. financial sector that Hay could provide this year and agrees with Hay that the survey should be discontinued; it would not

adequately cover the banks and other financial institutions that are relevant comparators for the Fund.

19. **Alternative salary data on the U.S. financial sector have been obtained from another consulting firm, Towers Perrin, and evaluated by the staff over several years.** Faced with the deterioration in Hay's data, the Towers Perrin data were incorporated in the comparator market for the Fund's 1999 salary review together with the Hay data. (The data from the two surveys were combined on the basis of a simple average.) Beginning with its 1999 salary review, the World Bank is using Towers Perrin's data alone for the U.S. financial sector.

20. **Towers Perrin is widely acknowledged to have the best general compensation surveys for the U.S. financial market and, unlike Hay, Towers Perrin has been able to maintain consistent coverage of the major national banks and other financial institutions through the mergers and acquisitions of recent years.** Over the past two years, Towers Perrin has been able to expand the number of positions and employees reported in their survey for the Fund, and their data are now sufficiently robust to produce reliable results at all grades. In consultation with Fund staff over the past year, Towers Perrin has also incorporated data on a number of additional firms, including some major regional banks and firms in financial services. These additions will extend Towers Perrin's coverage of the sector to market segments previously covered by Hay, and they will ensure that the survey provides a broad representation of the financial sector relevant to the Fund.[7]

21. **It is accordingly recommended that Towers Perrin's salary surveys be used as the source of market data on the U.S. financial sector in future salary reviews, beginning in 2000.** It is not expected that using only Towers Perrin's data in the compensation survey will have any material impact on the overall level of salaries reported for the U.S. comparator market. By broadening the coverage of the financial sector reported by Towers Perrin, the level of the market indicated by these data would be expected to converge with the market level that Hay's data would have produced.[8]

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[7]The 39 financial firms that will be included in Towers Perrin's survey for 2000 and the 20 firms on which Hay would be able to provide data are listed in Attachment III. Of the firms in Towers Perrin's survey, 15 have been included in one or more of Hay's surveys in recent years. It should be noted that Towers Perrin's survey does not specifically cover the major money-center banks and investment management firms that have competed for and attracted a number of Fund economists in recent years. The staff is continuing to explore additional sources of data on these firms. However, such data will not be available for inclusion in the compensation surveys for the 2000 compensation review.

[8]Based on the different data used in the 1999 salary review, switching entirely to the Towers Perrin data from the average of the Hay and Towers Perrin data would have raised the level of the U.S. market as a whole by about 1.5 percent. Much of this difference

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IV. Shape of the Fund's Payline

The 1999 review of market alignment

22. **From the adoption of the present compensation system in 1989, the Fund has had a flatter payline for Grades A9–B5 than the corresponding payline for the U.S. market, and the relationship between the Fund and the U.S. market salaries has differed widely at individual grades in the salary structure**. Throughout this period, the salary ranges for the Fund's lower grades (A9–A11) have been positioned above the U.S. market while the ranges for the Fund's highest grades (B1–B5) have been positioned below the U.S. market. The long-standing divergence between the paylines of the Fund and the U.S. market has reflected the Fund's deliberate decision to follow pay practices in the French and German markets. These markets have relatively flat paylines that reflect policies of providing higher entry-level salaries and slower subsequent rates of salary progression than employers in the United States. The Fund's practice has been more consistent with the relatively long careers of Fund staff.

23. **The mis-alignment between the Fund's A9–B5 structure and the U.S. market payline—particularly declining competitiveness at the higher-level B Grades—had grown as a concern during the 1990s**. Because the U.S. payline had become steeper, the gap between the market and the Fund's higher grades had widened substantially. Responding to this development, a number of Executive Directors expressed support during the discussion of the 1998 salary review for an upward "tilt" in the Fund's payline. Accordingly, a modest upward shift in the B Grades was proposed in the February 1999 paper for the CAP (EB/CAP99/2) as part of the review of the comparator markets and payline. At the same time, a modest downward shift was proposed in the salary ranges for Grades A9 and A10, where it was found that the Fund's payline could also be brought closer to the U.S. market without adverse effects on staff recruitment or retention.

24. **The Executive Board approved a realignment of the Fund's payline in conjunction with the 1999 staff salary review**. The changes shifted upward the salary ranges for the higher grades by amounts ranging from 0.9 percent at Grade B1 to 9.0 percent at Grade B5 and shifted downward the salary ranges for Grade A10 (by 2.5 percent) and Grade A9 (by 5.0 percent). In both cases, the full amount of the shifts in the salary structure are being implemented in two equal stages, with effect from May 1, 1999 and May 1, 2000. Table 1 and Figure 1 show the resulting salary range midpoints, incorporating the full

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occurred, however, because Hay's 1999 data were abnormally low and the 1998–1999 increases in market salaries reported by Hay were inconsistent with those reported by other compensation consultants. Setting aside this abnormality, the broadening of Towers Perrin's coverage of the market should substantially narrow or eliminate the 1999 differences between Towers Perrin's survey and Hay's survey results for more typical years.

realignment, i.e., including the second stage of the approved shifts at Grades A9–A10 and the B Grades.

Table 1. Fund Grade A9–B5 Midpoints Compared with the 1999 U.S. and French/German Market Paylines

(Fund Midpoints Incorporate the Full Realignment of Grades A9–A10 and B1–B5 and Its Effect on the Structural Increase)

Grade	Number of Fund Staff	Fully Realigned Fund Midpoints	1999 Market Payline		1999 U.S. Market Payline Over(Under) Fund Midpoints (percent)	Fund Midpoints Over 1999 French and German Market Payline (percent)
			United States.	France/ Germany		
A9	74	57,459	51,720	51,440	(10.0)	11.7
A10	75	66,070	58,900	57,340	(10.9)	15.2
A11	144	75,899	67,650	64,010	(10.9)	18.6
A12	194	84,984	78,830	71,840	(7.2)	18.3
A13	310	95,184	92,670	80,590	(2.6)	18.1
A14	279	106,615	110,790	90,800	3.9	17.4
A15/B1	183	120,488	133,920	102,140	11.1	18.0
B2	114	136,162	162,910	114,260	19.6	19.2
B3	71	151,844	193,190 1/	n.a.	27.2	n.a.
B4	52	173,101	226,100 1/	n.a.	30.6	n.a.
B5	21	199,350	259,000 1/	n.a.	29.9	n.a.

1/ U.S. market data corresponding to Grades B3–B5 are estimates. French and German market data at this level are not available.

Further review of market alignment

25. **During the Executive Board's discussion of the 1999 staff salary review, a number of Executive Directors asked that the issue of market alignment be studied further, mainly to determine if additional downward shifts in segments of the salary structure below the B Grades could be made so that the resulting realignment of the Fund payline would have a more neutral effect on the level of the salary structure across all grades, A1–B5, and salary costs.** In response, the staff has studied the possibility of extending the downward shifts across more grades: Grades A11–A12 and Grades A1–A8.[9]

[9]Regarding the B Grades, the staff noted in the earlier paper for the CAP that the realignment approved in 1999 would make only a small improvement in market competitiveness and that further improvements seemed desirable. However, no additional changes in these grades are proposed. It should be noted that the World Bank has implemented a similar upward shift in

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Possible adjustments to these two sets of grades were considered separately because these sections of the Fund's payline are related to separate markets, i.e., the national U.S. market and French/German markets for Grades A9 and above, and the Washington metropolitan area secretarial market for Grades A1–A8. The main considerations for and against possible changes in the alignment of the salary structure at these grades are presented below.

