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## Keeping Score: The World Economic Outlook

**D**uring the 1980s, the IMF developed its World Economic Outlook (WEO) into the polestar of its analytical work and of its communication with the public at large. It became the principal means for the Fund to conduct oversight over the international financial system and an important vehicle for providing information to governments struggling to cope with complex global economic relationships. Through it, the Fund aimed to strengthen bilateral surveillance by making policy recommendations more consistent and more reflective of the international context.

Throughout the 1970s, preparation and discussion of the WEO had been primarily an internal exercise at the Fund. As the period covered by this History began in January 1979, the staff prepared a 33-page general-survey paper, plus three background papers, for internal circulation and for a one-day discussion by the Executive Board in informal session. By the spring of 1989, the WEO operation had expanded to comprise two main papers, nine supplementary papers on a wide range of topics, and a statistical appendix, totaling more than 250 pages. The Executive Board then devoted two days in formal session to discussing the Outlook. At the time of the Interim Committee meeting—at which the WEO was a major agenda item—the key findings were announced through press conferences held by senior Fund officials, and a slightly edited version was subsequently published. The comprehensiveness and the analytical and empirical rigor of the exercise grew commensurately, as did the media and other attention that it received around the world.

This chapter covers three quite different but related strands of the history of the WEO. The first is the story of how the exercise itself evolved from the 1970s to the 1980s: in particular, how and why the “medium-term scenarios” became even more important than the short-term forecasts. Second comes the story of the economics of the WEO: What views has the Fund expressed in its analyses of the world economy, and what theories have led to those views? Third, there is a history of the development of empirical models at the Fund and of their application to the WEO exercise, which is based in part on Boughton (2000). The chapter concludes with a brief review of assessments of the forecasting record.

### Evolution of the WEO Exercise

The WEO originated with a staff paper prepared as a background document for informal discussion by the Executive Board in June 1969. The Organization for

Economic Cooperation and Development (OECD) in Paris had been producing and publishing its *Economic Outlook* for industrial countries semiannually since 1967, but no official agency was doing an overall forecast of world economic conditions.<sup>1</sup> At the outset, the Fund staff merely reported the OECD secretariat's forecasts and offered its own interpretation of the policy implications for both industrial and developing countries.<sup>2</sup> In January 1971, the Executive Board began holding regular "informal" discussions of the WEO, based on increasingly detailed papers that included the staff's own projections for aggregated groups of developing countries.<sup>3</sup> It then quickly became apparent that, notwithstanding the good working relationship between the IMF and the OECD, the Fund staff would have to do its own forecast for the industrial countries if it wanted to produce timely and consistent forecasts for the world economy.

The production of the WEO was, from the beginning, the responsibility of the Research Department. The first director of the project—in effect the managing editor of the Outlook—was Charles F. Schwartz, who initiated the idea in 1969, built it into a major project, and ran the exercise until he retired from the Fund in 1983. Largely in recognition of his success in building the WEO into a major product for the Fund, Schwartz was promoted in 1979 to Associate Director of Research and Director of Adjustment Studies (with the rank of Department Director). On Schwartz's retirement, the editorship passed to Andrew D. Crockett (Deputy Director), who returned to Research from the Middle Eastern Department for this purpose. Crockett managed the WEO through 1988, after which he left the Fund.<sup>4</sup> Ernesto Hernández-Catá (Deputy Director) then took over through 1991.

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<sup>1</sup>Other international organizations had long produced periodic papers on world economic conditions, dating back to the League of Nations' "World Economic Survey," published annually from 1932 to 1944. The United Nations began producing annual reports on global economic developments around 1948, and the World Bank introduced its *World Development Report* in 1978. In addition, the IMF *Annual Report*—which is a report of the Executive Board rather than the staff—has always included a review of world economic conditions. The focus of each of these reports was to analyze current developments, rather than to make projections. For a detailed description of the evolution of the WEO through 1978, see de Vries (1985), Chapter 40, pp. 785–97.

<sup>2</sup>"World Economic Outlook," document (no series designation given) 69/71 (June 26, 1969). The paper was discussed at Executive Board Informal Session No. 69/5 (June 30, 1969).

<sup>3</sup>"World Economic Outlook," ID/71/1 (January 12, 1971); discussed at IS/71/1 (February 1, 1971) and IS/71/2–3 (February 3, 1971). The staff, as well as a number of Executive Directors, wanted to promote a more open and frank discussion of the outlook than was possible in the regular consultations with individual countries. The staff therefore proposed in January 1971 that a new series of documents be established, to be called "Informal Documents," which would be given much more limited circulation than other staff papers. Similarly, the Board would meet in informal session, which enabled Executive Directors to discuss the staff papers without necessarily committing their national authorities to a position on the issues. The Secretary of the Fund would then prepare a "journal" recording the minutes of the meeting, which also would be given a more restricted circulation.

<sup>4</sup>Crockett began his career at the Bank of England. He returned there in 1988 as Executive Director, and he formally resigned from the Fund in 1989. In 1994, he was tapped to succeed Alexandre Lamfalussy as Managing Director of the Bank for International Settlements (BIS).

The impulse that first impelled the WEO into prominence was the oil price shock of 1973–74. The committee of Fund governors known as the Committee of Twenty had been meeting regularly for about a year to discuss proposals for reforming the international monetary system. When the committee met in Rome in January 1974, it widened its focus “by reviewing . . . the large rise in oil prices and the implications for the world economy.”<sup>5</sup> At the initiative of the Managing Director, H. Johannes Witteveen, that review was based largely on the WEO papers, which were circulated to ministers for the first time.<sup>6</sup>

When the Committee of Twenty reincarnated itself as the Interim Committee (see Chapter 20), it began its first regular session by discussing “the world economic outlook and against this background the international adjustment process.” The communiqué noted concerns about “the present recessionary conditions” caused by the oil shock and urged “that antirecessionary policies be pursued while continuing to combat inflation . . .” (de Vries, 1985, Vol. III, p. 218). That discussion of economic conditions and the implications for the conduct of macroeconomic policies became a standard and prominent feature of all subsequent Interim Committee meetings.

By the late 1970s—owing in large measure to the support given to the WEO by Witteveen and his successor, Jacques de Larosière—the WEO exercise had developed into a major Fund-wide forecasting project, complemented by analysis of key trends and policy developments. The exercise was conducted at least semiannually in the late winter and summer, and the conclusions of the informal Executive Board meetings were circulated as background papers for the Interim Committee meetings that followed soon afterward.

### Publication

Another major boost to the role of the WEO was the decision to begin publishing the Outlook in 1980. Initially, the exercise was conceived for the staff to provide background information to member countries confidentially. As the importance of the Interim Committee as a forum for discussing the outlook grew, so did the interest from the media and the public. When a senior official (apparently the Managing Director) leaked a summary of the WEO to the press during the Interim Committee meeting in Mexico City in April 1978, the resulting coverage showed the desirability of making the projections and policy analysis available more widely. Two years later, de Larosière sensed that the mood had shifted enough

<sup>5</sup>Communiqué of the Committee of Twenty, January 18, 1974; in de Vries (1985), Vol. 3, p. 199.

<sup>6</sup>Minutes of IS/74/1 (January 7, 1974), p. 3; and IS/74/2 (same day), p. 20. The staff papers were “World Economic Outlook—General Survey,” ID/73/4 and “World Economic Outlook—Background Information,” ID/73/5 (both December 21, 1973). Owing to the length and complexity of the staff papers, the Managing Director also decided to submit a short “personal paper” as an executive summary for ministers; “External Policies in the Current Situation,” C/XX/Doc/74/3 (January 11, 1974). That paper became the prototype for the later practice of submitting to the Interim Committee a statement by the Managing Director based on the summing up of the discussion of the main policy issues by the Executive Board.

that he could propose to the Executive Board that the paper be published. With no serious opposition, the proposal readily passed.<sup>7</sup>

The first published WEO appeared the following month, in May 1980.<sup>8</sup> That timing was intended to avoid conflicting with the *Annual Report* of the Executive Board, which was to be published in September, but it temporarily raised hackles at the OECD, where the twenty-seventh *Economic Outlook* was to be published in July.<sup>9</sup> Four years later, the Executive Board somewhat reluctantly<sup>10</sup> agreed to publish a second set of papers in the autumn, around the same time as the *Annual Report*.<sup>11</sup> The papers for the fall cycle—produced by the staff during July and August each year, discussed by the Executive Board in early September, and considered by the Interim Committee at the time of the Annual Meetings—were less extensive and comprehensive than the spring papers and were treated by the staff more as an updating than as a complete forecasting exercise. Nonetheless, by 1984 public interest warranted expanding to a semiannual publication schedule.<sup>12</sup> Two years

<sup>7</sup>The proposal to publish the WEO as a staff paper was initiated by the U.S. Executive Director, Sam Y. Cross, in a November 1979 note to Directors from other large industrial countries. The Executive Board first considered the matter in February 1980, but failed to reach agreement. See minutes of EBM/80/19–20 (February 6, 1980); Cross's proposal is on p. 8 of meeting 80/19. A draft of his initial note is in IMF/RD Managing Director file, "Exchange Rates—Surveillance by the Fund—Vol. III" (Accession 87/27, Box 9, Section 535). When de Larosière proposed publication in April 1980, a few Directors expressed concern that the WEO papers might include data on their countries that the authorities did not wish to have published. To obtain unanimous consent for the proposal, the Managing Director agreed to a request from José Gabriel-Peña (Alternate—Dominican Republic) and Silvio E. Conrado (Temporary Alternate—Nicaragua) that Executive Directors be given the opportunity to delete "any statement or data referring to their own countries" prior to publication. That practice was gradually diminished during the 1980s. See "Review of the Implementation of the Fund's Surveillance Over Members' Exchange Rate Policies," SM/79/292 (December 21, 1979); and minutes of EBM/80/71 (April 14, 1980), pp. 19–21, and EBM/80/74 (April 16), pp. 4–5.