Possible shifts in the salary structure between Grade A9 and Grade A12

26. **In further examining the possibility of extending the changes in market alignment to grades above A9 and A10, it was considered appropriate to limit any extension to Grades A11 and A12.** The next higher grade, Grade A13, has been approximately in line with the U.S. comparator market in recent years, and Grade A14 has consistently been below the U.S. market.[10] In neither case would considerations of market comparability support any material reduction in the Fund's salary structure.

27. **When the market alignment of Grade A11 and Grade A12 was examined in connection with the February paper for the CAP, the staff concluded that competitive pressures on Fund recruitment—especially at Grade A11, which is the appointment grade for participants in the Economist Program (EP)—made it necessary to avoid lowering the relative level of these grades.** In this connection, survey data were presented that indicated that the Fund's starting salaries for economists were in line with or somewhat above the range of average salaries reported by the universities, but not particularly competitive with either the private sector or business schools.[11] The rejection rate of offers to EP candidates had also been higher than desirable, 33 percent in the 1997–1998 period, although the rejection rate for this year has declined to its longer-term average level of about 25 percent.

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their salary ranges equivalent to the Fund's B Grades. Information on the Bank's changes in its compensation system is provided in Attachment I.

[10]During the 1995–1999 period, the U.S. market has, on average, been about 2 percent below the Fund at Grade A13 and about 4 percent above the Fund at Grade A14.

[11]See EB/CAP/99/2, paras. 76–77.

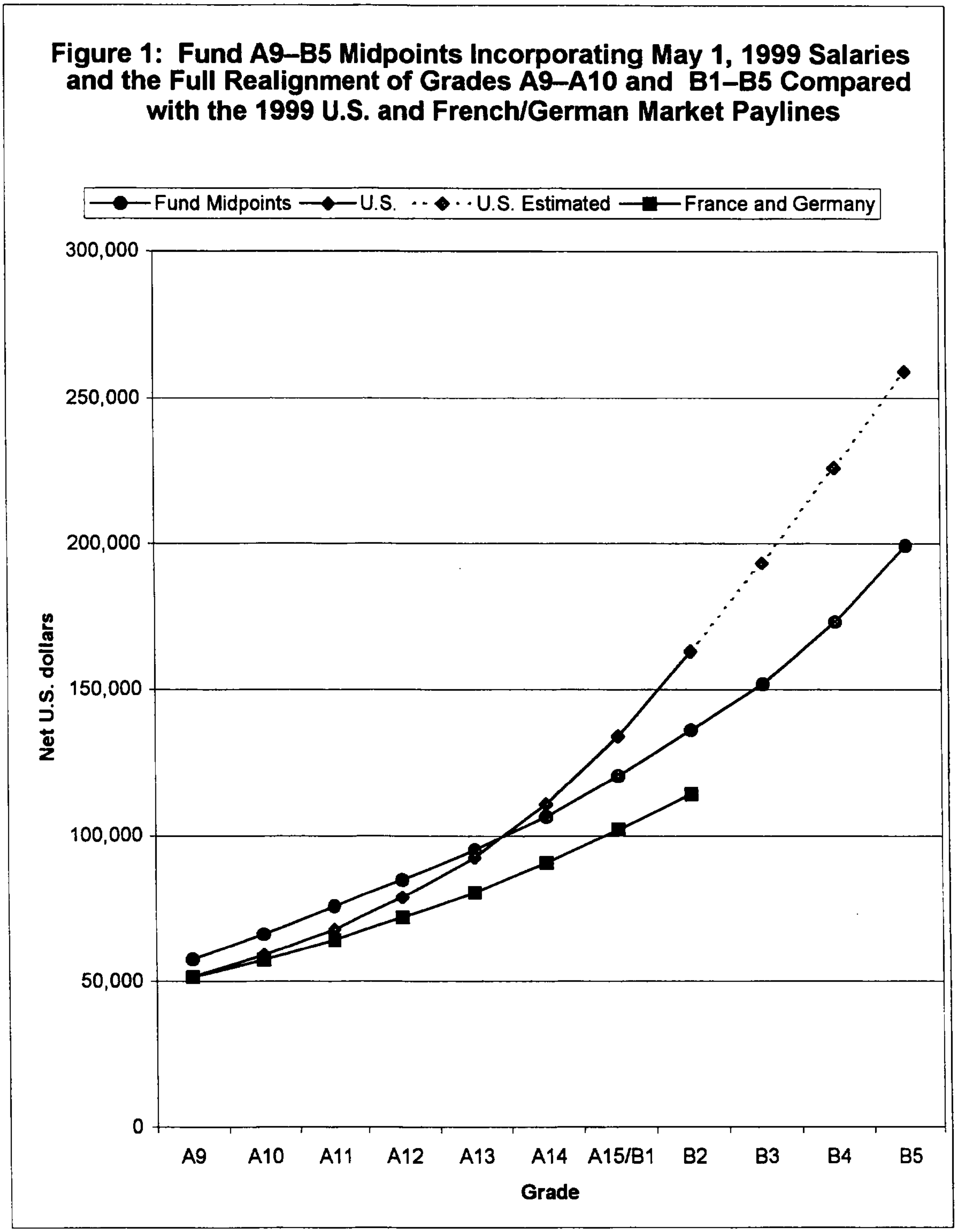

Figure 1: Fund A9–B5 Midpoints Incorporating May 1, 1999 Salaries and the Full Realignment of Grades A9–A10 and B1–B5 Compared with the 1999 U.S. and French/German Market Paylines.

28. **Experience demonstrates that the Fund requires a reasonable premium to compete for EP and other economist candidates considering alternative offers from either the private sector or leading research universities**. As was noted above, private sector salaries in the U.S. market are usually higher than the level of salaries indicated by the Fund's aggregate public/private comparator market. With respect to universities, a salary premium is generally needed to encourage candidates to forego positions with opportunities for continuing research, which is often the primary interest of many students completing Ph.D. programs. Any downward shift in Grades A11–A12 that would substantially reduce the Fund's margin over the U.S. market could have significant adverse consequences for the Fund's recruitment and retention both in the United States and internationally.[12] In general, there is no indication in this market relationship that there is a need for a significant structural realignment of Grades A11–A12. There are, on the contrary, indications of strengthening competition for Fund candidates and staff from regional economic and financial institutions.

29. **Avoiding action that would negatively affect staff recruitment and retention would seem particularly important at this time**. Over the next 1-2 years, the Fund will need to step up its recruitment of economist staff in support of new activities and the expansion of existing activities. At the same time, work pressures and stress have reached troubling levels among current staff. Any reduction in the present level of the Fund's salaries could, therefore, send the wrong signal to both the recruitment markets and the staff.

30. **Notwithstanding these considerations, the present market alignment of these grades would provide some latitude for downward shifts in Grades A11-A12**. Sufficient shifts at Grades A11–A12, together with Grades A9–A10, could be made to neutralize the effects of the 1999 upward shifts in the B-Grades, if the neutrality of the shifts in the Fund's payline is considered by Executive Directors to be an overriding consideration. The Fund's range midpoints for Grades A11 and A12, as well as Grades A9 and A10, have for some time been above the payline for the U.S. comparator market, and they are also—at least for now—considerably above the French/German market. Modest reductions in the relative level of Grades A11 and A12 could, therefore, be made. With respect to the level of Grades A9 and A10, in which downward shifts of 5 percent and 2.5 percent, respectively, were previously

[12]The comparability of Grades A11 and A12 relative to the French and German markets also needs to be considered. Unlike the relationship with the U.S. market, the relationship between paylines of the Fund and the French/German market is reasonably consistent across all grades, and there is no indication in this market relationship that there is a need for a significant structural realignment of Grades A11–A12. While the entire Fund payline currently has a "margin of international competitiveness" of about 18 percent over the French/German markets, this largely reflects the effects of exchange rate movements over the past 2-3 years. A significant downward shift in Grades A11–A12 relative to the rest of the A9–B2 payline could result in an inadequate competitiveness margin in these grades if the U.S. dollar weakens relative to the Euro and thus lowers the level of the Fund payline as a whole relative to the French and German markets.

approved, the adjustment already made to Grade A9 is considered by the staff to be the largest that both comparability and internal salary progression would allow. However, a slight additional downward adjustment in Grade A10 could be accommodated.

31. **The adjustments needed at Grades A9–A12 to substantially neutralize the effects on the Fund's salary structure of the upward shift in the B Grades approved in 1999 would include: (a) a downward adjustment of 2 percent in the salary range midpoints for Grades A11 and A12; (b) an additional downward shift of 1 percent (i.e., a total change of 3.5 percent) in the midpoint of Grade A10; and (c) the previously approved downward shift of 5 percent in the midpoint of Grade A9**. Such adjustments would have a nearly neutral effect on the level of the Fund's salary structure as a whole. The downward shifts in the midpoints of Grades A9–A12, weighted by the number of staff in these grades, would come close to equaling the upward shift in Grades B1–B5, weighted by the number of staff in these grades.

32. **However, the additional adjustment to the Fund's payline would have secondary effects on the relationship between the Fund's payline and the U.S. market payline: in the year the additional shifts indicated above are implemented, the increase needed to bring the Fund's salary structure into line with the U.S. market would be about 0.5 percent larger than it would be without the adjustments**. There are two reasons for this:

- First, the shifts in the Fund's salary structure made previously and those outlined above are intended to be neutral across the entire structure from Grade A9 to Grade B5, but the size of the annual increase in the salary structure is determined by the market relationship of only Grades A9–B2. The downward shifts of 2-5 percent in Grades A9–A12 would balance the upward shifts in Grades B1–B5, but they would outweigh the upward shifts in just Grades B1–B2, which were 0.9 and 1.8 percent respectively.

- Second, while the downward shifts in Grades A9–A12 and the upward shifts in Grades B1–B2 would both bring the Fund's payline closer to the market, the A9–A12 shift would—perhaps counter-intuitively—increase the size of the structural adjustment needed to bring the A9–B2 payline as a whole to the level of the U.S. market. The Fund's range midpoints for Grades A9–A12 are above the U.S. market payline corresponding to those grades, so this portion of the payline has a negative effect on the size of the average difference of the market over the Fund at Grades A9–B2. Bringing the Fund's payline for Grades A9–A12 closer to the U.S. market through the indicated downward shifts accordingly reduces the size of this negative effect, and thereby increases the size of the adjustment needed to bring the A9–B2 payline, on average, up to the level of the U.S. market. The Fund's midpoints for Grades B1–B2, on the other hand, are below the U.S. market, and these grades have a positive effect on the average difference of the market over the Fund at Grades A9–B2. Raising the Fund's B1–B2 payline to bring it closer to the U.S. market reduces the size of this positive effect, and thereby the size of the resulting structural increase. However, in calculating the amount of the structural increase, the reduced negative effect at Grades A9–A12 is not fully offset by the reduced positive effect at Grades B1–B2.[13]

- As noted above, the effect of the additional shift in Grades A9–A12 on the structural increase would be a one-time adjustment of about 0.5 percent. The structural increases in subsequent years would not be affected, but continuing salary costs would be raised. Given the relative size of the shifts needed for the changes at Grades A9–A12 to neutralize the changes at Grades B1–B5, this effect on the structural increase is unavoidable. If the structural increase were not adjusted to fully reflect the shifts in the shape of the Fund's salary structure, the Fund's payline would, on average, be left below the level of the U.S. market.

Possible shifts in the salary structure at Grades A1–A8

33. **As an alternative to the changes in the market alignment of Grades A9–A12, the staff also considered the adjustments that would be needed at Grades A1–A8 to offset the upward shift in the B Grades**. The comparability of the salaries for Grades A1–A8 is measured through comparisons of the Fund midpoints for Grades A2–A7 with a comparator market comprising administrative and staff assistant positions in representative private sector firms in the Washington, D.C. metropolitan area.[14] The appropriateness and relevance of this market for purposes of the Fund's A1–A8 salaries was carefully considered as part of the 1999 review of the comparator markets. The conclusion reached at that time, which the staff believes remains valid, was that this market provides an appropriate indicator of the salary levels with which the Fund needs to be competitive.[15]

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[13]The realignment approved in 1999 had the same type of effects on the structural increase, but their combined impact was smaller (around 0.1 percent) because the shifts in Grades A9–A10 were substantially offset by those in Grades B1–B2.

[14]While the annual percentage increases in the A1–A8 salary structure have been determined under the compensation system by the structural increases indicated for Grades A9–B2, the comparability of the resulting ranges is assessed against the local market. This distinction is made because Fund staff for Grades A1–A8 are recruited locally, and because the Fund is mainly competing with local employers for personnel at these levels. Positions in the Assistant job family account for about 65 percent of the Fund's A1–A8 positions.

[15]If anything, the present set of comparators and survey may provide a somewhat lower measure of market salaries than is desirable for Grades A1–A8. The coverage of the available salary surveys for these grades has changed since the early 1990s. Unlike the early years of the compensation system when Hay Management Consultants conducted customized salary surveys for the Fund and World Bank, the current salary survey provided by the Human Resources Association of the National Capital Area covers almost no law and accounting

(continued...)

34. **In assessing its competitiveness against this market, it is the Fund's policy to refer to two salary levels, the 75th percentile and the 90th percentile**. The A1–A8 payline lies within this range. Initially in 1989, Fund salaries were positioned at the 90th percentile, but in the late 1990s, Fund salaries declined to levels closer to and, in some years, even below the 75th percentile. Following the May 1, 1999 structural increase, the Fund's A1–A8 payline, was positioned on average 4.4 percent above the 75th percentile and 1.4 percent below the 90th percentile. However, as the figures in Table 2 show, the Fund's margin over the 75th percentile is smallest and its margin under the 90th percentile is largest at the three Grades (A5–A7) with over 80 percent of the Fund's A1–A8 staff.

35. **To achieve neutrality relative to the shift in the B Grades, Grades A1–A8 would need to be lowered by about 6 percent if only these grades—and not Grades A9–A12—were shifted**. Such a reduction would, on average, push Fund salaries below the 75th percentile of the market, the minimum of the established "testing range" of competitiveness for these grades. Such a departure from the longstanding policy on A1–A8 comparability would not, in the view of the staff, be justified.

36. **If Grades A1–A8 were lowered by 2 percent, this change, together with the changes indicated above for Grades A10–A12, would imply that the effect of the 1999 realignment would be fully offset**. However, there is not a strong case for a downward shift in Grades A1–A8. The Fund's salaries for Grades A1–A8 are positioned within the established "testing range" for evaluating the market competitiveness of these grades. In this respect, Grades A1–A8 differ from Grades A9–A12, which are positioned above the market benchmark for evaluating the competitiveness of those grades. In terms of the present system, Grades A1–A8 are correctly aligned with their market, and no change (either downward or upward) is justified by considerations of market comparability.