<sup>8</sup>The full title of each WEO publication is *World Economic Outlook: A Survey by the Staff of the International Monetary Fund*, except for the autumn updates of 1984 through 1988. Those five were published as *World Economic Outlook: Revised Projections by the Staff of the International Monetary Fund*. The May 1980 and May 1985 papers were published as individual documents, not part of any other series. From 1981 through 1984, the WEO was published as part of the series of Occasional Papers. Beginning in 1986, a new series of World Economic and Financial Studies was established, comprising the WEO, related staff papers, and reports on capital market developments. Regardless of form, these publications are all cited here as WEO (date). Unless otherwise noted, quotations from the published papers are unchanged from the drafts circulated internally for discussion by the Executive Board.

<sup>9</sup>The Fund's WEO staff was no less irritated over conflicts in timing when the World Bank began publishing its own *Global Economic Prospects* in 1991.

<sup>10</sup>The reluctance was not only due to the timing conflict with the Board's *Annual Report*; it also reflected concerns about a perceived bias toward optimism in the medium-term scenarios in the fall 1984 papers. The latter issue is discussed below (p. 260).

<sup>11</sup>See the minutes of EBM/84/137–38 (September 7, 1984).

<sup>12</sup>The terms "spring" and "fall" are used loosely here to describe the timing of the semiannual schedule, in consonance with traditional terminology in the Fund. The idea of publishing the fall papers was first broached in a December 2, 1983, memorandum from Schwartz to the Managing Director, which argued that a greater frequency of publication would promote public awareness of the Fund's work in this area, especially in Europe where the OECD's *Economic Outlook* was still much better known (in IMF/CF, S 321 "World Development Outlook—Fund Review (*Tours d'Horizon*) September 1983–March 1984).

later, the Fund published the first collection of *Staff Studies for the World Economic Outlook*: research studies undertaken for the WEO exercise.<sup>13</sup>

This ever-expanding publication program should not obscure the continuing delicacy of the exercise. From the first discussions of publication, tension arose between the staff and the Executive Board regarding the balance between forthrightness and sensitivity to members' political concerns. Not infrequently, policy criticisms that were pointed in the papers presented to the Board became blunted or rounded in the published documents. Occasionally, chapters or even whole papers were deleted before publication.

Perhaps the clearest illustration of this balancing act is the handling of the detailed medium-term scenarios produced by the staff beginning in 1986 (see below, pp. 236–37). In the internal papers, these scenarios included projections through 1991 for key macroeconomic variables for each of the seven major industrial countries (the G-7), and an aggregate for the seven countries as a group. In the published papers, only the aggregate projections were included. On each occasion, a few Executive Directors objected to the inclusion of projections for the individual countries, with the strongest objections coming from the Executive Director for Japan.<sup>14</sup>

The Japanese concern about publication of the detailed scenarios arose partly out of a conviction that for the Fund to publish criticisms of a member country's policies could engender adverse reactions in financial markets and compromise the willingness of governments to engage in a frank discussion with the staff over confidential policy issues. That concern was shared by many other Executive Directors. A more specific Japanese concern was that the WEO reflected the Fund's view that the planned pace of fiscal consolidation in Japan was too rapid. The medium-term scenarios in the 1980s suggested that the planned reduction in the Japanese fiscal deficit was likely to leave Japan with a large current account surplus at least into the early 1990s. That projection added to the already widespread criticism of Japanese policies from the United States and other industrial countries. More fundamentally, the Japanese objected to the economic rationale for that scenario. In their view, the staff were being too mechanical in concluding that a reduction in the fiscal deficit would prevent the external surplus from falling.<sup>15</sup> The planned medium-term fiscal adjustment in Japan—which would alter the composition as well as the level of spending and revenue—was intended to spur private-

<sup>13</sup>A volume of *Staff Studies for the World Economic Outlook* was published each year from 1986 through 1990, and occasionally thereafter. Most volumes included four or five separate studies, which were either technical studies related to economic modeling or reviews of specific policy issues.

<sup>14</sup>See, for example, the interventions by Hirotake Fujino at EBM/86/152 (September 10, 1986), pp. 33–35; and by Koji Yamazaki at EBM/87/134, p. 56, EBM/88/48 (March 25, 1988), pp. 12–15, and EBM/88/50 (March 28, 1988), pp. 9–10.

<sup>15</sup>In standard national income accounting, a country's external current account surplus must equal the difference between net saving by the private sector (i.e., the excess of saving over investment) and the general government deficit. If there is no change in net private saving, a reduction in the government deficit would cause an offsetting increase in the external surplus. The essence of the debate was whether private investment would rise by enough to absorb a large portion of the increased saving by the government.

sector investment by enough to lower the fiscal deficit and the current account surplus simultaneously, but the Fund staff estimated smaller such effects than did the authorities. That conclusion was simply too controversial to publish.