V. Measuring the Differences Between the Fund and Market Paylines

37. Under the staff compensation system, the annual adjustment to the Fund's salary structure is determined as the uniform percentage increase that will most closely align the Fund's payline for Grades A9–B2 with the U.S. market payline (subject to checking for international competitiveness with the French and German market payline). The issue considered in this Section is what calculation method is most appropriate for measuring the distance between the two paylines and for establishing the adjustment needed to align the Fund's payline with that of the U.S. market.

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firms or other professional firms that are most likely to require the high standard of skills that the Fund needs in its administrative assistants. Market salary data at a level corresponding to Grade A8 are not available.

Table 2. Fund A2–A8 Midpoints as of May 1, 1999, Compared with the 1999 U.S. Market Payline

(expressed in U.S. dollars)

Grade	Number of Fund Staff	Fund Midpoints	1999 Washington Market		Fund Midpoints Over (Under)	
			75th Percentile	90th Percentile	Market 75th Percentile (Percent)	Market 90th Percentile (Percent)
A2	1	27,310	25,130	27,586	8.7	(1.0)
A3	2	30,570	28,260	30,675	8.2	(0.3)
A4	22	34,260	32,110	34,500	6.7	(0.7)
A5	186	38,390	36,453	38,821	5.3	(1.1)
A6	199	42,950	41,270	43,652	4.1	(1.6)
A7	148	48,140	46,250	48,951	3.5	(1.7)

Background

38. **The method used by the Fund has been first to smooth the market data through a quadratic regression formula and then to calculate the weighted arithmetic average of the ratios of the applicable market salary over the Fund midpoints at each grade.**[16] The staff and the Staff Association Committee (SAC) have had under consideration a number of alternative statistical methods for measuring the differences between the Fund and market paylines. These were initially described in a paper titled "Staff Compensation—Technical Issues and Status of the 1998 Salary Survey" (EBAP/CAP/98/1, February 5, 1998). Subsequent papers for the CAP on the compensation system and for the Executive Board on staff salary reviews noted that this issue remained under consideration by the staff.

39. **It was agreed during the Executive Board's discussion of the 1999 salary review that the measurement method would be one of the issues to be studied and resolved as part of this review of the compensation system**. To obtain a clear understanding of the possible methods and to determine which approach is most appropriate from both a statistical and a compensation viewpoint, consultations have been held among the staff of the Human Resources and Research Departments, the Staff Association, and experts in statistics and the analysis of compensation data from both Hay Management Consultants and Hewitt Associates (the compensation consultants that conduct the Quadrennial Benefits Survey for the Fund). There is broad agreement among these groups on the following analysis.

[16]The weights for this purpose are the number of staff at each grade. The same staff weights are used in all the calculation methods under consideration.

The issue and alternative calculation methods

40. **Particular methodological issues arise in connection with the Fund's salary reviews, because the slope and shape of the paylines of the Fund and the U.S. market differ, with the market's payline having a steeper slope and a more convex shape than that of the Fund**. As has been discussed in Section IV above, the U.S. market payline corresponding to Grades A9–B2 starts about 12 percent below the Fund's payline at lower grades and ends about 20 percent above the Fund's payline at higher grades; the two paylines intersect between Grade A13 and Grade A14.[17]

41. **The standard statistical procedures for measuring the distance between two sets of data, particularly when the data have such different shapes, involve various means of minimizing either the squared or absolute differences**. The most common of these methods is to minimize the "mean squared error" (MSE), which computes the distance between the two data sets as the sum of the squared differences between the data at each point of measurement (i.e., grade). An alternative is the "mean absolute error" (MAE), which computes the distance between the data sets as the sum of the absolute differences at each point of measurement. In the case of both the MSE and MAE methods, the differences between the two lines can be measured either in percentages or in dollar amounts.

Assessment of the alternative minimization methods

42. **The minimization methods have a strong grounding in statistical theory and practice and, as a class, they are considered to be superior, on statistical grounds, to the current method**. However, the minimization methods (and also the current procedure) emphasize different aspects of the relationship between the paylines of the Fund and the U.S. market and their results consequently vary. The average percentage differences of the U.S. market payline over the Fund payline indicated by the minimization methods and the current procedure were as follows. (These estimates are calculated on the basis of the 1999

[17]It should be noted that the measurement issue would resolve itself if the slope and shape of the Fund's payline were changed to coincide with the characteristics of the U.S. payline. This is the case with respect to the French/German payline, which is nearly parallel to the Fund's payline. The measured differences between this payline and that of the Fund do not vary significantly among the alternative methods. However, as discussed above in Section IV, considerations of competitiveness do not allow the Fund's payline at the lower grades to be reduced to the level of the U.S. market, and it is not feasible for the Fund's payline at the higher grades to be raised to the level of the U.S. market.

salaries in the U.S. comparator market and the Fund's salary structure **before** the May 1, 1999 adjustment.)[18]

Present arithmetic average:	4.3 percent
MSE in percentage terms (MSE-%):	5.5 percent
MSE in dollar terms (MSE-$):	8.4 percent
MAE in percentage terms (MAE-%):	8.4 percent
MAE in dollar terms (MAE-$):	8.4 percent

43. **Of the four minimization methods, the staff has concluded for the reasons explained below that the MSE method in percentage terms (MSE-%) is the most appropriate method for the Fund**. The principal reason for this preference is that the MSE -% procedure most effectively measures the relationship between the two paylines across their entire length. From the perspective of the Fund's compensation system, this aspect of the method is important, because the measured difference between the paylines is used in the annual salary reviews to determine a single, uniform increase that is applied to the Fund's **entire** salary structure.

44. **Between the methods calculated in terms of percentages and dollars, the procedures based on percentage differences are preferable to those based on dollar differences**. Methods based on dollar differences give a substantially greater and potentially a dominant weight to the individual grades where the largest dollar differences (plus or minus) occur. Such dominance is a particular concern when the large dollar differences are systematically located at a particular point on the payline, which has for some time been the case with the paylines of the Fund and the U.S. market. Because the U.S. market payline has a relatively steep upward slope, the larger dollar differences have for many years been consistently located at the top of the paylines. Because the Fund payline also lies below the U.S. market at the higher grades, measurements based on dollars would introduce a bias that would systematically overestimate the differences between the paylines along their entire length. The formulas based on percentages avoid this systematic bias and give more equal importance to each grade along the Fund's entire payline. This is reflected in the smaller size of the distance between the paylines of the U.S. market and the Fund when calculated by the MSE-% method instead of the MSE-$ method.

45. **Avoiding the potential dominance of any particular grade or grades in determining the increase in the salary structure (either up or down) was an objective of the Joint Compensation Committee when it decided in 1989 that the structural increase should be based on percentages rather than on dollar differences**. (At that time, however, the Fund's midpoint for Grade B2 was equal to the U.S. market payline, and the relatively

[18]The increase of 4.1 percent in the salary structure approved for May 1, 1999 incorporated the effects of the realignment of Grades A9–A10 approved at that time and the full realignment of Grades B1–B2, of which one-half was approved.

large dollar differences that were of concern were those between the Fund and U.S. market paylines at the lower grades.) The use of percentage differences is also consistent with standard compensation practice and with observations that employees generally attach more importance, within limits, to relative (i.e., percentage) changes in their pay and to relative differences between their pay and market pay than to dollar differences.