### Medium-Term Scenarios

As early as the mid-1970s, it became clear to the staff—and particularly to Schwartz—that the WEO had the potential to become much more than a forecasting exercise. To play an important role in the Fund, it would have to focus as much on the policy options available to member governments as on the staff's views on how the world economy might evolve. Out of that simple notion grew the idea of emphasizing “scenarios”: conditional medium-term projections, the character of which evolved substantially during the 1980s. Throughout the period, the scenarios were a key to the success of the WEO in focusing the discussions on major policy issues. Rather than emphasizing short-term forecasts—in which cyclical and high-frequency fluctuations necessarily dominate—the WEO gave primary emphasis to medium-term considerations, notably the policy requirements for generating sustainable, noninflationary growth and for consistency between countries. As the fall 1984 paper summarized the point, the medium-term scenarios “should be viewed not so much as a forecast of what will happen, but as an indication of the policy challenges that will need to be faced if a satisfactory outcome is to be achieved.”<sup>16</sup>

Initially, the WEO scenarios were stylized presentations of how the pattern of current account balances among industrial countries might evolve over a period of about three years under various assumptions. For two years starting in April 1978, the staff presented a “recommended” or “desirable” scenario based on the assumption that the major industrial countries would adopt the policies necessary to jointly achieve moderate, noninflationary growth. In that scenario, the large external imbalances observed in 1978 (notably a large current account surplus in Japan and a large deficit in the United States) were projected to be substantially reduced over the medium term.<sup>17</sup> This desirable outcome, however, was judged by the staff as “unlikely to come about without significant adaptations of policy in a number of countries.”<sup>18</sup> But the alternative scenarios, rather than projecting the

<sup>16</sup>“World Economic Outlook—General Survey,” EBS/84/177 (August 16, 1984), p. 40.

<sup>17</sup>The length of the “medium term” was not defined precisely in that comparative-static exercise, but it was understood to be around three years. The methodology involved allowing lagged effects that either were already “in the pipeline” or were introduced by the assumed changes in growth rates to have their full effect on current account balances. Thus the medium term was the period over which equilibrium would be achieved in the absence of new shocks to the economy. For an exposition of the methodology, see Artus and Knight (1984), Chapter 4.

<sup>18</sup>The characterization of the scenario as “recommended” is from “World Economic Outlook—General Survey,” ID/79/1 (February 9, 1979), p. 24; and as “desirable,” from “World Economic Outlook—General Survey,” ID/78/1 (April 3, 1978), p. 37. The “unlikely to come about” judgment was made in “World Economic Outlook—Background Developments,” ID/79/2 (February 13, 1979), p. 33. When the scenario was first presented a year earlier, the staff commented only that the desirable outcome “would represent a very significant shift in strategy,” notably through a “more expansionary stance” of fiscal policy in the surplus countries, without commenting on

consequences of specific deviations in policy from the assumed path, merely showed the effects of different assumptions about economic growth in the major countries. Notably, if the U.S. economy were to grow more rapidly, and Japan more slowly, then the desirable outcome would be less likely to be achieved.

This general approach was continued in the spring 1980 cycle.<sup>19</sup> Two important changes were introduced in the fall of 1980. First, the “medium term” was linked to a specific date (1985–86), implying that the projections could be interpreted as dynamic simulations rather than comparative statics. In this low-key manner, the staff made its first numeric projections for a date beyond the usual short-term forecast horizon. Second, the projections included the aggregate current account balance of developing countries and thereby extended the scenarios beyond the industrial countries for the first time.

The background for these first true medium-term scenarios was that the United States, Japan, Germany, and the United Kingdom were all embarked on an anti-inflation strategy to combat the effects of the second oil shock and (in the United States and the United Kingdom) the cumulative excesses of the late 1970s. Much of the public and internal discussion of economic policy was focused on the question of whether this reaction was excessive. Both the United States and the United Kingdom had slipped into recession with sharply rising unemployment, while Japan and Germany had developed large external surpluses. The major oil-exporting countries were registering large external surpluses, and the non-oil developing countries were facing dangerously large deficits. Was it therefore time for the major industrial countries to ease up on their policies of restraint?

To tackle that question, the staff produced a six-paragraph summary of how the world economy might evolve over the next five to six years, (1) with a continuation of existing policies in industrial countries, (2) with more expansionary policies until inflation resumed, followed by a policy reversal, and (3) with expansionary policies maintained even after inflation resumed. The staff’s judgment, which Executive Directors endorsed when they discussed the paper in September, was that countries should continue with contractionary policies to restore a reasonable balance to the global pattern of current account balances while continuing to rein in inflation. Allowing inflation to heat up again would lead to a deeper and more prolonged downturn than the one then in progress, and failing to tighten policies after inflation heated up would only aggravate the eventual downturn.<sup>20</sup> Thus the first global scenarios, although in retrospect appearing

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the likelihood of that shift taking place. See “World Economic Outlook—General Survey,” ID/78/1 (April 3, 1978), pp. 38 and 41. The sharpening of the tone followed widespread criticism from Executive Directors and others that the staff was being too complacent.