46. **Between the methods based on absolute and squared differences, the procedures that minimize the squared differences (MSE) are preferable to those that minimize the absolute differences (MAE)**. A property of the methods that minimize differences in absolute terms is that the distance between the entire paylines is equal to the specific difference at the grade that comes closest to dividing the Fund payroll into two equal halves, i.e., at the median grade of the payline. Given the slope of the Fund payline and the distribution of staff among the grades, the present median grade is A14, and the average difference between the paylines of the U.S. market and the Fund, as measured by the MAE methods, is simply equal to the difference with the market at Grade A14.[19] From the perspective of the Fund's compensation policies and staffing requirement, there is no reason to set and adjust the level of the entire salary structure on the basis of Grade A14 or any single grade. Narrowly focussing on the differences with the market at a single Fund grade could also produce distortions, if market movements at that grade were atypical for the U.S. market as a whole, or if that grade consistently has a different relationship to the Fund's payline than other grades. This tends to be the case with Grade A14. When the U.S. market is represented by unsmoothed data, the market payline bends upward between the equivalent of Grades A13 and A14; when measured by the MAE methods, this gives rise to a large difference of 11.2 percent between the paylines. Smoothing the market data reduces the effect of the "bend" and results in the smaller—but still relatively large—difference of 8.4 percent between the paylines indicated above.[20]

47. **Methods based on minimizing the squared differences, by contrast, reflect information about the differences along the entire payline, and they give somewhat greater weight to market differences toward the ends of the payline than at its center**. This is considered appropriate from a compensation perspective, because it is important for the Fund to address relatively large differences between its payline and the market. Such differences are more likely to have significant consequences for the Fund—in staff

[19]The MAE-$ and MAE-% methods are equivalent in this regard. In both cases, the median grade is A14, so the measured differences between the two paylines are the same.

[20]The MSE methods largely eliminate random errors in the market data as part of the minimization process, and, when using them, there is no need to first smooth the market data, as is required when the differences are calculated as the arithmetic average. In the case of the MAE methods, however, smoothing the market data may still be necessary if market salaries at the median grade (Grade A14) are out of line with those at other grades, which is now considered to be the case.

recruitment and retention, for example—than the relatively small differences toward the center of the payline where the Fund's salary structure is close to the U.S. payline. While there might be concerns that the MSE methods place too much emphasis on the grades at the ends of the payline, this emphasis is moderated by the staff weights incorporated in the calculations, which give relatively more weight to the central grades where more staff are located. Because they take the entire payline into account, the MSE methods are also less susceptible to distortions in the market data at any single grade than the MAE methods.

Assessment of the present method and MSE-%

48. Having concluded that the MSE-% method is the most appropriate of the four minimization procedures, **the next question to be considered is that of the advantages and disadvantages of this method relative to the present method** of calculating the arithmetic average of the percentage differences between the paylines.

49. **As noted above, the MSE method is the most common statistical technique for measuring the distance between two lines.** Moreover, in comparison with the arithmetic average, the MSE-% procedure takes the respective shapes of the Fund and U.S. market paylines more accurately and fully into account. With the arithmetic method, the effects of the upward slope of the paylines are not fully captured, with the result that the lower grades, in which the ratios of the U.S. market over the Fund midpoints happen to be less than 1, exert an undue downward influence on the overall average distance between the paylines. The MSE-% method, on the other hand, captures more completely the differences between the paylines at successively higher grade and salary levels, and thereby gives the lower grades a more correctly proportioned weight within the overall average.

50. **As was also noted above, the MSE-% procedure gives greater weight than the present method (which measures absolute differences) to the parts of the payline where the percentage differences between the Fund and U.S. market are relatively large and less weight to the parts of the payline where the percentage differences are relatively small**. In economic terms, the MSE-% method reflects the assumption that the marginal cost of not hitting a target increases by more than the absolute distance from the target. In terms of compensation objectives, this reflects the assumption that the consequences or "loss" to the Fund of diverging from the market payline increases **more** than proportionally as the percentage difference widens between the payline of the Fund and market at each grade. As already indicated, the greater emphasis on limiting large discrepancies along the payline is considered appropriate from the viewpoint of compensation considerations.

Effects of adopting the MSE-% method

51. **The result of applying the MSE-% method to align the Fund and market paylines would be to position the Fund's payline at a slightly higher level relative to the U.S. market than the present method**. This positioning is reflected in the somewhat larger size of the distance between the two paylines as shown above: 5.5 versus 4.3 percent before the May 1, 1999 adjustments. This indicates that if the MSE-% method had been adopted for

the 1999 salary review, the increase in the Fund's salary structure would have been 1.2 percentage points larger than the increase resulting from the current method based on the arithmetic average.

52. **However, the changes to the shape and market alignment of the Fund's payline that are discussed above in Section IV would bring the Fund's A9–B2 salary structure closer to the U.S. market, reducing the effect of a change to MSE-%.** If these additional shifts in the Fund's payline had been implemented in 1999, then the MSE-% method would have resulted in a structural increase slightly less than 1 percentage point larger than the increase indicated by the current method.

53. **A change to the MSE-% method from the current method would involve a one-time adjustment in the market level at which the Fund's payline is positioned.** Provided that the MSE-% method is then applied each year, the subsequent annual structural increases resulting from its use would be essentially identical to those that continued use of the current method would produce. However, this adjustment would have continuing effects on the Fund's salary budget, which would also be about 1 percent higher than they would be if the present method were retained.

VI. CONCLUSIONS AND SUMMARY OF ISSUES FOR THE COMMITTEE

54. **During the Executive Board's discussion of the 1999 staff salary review, it was agreed that the staff would study further four aspects of the compensation system**: (a) the weight to be assigned to each sector in aggregating the market data on comparators' salaries; (b) the source(s) of survey data on the private financial sector in the U.S. market; (c) the alignment of the Fund's payline relative to the U.S. comparator market; and (d) the methodology used to measure the difference between the Fund and U.S. market paylines at Grades A9–B2.

55. **With respect to the survey data for the U.S. financial sector, there is no alternative to the use of Towers Perrin's data, and it is recommended that they be used, beginning with the 2000 salary review**.

56. **With respect to the other three areas, this paper has set out for the consideration of the CAP the following alternatives**:

- **Sector weights**. The options are either to retain the weight of 35 percent for the U.S. public sector (and by extension the French and German public sectors), or to raise the public sector weight to 40 percent, in which case the weight of the private industrial sector would be reduced from 25 to 20 percent. In either case, the weight of the private financial sector would remain at 40 percent. The main effect of increasing the public sector weight would be a one-time downward shift of the Fund's salary structure by 0.5 percent (Table 3). In the view of the staff, raising the weight of the public sector to 40 percent is not supported by the recent recruitment and retention experience and would increase concerns about competitiveness with the private sector.

- **Shape and market alignment of the Fund's payline**. The options discussed are either to retain the previously approved payline, incorporating downward shifts at Grades A9–A10, or to make additional downward adjustments such that the alignment changes would, in total, have a neutral impact on the Fund's salary structure. Information was provided on two potential sets of further adjustments to the payline: (a) reducing Grades A11–A12 by 2 percent and Grade A10 by an additional 1 percent; and (b) reducing Grades A1–A8 by 2 percent. The effects of these potential changes on the alignment of grades and the overall structural increase are also shown in Table 3. Although Grades A10–A12 lie above the U.S. comparator market, the staff is concerned that downward adjustments in these grades might give the wrong signals for recruitment. With regard to the salary ranges of Grades A1–A8, they currently fall within the established testing range; therefore, no need for an adjustment is indicated.

- **Measurement method**. The options are to retain the present method (the arithmetic average of the ratios, expressed in percentages, of the market over the Fund) or an alternative minimization procedure. Of the alternatives considered, the preferred method in the view of the staff is to minimize the mean squared error of the percentage differences between the market and Fund payline. The effect of a change to MSE-% would be a one-time increase in the salary structure of about 1 percent.