<sup>19</sup>The General Survey paper prepared for discussion by the Executive Board in April 1980 included an updating of the 1979 scenarios. See “World Economic Outlook—General Survey,” ID/80/2 (March 31, 1980), p. 11 and Tables 8 and 9. That section was not included in the WEO that was published in May.

<sup>20</sup>The scenarios are in “World Economic Outlook—General Survey,” ID/80/7 (August 22, 1980), pp. 20–23. For the Board’s reactions, see the minutes of EBM/80/141 (September 12, 1980), pp. 18 and 20.

rather primitive and unquantified, served—for better or worse—to bolster confidence in the use of contractionary demand-management policies to combat inflationary pressures.

Three further innovations were introduced in the spring of 1981: the global medium-term scenarios were more fully quantified, were disaggregated for several analytical groups of developing countries, and were included in the published WEO.<sup>21</sup> The staff presented two tables with projections for 1985 under two scenarios. The baseline scenario A was based on several specified assumptions, including a continuation of restrictive demand management policies in industrial countries and the implementation of “adjustment policies” in developing countries. A key conclusion of that exercise was that the aggregate current account deficit of the non-oil developing countries would nearly double between 1980 and 1985, from \$77 billion to \$140 billion, but would remain manageable in relation to those countries’ exports (rising only from 15.3 percent to 18 percent). Debt-service ratios were projected to rise slightly for developing countries that exported mainly manufactured goods, to rise sharply for low-income countries, and to rise moderately for “other net oil importers.”

The staff’s 1981 projections of the 1985 debt burdens of developing countries are of particular interest because they foreshadow the problems that led, a year later, to a nearly global debt crisis. In the text as published in June 1981, the staff described the medium-term debt prospects of low- and middle-income oil importers as “worrisome” and “disturbing”; “in the absence of adjustment measures, [many of these countries] would soon find themselves unable to finance their deficits.” The latter message was made more explicit in the version of the paper discussed by Executive Directors in April. That paper noted that the staff had prepared a scenario in which the non-oil developing countries did not carry out adjustment policies to reduce the buildup of external debt, but that such a scenario had not been quantified because it “produced financing implications that were completely infeasible.”<sup>22</sup>

The WEO scenarios were expanded slightly further in the fall of 1981. In addition to the baseline and more pessimistic scenarios, a “favorable” Scenario C was now presented. This seemingly innocuous extension was a response to the newfound optimism among many policymakers under the influence of the “new” supply-side economists (see Chapter 1). The “favorable” scenario assumed that inflationary expectations would fall rapidly, and real growth would rise rapidly, in response to a cut in government expenditure. But the staff argued that such a favorable development was “unlikely,” and the paper cautioned that if governments

<sup>21</sup>WEO (June 1981), pp. 13–16 and Tables 31 and 32. The published version was somewhat abbreviated; in particular, it included only the baseline scenario “A.” In addition, the figures in the tables were revised slightly between March and June. See “World Economic Outlook—General Survey,” ID/81/1 (April 6, 1981), pp. 22–29 and Tables 14 and 15.

<sup>22</sup>WEO (June 1981), pp. 16 and 17; and “World Economic Outlook—General Survey,” ID/81/1 (April 6, 1981), p. 23. This cautionary message was not always clearly conveyed. For a broader discussion of the Fund’s precrisis views on external debt, see Chapter 6.



relied on the rosy scenario, they could be led into relaxing policies prematurely and falling inadvertently into the “pessimistic” Scenario B.<sup>23</sup>

The spring 1985 WEO marked the next major expansion of the medium-term scenarios, to the point that a separate paper was devoted to describing them. For the first time, the staff presented a fully articulated set of medium-term projections for the world economy, rather than just focusing on external positions. That is, rather than assuming rates of growth and inflation and deriving current account positions, the staff now made assumptions regarding fiscal, monetary, and other policies, and on that basis derived projections for growth, inflation, unemployment rates, interest and exchange rates, and of course current account balances. In view of the flagging debt strategy, the paper included detailed scenarios showing how various groups of developing countries would fare, notably as to the debt burdens that they would face, under different assumptions about conditions and policies in industrial countries. As before, the baseline scenario was flanked by illustrative scenarios with better and worse outcomes, but now the basis for the exercise was the specification of better and worse policies in both industrial and developing countries (see *WEO*, April 1985, Chapter III).