57. **Table 3 provides a summary of the effects that the possible changes discussed in this paper would have on individual grades and the salary structure as a whole.** Table 3 (last three columns) also shows what would be the combined effect of the full realignment approved in 1999 **and** of the changes discussed in this paper. Table 4 shows the salary structure for Grades A9–B5 that would have resulted had all the changes approved in 1999 (including the second phase of the realignment) and the additional changes discussed in this paper been made with effect from May 1, 1999.

58. **The issues to be considered by the CAP are the sector weight for the U.S. public sector, the additional shifts in the shape of the Fund's payline, and the method for measuring the distance between the paylines of the Fund and U.S. market**. The results of the discussion by CAP will be reported to the Executive Board, provided a decision on a change is to be taken. Any changes approved by the Executive Board would be implemented in conjunction with the May 1, 2000 salary review and adjustment.

59. **The staff would note that this is the seventh review of various aspects of the staff compensation system that has been carried out since 1995.**[21] These reviews have addressed all major elements of the system and either confirmed the appropriateness or resulted in improvements in the areas considered. These have included the structure and purposes of the principal components of the compensation programs (salaries, allowances, benefits, and services); the composition of the comparator markets; the relationship between the Fund's payline and salary structure and the markets; the technical methods used to aggregate the market data, to measure the differences between the paylines of the Fund and markets, and to calculate the resulting structural increase; the basis for determining the annual salary budget for merit pay; and "total compensation," i.e., the comparability of the Fund's salaries and benefits, taken together.

60. **Executive Directors may now wish to consider the desirability of a "breathing space" of several years during which time the annual salary reviews would be conducted on the basis of the compensation system's present framework, including any changes approved on the basis of this paper.** While some of the recent reviews have resulted in necessary changes in the compensation system, their frequency and breadth have created considerable uncertainty for the staff regarding the direction and stability of the Fund's compensation programs, and they have raised concerns regarding the Fund's continuing reliance on an objective, rules-based system. Carrying out the reviews has also required a substantial and continual commitment of staff resources, time, and funds.

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[21] See EB/CAP/95/8, 12/29/95; EB/CAP/96/1, 1/19/96; EBAP/96/27, 3/26/96; EB/CAP/98/1, 2/5/98; EB/CAP/97/4, 7/14/97 and EB/CAP/97/4 Supplement 1, 7/4/97; and EB/CAP/992, 2/18/99.

Table 3. Effects of Possible Changes in the Sector Weights for the U.S. Comparator Market, Shape and Market Alignment of the Fund Payline, and Method for Calculating the Structural Increase

(Figures are percentage increases (decreases) in the adjustment to the Fund's salary structure in comparison with the Fund and U.S. market paylines and calculation methods in effect (a) on or (b) before May 1, 1999.)

	(a) Effect of Possible Actions Discussed in Present Paper			(b) Effect of Possible Actions Discussed in Present Paper and Full 1999 Realignment		
	Direct Effect on Indicated Grade(s)	Effects on Structural Increase	Combined Effects on Indicated Grade(s)	Direct Effect on Indicated Grade(s)	Effects on Structural Increase	Combined Effects on Indicated Grade(s)
1. Increase in public sector weight to 40 percent						
Grades A1-B5	---	(0.5)	(0.5)	---	(0.5)	(0.5)
2. Changes in the alignment of Grades A9–A12 and B1–B5						
Grades A1–A8 (no downward shift)	---	0.5	0.5	---	0.6	0.6
Grade A9	---	0.5	0.5	(5.0)	0.6	(4.4)
Grade A10	(1.0)	0.5	(0.5)	(3.5)	0.6	(2.9)
Grades A11–12	(2.0)	0.5	(1.5)	(2.0)	0.6	(1.4)
Grades A13–14	---	0.5	0.5	---	0.6	0.6
Grades B1–B2 (Average of grades)	---	0.5	0.5	1.2	0.6	1.9
Grades B3–B5 (Average of grades)	---	0.5	0.5	5.1	0.6	5.7
3. Change in measurement method to MSE-%						
Grades A1–B5	---	1.1	1.1	---	1.3	1.3
4. All Changes Combined						
Grades A1–A8 (no downward shift)	---	1.1	1.1	---	1.1	1.1
Grade A9	---	1.1	1.1	(5.0)	1.1	(3.9)
Grade A10	(1.0)	1.1	0.1	(3.5)	1.1	(2.4)
Grades A11–12	(2.0)	1.1	(1.0)	(2.0)	1.1	(0.9)
Grades A13–14	---	1.1	1.1	---	1.1	1.1
Grades B1–B2 (Average of grades)	---	1.1	1.1	1.2	1.1	2.4
Grades B3–B5 (Average of grades)	---	1.1	1.1	5.1	1.1	6.2
Note: Grades A1–A8 with downward shift of 2.0 percent	(2.0)	(0.9)	(0.9)	(2.0)	(0.9)	(0.9)

Table 4. Fund Grade A9–B5 Midpoints Compared with the 1999 U.S. and French/German Market Paylines

(Fund Midpoints Incorporate the Full 1999 Realignment of Grades A9–A10 and B1–B5, and the Additional Realignment at Grades A10–A12; the U.S. Market Data Incorporate a 40 Percent Weight for the Public Sector.)

Grade	Number of Fund Staff	Fund Midpoints	1999 Market Payline		1999 U.S. Market Payline Over(Under) Fund Midpoints (percent)	Fund Midpoints Over 1999 French and German Market Payline (percent)
			United States	France/ Germany		
A9	74	58,065	51,540	51,440	(11.2)	12.9
A10	75	66,099	58,690	57,340	(11.2)	15.3
A11	144	75,166	67,400	64,010	(10.3)	17.4
A12	194	84,162	78,510	71,840	(6.7)	17.2
A13	310	96,188	92,250	80,590	(4.1)	19.4
A14	279	107,740	110,230	90,800	2.3	18.7
A15/B1	183	121,759	133,150	102,140	9.4	19.2
B2	114	137,598	161,860	114,260	17.6	20.4
B3	71	153,446	191,945 1/	n.a.	25.1	n.a.
B4	52	174,926	224,643 1/	n.a.	28.4	n.a.
B5	21	201,453	257,331 1/	n.a.	27.7	n.a.

1/ U.S. market data corresponding to Grades B3–B5 are estimates. French and German market data at this level are not available.

RESULTS OF THE WORLD BANK'S 1999 SALARY REVIEW

1. **In 1998, the World Bank decided to depart from the joint compensation system and to develop a new system based on the human resources strategy and systems it considered necessary to carry out the "Strategic Compact."** The Bank's new system was implemented with effect from July 1, 1999.

2. **The Bank's new system differs in many respects from both the earlier joint Bank/Fund system and the present, revised Fund system.** The Bank's new salary system had the following effects: (a) it reduced the number of the Bank's internal grades and widened accordingly the new salary ranges; (b) it limited the comparator markets used in determining staff salaries to only the U.S. market, and eliminated the "margin of international competitiveness" with respect to French and German salaries in the annual reviews; (c) it modified the organizations and positions included in the comparator market, the sources of market data, and the methods used to match Bank positions with market positions and to aggregate the market data; (d) it introduced "market premia" that can be paid selectively to new staff when necessary to match market pay; and (e) it introduced selective lump-sum, non-pensionable performance awards, for which 1.5 percent of salaries are budgeted.[1]

3. **These changes had the effect of lowering the U.S. market payline which, in turn, left Bank salaries for staff in the equivalent of Fund Grades A1–B5 about 3 percent above the redefined market.** The salaries of Bank staff are to be brought into line with the new market over a transitional period of 2-3 years (1999-2001) by limiting staff salary increases to amounts lower than the year-to-year increases in market salaries. This will allow the market payline to "catch up" to the level of Bank salaries.

4. **On this basis, the Bank's July 1, 1999 average salary increase amounted to 2 percent, plus the provision for lump-sum performance awards of 1.5 percent of salary.** It should be noted that this average increase applies to the salaries of staff members, as opposed to the salary structure. Regarding the Bank's structure, varied adjustments were made to combine the earlier grades and to reposition the new grades in line with the redefined U.S. market.

5. **With respect to the equivalent of the Fund's B Grades, the Bank implemented an upward shift that is broadly consistent with the full upward shift approved in the Fund**

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[1]For staff appointed on or after July 1, 1999, the Bank also eliminated its home leave and education allowances for expatriate staff. In the case of "professional" staff recruited internationally to the Washington, D.C. duty station, there is a new "mobility premium," which is initially equal to 7 percent or 11 percent of the "market reference point" for Grade G for the staff member (depending on the distance to the home country), plus 5 percent for the spouse and 4 percent per dependent child. The mobility premium phases out between the 6th and 10th year of employment.

for these grades, although the Bank implemented the change in a single step in 1999 instead of the Fund's two-stage implementation in 1999 and 2000. The Bank raised the range maximum of the equivalent of the Fund's Grade B5 by about 12 percent to $214,080. Taking into account the May 1, 1999 structural increase, the first stage of the Fund's shift in the maximum of the range for Grade B5 was 8.8 percent to $208,120; if the full shift had been implemented in a single step on May 1, 1999, the B5 maximum would have been raised by 13.5 percent (a structural increase of 4.1 percent and an upward shift of 9 percent) to $217,080.

ADDITIONAL REVISIONS IN THE U.S. AND THE FRENCH/GERMAN COMPARATOR MARKETS

1. **In the February 1999 paper for the CAP, the staff indicated that two aspects of the changes then proposed in the composition of the comparator markets were still being considered and would need to be implemented at a later date**. These were (a) the application of the revised sector and occupational weights adopted for the U.S. market to the French and German comparator markets, and (b) the addition of other agencies with responsibilities in the areas of economics and finance as comparators within the U.S. public sector market.

A. The French and German Comparator Markets

2. **In the staff compensation system, the combined French and German markets are used to test the international competitiveness of the Fund's Grade A9–B2 salary structure that would result from reference to the U.S. market alone**. The Fund's policy is to maintain a "margin of international competitiveness" that positions the Fund's salary structure 10-20 percent above the French/German market. Since 1989, the comparator markets for France and Germany have been defined with respect to market sectors, organizations, and occupations on substantially the same basis as the U.S. market. There have been a few minor differences that have reflected the smaller size of the French and German markets with respect to both the number of organizations and employees covered in the surveys.[1]

3. **To maintain consistency among the markets, the staff indicated in the February paper for the CAP that the same sector and occupational weights adopted for the U.S. market would be applied, to the extent permitted by the data, to the French and German markets**. However, the timing of the data collection and analysis for these markets did not allow the assessment of the feasibility of applying the U.S.-based market definition to the French and German data to be completed before the 1999 compensation review.

4. **This assessment has now been completed**. In consultation with the staff, Hay has revised and updated the comparator organizations, occupations, and positions to be included in the salary surveys. The number of private-sector comparator organizations in both the French and German surveys has been expanded, and the occupations and positions have been adjusted to add more positions relevant to the Fund and to exclude those—particularly engineering and other technical positions—that had been included in earlier surveys because of their relevance to the World Bank.[2] The resulting French and German comparator markets

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[1]It has not been possible, for example, to separate and to independently weight the data for the central banks and civil service agencies in the French an German public sectors.

[2]A list of the comparator organizations that will be included in the French and German salary surveys for 2000 is provided in Attachment IV.

are considered by the staff to be consistent with the composition of the U.S. comparator market and representative of the areas in the French/German market in which the Fund needs to be competitive.

5. **With these adjustments, it will be possible to apply to the French and German markets the same sector weights as those applied in the U.S. market (i.e., either the current weights or the revised weights discussed in Section II of this paper)**. It will also be possible to apply fully the same occupational weights to the private sector data. In the public sector data, however, the same weights as in the U.S. market cannot be applied below the level of the major occupational groups (i.e., core economic/financial/legal positions and administrative positions); the public sector data appear to be too limited to apply detailed weights to individual occupations (e.g., specifically to economic and legal positions or to human resources and accounting positions) within the major groups. The limited data on the public sector will also continue to preclude separately weighting the data for the central banks and civil service agencies.

6. **These changes will be implemented in the 2000 salary survey**. It is expected that they will raise slightly the level of salaries for the French and German markets over the level produced by the prior comparators and weights, but the salary data needed to estimate the amount of the difference are not yet available. The change in level of market salaries will be a one-time adjustment; once implemented, the change should not affect year-to-year increases in the market data. As a practical matter, this change is unlikely to affect the 2000 review of staff salaries, because the available indicators of salary increases in the U.S., French and German markets and exchange rate movements make it probable that the increase in the Fund salary structure for 2000 will be based on the U.S. market.

B. Market Data for the U.S. Public Sector

7. **As part of the changes made in 1999 to the comparator market on the basis of the earlier review, the organizations included in the survey of the U.S. public sector were revised**. The changes were intended to increase the representation of economic and financial departments and agencies that had the greatest relevance for the Fund, and to reduce the representation of departments in which positions were concentrated in engineering and similar technical occupations that had mainly been of relevance to the World Bank. For the 1999 salary survey, the Export-Import Bank, the Commodities and Futures Trading Commission, the Federal Trade Commission, the Overseas Private Investment Corporation, the U.S. International Trade Commission, and the Securities and Exchange Commission were added as comparator organizations, and the Department of Agriculture and the Department of Energy were dropped from the survey. At that time, the staff indicated that the possibility of including additional economic or financial agencies would continue to be explored.

8. **The staff has subsequently consulted with the U.S. Office of Personnel Management (OPM) to assess whether data on other agencies would be available through OPM's information system and appropriate for inclusion in the Fund's salary surveys. Based on these consultations, the inclusion of two additional civil service**

agencies as comparators is proposed; these are the Office of Management and Budget (OMB) and the Federal Deposit Insurance Corporation (FDIC).[3] The addition of these agencies is not expected to have any material impact on the aggregate level of comparative salaries in the U.S. market.

9. **During the discussion of the 1999 salary review, an Executive Director also suggested that consideration be given to the addition of more regional Federal Reserve Banks as comparators**. Since 1989, the salary data for the U.S. Federal Reserve System has based on the Federal Reserve Board in Washington, D.C. and the New York Federal Reserve Bank. The staff consulted on this possibility with counterparts at the Board and with Hay Management Consultants, which has conducted salary surveys for the Federal Reserve for several years.

10. **The salaries of the Board and each regional Bank are separately determined and differ, partly in accordance with differences in locality pay for higher and lower cost cities**. However, the Board's staff advise that economist positions are highly concentrated at the Board and New York Bank. Most of the other regional Banks do not have sufficient positions to provide reliable data across the grade levels (A9–B2) that a survey would need to cover. As a practical matter, the inclusion of other regional Banks would result in the addition of more administrative positions than economics/finance positions of primary relevance to the Fund. Because the administrative positions have a limited weight at most grade levels (30 percent or 15 percent of the total occupational weights), any differences in these salaries would have a minimal impact on the public sector or U.S. market as a whole. Salary data on additional regional Banks would have to be collected through costly custom surveys of each. **The staff has therefore concluded that too little value would be added and the cost would be too great to justify broadening this component of the annual compensation surveys**.