From that point on, the scenarios became an ever more detailed exercise and an ever more central feature of the WEO. In the fall of 1985, the staff left the basic scenario unchanged from the spring, on the grounds that the world economy had progressed more or less as expected, but three “sensitivity analysis” scenarios were added to deal with certain “uncertainties” that had intensified as a result of the fall in world oil prices and the depreciation of the U.S. dollar. One scenario examined the consequences of a further 20 percent fall in oil prices; a second dealt with a 20 percent depreciation of the dollar against other major currencies; and the third looked at the global effects of a sharp slowdown in industrial country growth. From this analysis, the staff concluded that the capital-importing developing countries (i.e., all developing countries except eight Middle Eastern oil exporters) would be little affected as a group by a further decline in oil prices, would benefit substantially from a further dollar depreciation, and would suffer a substantial loss in income from a slowdown in the industrial world.

A further impetus for developing the medium-term scenarios came when both the Group of Ten (G-10) industrial countries and the Group of 24 (G-24) developing countries issued reports in 1985 calling on the Fund to strengthen its surveillance over the policies of the major industrial countries by more clearly explaining the consequences of pursuing unchanged policies and by specifying and evaluating options for policy adjustments.<sup>24</sup> In response, the staff significantly expanded the scope of the scenarios in the spring 1986 exercise. For the first time,

<sup>23</sup>“World Economic Outlook—General Survey,” ID/81/8 (August 24, 1981), pp. 22–32 and Tables 10–12. An updated version of Scenario C was included in *WEO* (April 1982), pp. 19–24. The developing country scenarios were further updated and revised in the publication of May 1983, pp. 15 and 19–20 and Tables 36–38, but the industrial country scenarios were not updated until 1985.

<sup>24</sup>The reports were reprinted as Appendixes to Crockett and Goldstein (1987). For more on those reports, see Chapter 4.

the staff made quantitative projections for each of the next four years, rather than just for a single medium-term period, for key macroeconomic variables for the United States, Japan, and Europe, as well as aggregate figures for industrial countries. These projections were produced under several different sets of assumptions, an exercise that earlier would have been impossibly complex to complete in the limited time available. On this occasion, the Fund staff called on the staff of the U.S. Federal Reserve Board, the OECD, and the Philadelphia-based Project LINK to provide econometric model simulations based on a common set of assumptions about economic policies and conditions. Those simulations were then combined, and extended to cover the implications for developing countries in more detail, using the newly developed MINIMOD system (see below, pp. 256–57). In essence, the exercise showed that an easing of fiscal or monetary policy could mitigate the short-term decline in output that was otherwise projected to occur, but at some risk of a rekindling of inflation.<sup>25</sup>

As the staff's econometric modeling capabilities strengthened in the second half of the 1980s, the medium-term projections became increasingly more quantitative and subject to consistency checks, and the "alternative" scenarios became correspondingly more detailed and more focused on specific policy options. For example, in August 1987, in an exercise that had important implications for the success of the Louvre accord (see Chapter 4), the scenarios suggested that maintaining fixed exchange rates might make reduction of the large external imbalances of the largest countries quite difficult. A few months later, after the October 1987 crisis in equity markets, the staff for the first time since 1979 undertook to prepare a "mini-WEO": a special review of the outlook in the light of the "plunge" (as the staff called it) in stock prices.<sup>26</sup>

### Objective Indicators

In April 1986, the Interim Committee examined several proposals for strengthening the international monetary system that had emerged from the 1985 reports of the Deputies of the G-10 and G-24 countries. Although no very concrete agreement could be reached on reforming the system, the Committee did agree that the medium-term scenarios in the WEO should be further quantified by incorporating a consistent set of objective indicators for at least the major industrial countries.

[T]he Committee asked the Executive Board to consider ways in which its regular reviews of the world economic situation could be further adapted to improve the scope

<sup>25</sup>"World Economic Outlook—Policy Interactions in Industrial Countries," SM/86/46 (February 28, 1986), pp. 10–18.

<sup>26</sup>The term "plunge" is from "World Economic Outlook—Preliminary Assessment of Prospects and Policy Issues," EBS/88/1 (January 6, 1988), p. 1; it was also employed by Frenkel at EBM/88/6 (January 13, 1988), p. 21. The staff analyses of the Louvre accords and the October 1987 stock market crash are discussed further below (pp. 249–50). The 1979 interim WEO was conducted in response to the large increase in oil prices that year (see pp. 245).

for discussing external imbalances, exchange rate developments, and policy interactions among members. An approach worth exploring further was the formulation of a set of objective indicators related to policy actions and economic performance, having regard to a medium-term framework. Such indicators might help to identify a need for discussion of countries' policies.<sup>27</sup>

The indicators were introduced in the fall 1986 round, in the form of two tables and supporting text. The first table projected real output growth and inflation for the period 1988–91 (as an average over the four years) and current account balances for the terminal year, 1991. In the paper circulated for discussion by the Executive Board, these projections (or “quantified assumptions,” as the staff called them to stress how limited the exercise was intended to be) were given for each G-7 country and for industrial countries as a whole (but not for developing countries). The version published in October 1986 included only the aggregate projections. The second table gave 1991 projections for the major components of the national saving-investment relationship: general government deficits, the “savings surplus” (i.e., the excess over investment) of the private sector, and the current account balance.<sup>28</sup> From that table, one could see the implications for external imbalances from the projected course of fiscal policies. Incompatibilities between countries in the stance of policies, it was hoped, would become that much clearer to assess.<sup>29</sup> With that extension of the indicators, combined with the development of the staff's own econometric models, the quantification of medium-term scenarios for industrial countries was essentially complete.<sup>30</sup>