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[3]A number of other agencies, including the Council of Economic Advisors (CEA) and the Office of the Controller of the Currency (OCC) were also considered. The Office of Personnel Management indicated, however, that it maintains data on too few positions in the CEA to make its addition worthwhile, and that the OCC has a grade structure that differs from the general civil service structure. Using the OCC data would consequently require a separate and costly job matching exercise.

LIST OF COMPARATOR FIRMS IN THE U.S. FINANCIAL SECTOR

A. Firms that Will Be Included in the 2000 Salary Survey by Towers Perrin

ABN AMRO Bank North America
Aetna Inc.
Allmerica Financial
Allstate Insurance Company
American Reinsurance
BankBoston
Bank of America
The Bank of New York
Bank One
Capital One Financial
Chase Manhattan Bank
CIGNA
The CIT Group
Citigroup
CNA Financial
Comerica
Discover Financial Services
Equitable Life Insurance
Fannie Mae
First Security
First Union Corporation
Fleet Financial
Hartford Life
Harris Trust & Savings
Keycorp
Marshall & Ilsley Corporation
Mellon Bank
Nomura Securities International
Northern Trust
PNC Bank
Sanwa Bank
State Street Boston
Summit Bancorp
SunTrust
Transamerica
U.S. Bancorp
The Vanguard Group
Washington Mutual Savings Bank
Wells Fargo Bank

B. Firms that Could Be Included in a 2000 Salary Survey by Hay Management Consultants

AGFirst
Bank of America (Jacksonville, FL)
California Federal Bank
Chase Bank of Texas
Commerce Bancshares
First Citizens Bank
First Security Corporation (Salt Lake City, UT)
First Tennessee Bank
Firstar
Fleet Financial Group
Harris Bank
Hibernia National Bank
HSBC Bank USA
Keycorp
Marshall & Ilsley Corporation
Northern Trust Company
Old Kent Bank
People's Bank
Sanwa Bank
Washington Mutual Bank

LIST OF ORGANIZATIONS IN THE FRENCH AND GERMAN COMPARATOR MARKETS FOR THE FUND'S 2000 SALARY SURVEY

FRANCE—INDUSTRIAL SECTOR

Aérospatiale Groupe
Airbus
Akzo Nobel Pharma
Arjo Wiggins
Bayer
Best Foods France
BIC
BP
Cables Pirelli
Cargill
Carnaudmetalbox
Caterpillar
Chantelle
Ciba Spécialités Chimiques
Ciments Français
Coca-Cola
Colgate Palmolive
Danone
Dow Chemicals
Dupont de Nemours
EBS
Elf Groupe
Esso SAF
Eurest
Ferrero
Gillette France
Glaxo Wellcome
Groupe Monnoyeur
Guerbet
Henkel France
HMR
Hutchinson
ICI France
Johnson & Johnson
Kimberly Clark SNC
Kodak Pathé
Kraft Jacobs Suchard
Kronenbourg
Lafarge Groupe
L'Air Liquide

Lilly France
M.S.D. Chibret
Mars Alimentaire
Mobil Oil Française
Novartis
Packard Bell
Pasteur Merieux Connaught
Pechiney
Pepsi Cola
Perrier Vittel
Pfizer
Pharmacia & UpJohn
Philips
PSA
Reckitt & Colman
Rhône Poulenc Groupe
Saint Gobain
Sanofi Groupe
Schindler
Schneider Electric
Schweppes France
Searle Laboratoires
Shell France
Sita
Sodiaal
Sony
Thomson CSF
Total Groupe
Unilever France Services
Unisabi SA
Xerox
Zeneca

FRANCE—FINANCIAL SECTOR

AGF
AXA
Banque La Hénin
Groupe Banques Populaires
BNP
CDC
Groupe CIC
CNP Assurance
Compagnie Bancaire
Crédit Agricole

Crédit Foncier de France
Crédit Local de France
Crédit Lyonnais
Crédipar
Factory Mutual
Maaf
Groupe Paribas
Scor
Sinafer
Société Générale
UAP
Zurich Assurance

FRANCE—PUBLIC SECTOR

Banque de France
Caisse Française de Développement
Ministerè de l'Economie et des Finances

GERMANY—INDUSTRIAL SECTOR

Acordis AG (formerly Akzo Nobel Faser AG)
Alcan Deutschland GmbH
Bauknecht Hausgeräte GmbH
Beiersdorf AG
Borg-Warner Automotive Europa GmbH
BP Oil Deutschland GmbH
Brauerei Beck & Co.
British Airways
Chemische Fabriken Grünau GmbH
Ciba Spezialitätenchemie Holding Deutschland GmbH
Continental AG
DaimlerChrysler AG
Danone GmbH
DATEV e.G.
Degussa-Hüls AG (formerly Degussa AG)
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
Deutsche Lufthansa AG
Dow Deutschland Inc.
3M Deutschland GmbH
Eckes AG
Effern GmbH
Federal Express Europe, Inc.
Goldwell GmbH

Henkel KGaA
Hoogovens Alu. Walzprodukte GmbH, Trier
Hoogovens Aluminium Bausysteme GmbH Koblenz
(formerly Hoogovens Aluminium Werk Koblenz)
Hoogovens Aluminium Profiltechnik GmbH
IMS Data GmbH
Kellogs (Deitschland) GmbH
Kimberly-Clark GmbH
Knorr-Bremse AG
Kraft Jacobs Suchard Deutschland
Leche Farben GmbH (formerly ICI)
Levi Strauss Germany GmbH
Lufthansa Systems GmbH
Nestlé Deutschland AG
Novartis Consumer Health GmbH
Pepsi-Cola GmbH
Philip Morris GmbH
Pirelli Deutschland AG (formerly Pirelli Reifenwerke GmbH)
Quelle AG (formerly Quelle Schickendanz AG & Co.)
Rio Tinto Iron & Titanium GmbH
Rothmans Cigarretten GmbH
RWE-DEA Aktiengesellschaft für Mineralöl und Chemie
Schmalbach-Lubeca AG
Sita Airlines Worldwide Telecommunications and Information Services
Solvay Deutschland GmbH
Joh. Vaillant GmbH & Co.
Veba Oel AG
Vertriebs-und Verwaltungs-GmbH
Vorwerk & Co. Stammhaus (formerly Vorwerk & Co. Elektrowerk)
Wella AG
Zeneca GmbH
ZF Friedrichshafen AG
ZF Passau GmbH

GERMANY—FINANCIAL SECTOR

Bank für Gemeinwirtschaft
Bankgesellschaft Berlin AG
Barmer Ersatzkasse
Bayerische Landesbank Gironzentrale
Berliner Bank AG
Berliner Handels-Frankfurter Bank AG
CC-Bank
Commerzbank
Die Kölnische Rückversicherungs-Gesellschaft

Die Sparkasse in Bremen
DG Bank Deutsche Genossenschaftsbank
Entriurn Direct Bankers AG
FM Insurance Company Ltd.
Frankfurter Sparkasse
Gerling E. L. (formerly Euity and Law Lebensversicherungs AG)
HYPO-Vereinsbank AG (formerly Bayerische Vereinsbank AG)
IKB Deutsche Industriebank AG
Landesbank Berlin
Münchner Rückversicherungs-Gesellschaft AG
Stadt-Sparkasse Düsseldorf
Westdeutsche Landesbank AG

GERMANY—PUBLIC SECTOR

Bundesministerium der Finanzen
Deutsche Bundesbank
Kreditanstalt für Wiederaufbau