## Key Policy Issues in the WEO

The 1980s brought dramatic changes in thinking about how macroeconomic policy works. The difficulty of explaining the inflationary stagnation (“stagfla-

<sup>27</sup>Interim Committee Communiqué (April 10, 1986), para. 6. The development of quantitative indicators for the WEO scenarios paralleled the indicators exercise that the G-7 countries conducted themselves with the support of the Fund (see Chapter 4), but the indicators and the underlying data were not necessarily the same for the two purposes.

<sup>28</sup>“World Economic Outlook—Developments, Prospects, and Policy Issues,” EBS/86/196 (August 20, 1986), Tables 2 and 4. The (truncated) published tables first appeared in *WEO* (October 1986), pp. 17 and 21.

<sup>29</sup>See footnote 15, p. 231, on the saving-investment identity. The analytical implications were developed further by the staff in the course of 1986–87, and the Executive Board discussed and generally endorsed the continuation of the approach at meetings in January and July 1987. See “Enhancing the Use of Indicators as a Tool for Surveillance,” EBS/86/282 (December 18, 1986), “The Use of Indicators in Surveillance—Analytical Issues,” EBS/87/135 (June 24, 1987), and the minutes of EBM/87/8–9 (January 14, 1987) and EBM/87/105–106 (July 22, 1987).

<sup>30</sup>Starting in 1987, the staff examined the possibility of adding indicators of structural policies such as the degree of liberalization in goods, factor, and financial markets, but that effort was eventually abandoned on the grounds that such indicators could not be made quantitative and internationally commensurate to the same degree as the basic macroeconomic indicators. See Chapter 4, pp. 222–24. The Executive Board decision not to adopt a system of structural indicators was taken at EBM/89/4 (January 13, 1989).

tion”) of the late 1970s with classical or Keynesian or monetarist models left a vacuum that was filled in part by a series of short-lived fads such as distorted forms of supply-side economics, some extreme forms of monetarism, and the revival of “gold bugs” who advocated a return to the gold standard (see Chapter 1, pp. 27). As those movements inevitably faded away,<sup>31</sup> the vacuum was filled by a neoclassical revolution that brought a greater discipline to policy analysis and shifted attention away from the business cycle toward longer-term growth and stability. IMF surveillance encountered all these movements, and the staff’s analysis of policy options both helped to shape the debate (at least internally) and evolved in important ways as a result.

### Fiscal and Monetary Policies

WEO discussions always included an extended discussion of economic conditions and policies in the large industrial countries, especially for the United States, Japan, and Germany. To a large extent, that discussion overlapped with the annual Article IV discussions with those individual countries, described in Chapter 3. The WEO, however, gave the Executive Board a chance to discuss interactions among countries much more explicitly and consistently. Throughout the 1980s, the overarching issue in those discussions was the nature of the effects of fiscal and monetary policies.

At the risk of oversimplifying a complex theoretical debate, one could say that until the late 1970s, the WEO had a distinctly Keynesian tone. That tone reflected a general optimism about the ability of governments to regulate the degree of stimulus to the economy so as to maximize growth without unduly contributing to inflationary pressures. This view was expressed most clearly in the spring of 1978, when many industrial countries were struggling to find some means of restoring economic growth while simultaneously getting inflation back under control.<sup>32</sup> “There is now a need for greater emphasis on policies to stimulate economic growth,” the staff concluded then. Moreover, “the risks of exacerbating inflation

<sup>31</sup>Jacques J. Polak (Executive Director for the Netherlands) predicted the demise in these terms, during a May 1982 Board discussion on France: “The world is witnessing a succession of experiments in major countries, such as extreme monetarism in Britain, ‘Reaganomics’ in the United States, and reflation in France. While those experiments might bring some new wisdom in economic policy, more probably they ultimately will tend to confirm most of the conventional wisdom at very considerable cost to themselves and to the rest of the world.” Minutes of EBM/82/63 (May 3, 1982), p. 13.

<sup>32</sup>Perhaps the best-known statement of the prevailing official view of macroeconomic policy of that time is the OECD’s McCracken Report (see Chapter 1). That report, issued in 1977, concluded that although the major countries faced a “narrow path” toward the objective of full employment with stable prices, “a relatively *active* demand management policy may be needed, involving a succession of injections of purchasing power over a period of months or even years, while at the same time standing ready to begin withdrawing stimulus as soon as endogenous forces gather momentum.” McCracken and others (1977), p. 190; the italics and the mangled syntax are in the original.

<sup>33</sup>“World Economic Outlook—General Survey,” ID/78/1 (April 3, 1978), pp. 33 and 34.

would be minimal if the policies of expansion were cautious and well designed.”<sup>33</sup> By the time the 1970s ended, however, caution and good policy design were clearly elusive goals, and the structural underpinning of the post-1973 stagnation was better understood. The tone of subsequent WEO recommendations on macroeconomic policies became decidedly less activist.

In the early 1980s, the goal of macroeconomic policy throughout the industrialized world was to restrain the conduct of fiscal and monetary policies to bring inflation down gradually without incurring excessive costs through lost growth in output and employment. Most governments were more successful during this period at slowing monetary growth than they were at reducing fiscal deficits. At the IMF, it was relatively easy for the staff and Executive Directors to agree that more aggressive fiscal restraint was required, but devising a recommended course for monetary policy was rather more difficult. What was the right balance between fiscal and monetary restraint in these circumstances?

The Executive Board’s discussion of the WEO in May 1981 included substantial debate about the appropriate “mix” of monetary and fiscal policies in the major industrial countries. The discussion was a little confused, because the phrase “the mix of monetary and fiscal policies” was not clearly defined. Logically, it would mean a shift in the degree of relative restraint, with no change in the overall degree of demand restraint. Specifically, because of the economic imbalances then prevailing, it would mean a recommendation to exercise greater constraint on fiscal policy to permit a correspondingly easier monetary policy (i.e., a higher rate of monetary growth). To many, however, it meant that fiscal restraint would permit only a lowering of interest rates through the exercise of greater overall demand restraint with unchanged monetary targets. That is, “changing the mix” was being used as a euphemism for a tighter anti-inflationary policy. Directors fell back on vague terms such as the “overuse of” or “excessive reliance on” monetary policy, but without specifying what the right monetary policy should be in case of greater fiscal restraint.<sup>34</sup>

By the spring of 1982, the discussion was more explicit, and it became clear that by a shift in the “mix,” most Executive Directors meant overall tightening. As the Managing Director summarized Directors’ views: “Because of the sensitivity of private market participants to the inflationary effects of monetary growth, a shift toward monetary expansion probably would cause the inflation rate to ratchet to a higher level. . . . A more decisive commitment to budgetary restraint and smaller

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<sup>34</sup>Minutes of EBM/81/71–74 (May 1 and May 4, 1981). In mainstream macroeconomics, the growth rate of nominal income is determined by the combined stance of fiscal and monetary policy, subject to any shifts in private sector behavior. The stance of monetary policy is conventionally measured by the growth rate of the stock of money (or, more precisely, by the growth rate of the “monetary base”: currency plus bank reserves); the fiscal stance, by a combination of government spending and tax policy. A cut in government spending, with no change in monetary growth, would tend to reduce income growth and inflation, but the extent of that effect would be blunted by the tendency for interest rates to fall in such circumstances. The moderating influence of falling interest rates is usually described as an easing of monetary conditions, not as an easing of monetary policy.

fiscal deficits would reduce market uncertainty as to the longer-run commitment of the authorities to programs of financial restraint, and thus accelerate the decline in inflationary expectations.”<sup>35</sup>

This view of the effects of macroeconomic policies represented a significant departure from the mainstream economics of the 1960s and 1970s. In the conventional textbook model, a combination of fiscal tightening and monetary easing would leave aggregate demand initially unchanged but would stimulate growth over time by lowering real interest rates. The model implied by the summary just quoted differs in two ways. First, the stimulus to real growth from this shift in the mix would be thwarted by a resurgence of inflationary expectations, which were assumed to be determined by monetary growth and structural factors rather than by overall demand pressures. That assumption was widely accepted at the time because of the very high rates of inflation and monetary growth that had prevailed in the late 1970s. Second, the usual negative consequences of fiscal contraction on output would be offset by a supply-side stimulus arising from the expectation of a more stable and sustainable macroeconomic environment. Therefore, the recommended policy advice was to leave monetary targets unchanged while tightening control over (“consolidating”) fiscal policy. Neither of these propositions had been verified empirically, and no doubt few would have claimed that they held universally. Rather, they were a reaction to the large imbalances of the time. Nonetheless, the confusion over this issue lingered throughout the rest of the decade, long after inflation and monetary pressures had subsided.

A more general question was whether monetary and fiscal policies should be used for countercyclical stabilization or applied steadily toward longer-term goals. As discussed in Chapter 3, the staff in the field did not always adhere to a party line on this question; they attempted to adapt their advice to the circumstances of the country at hand. The WEO, in contrast, took a consistent stand from 1980 on, against the activism of the 1970s and in favor of a consistent policy stance over the medium term. From 1980 through 1983, the argument was that progress toward price stability was still uneven and uncertain and required further persistence. By 1984, when inflation had been markedly and widely reduced in the major industrial countries, the staff had developed a clear and deeper view. As expressed in the General Survey paper for the spring 1984 WEO discussion:

... continued adherence to the strategy of restoring and maintaining financial stability in the major industrial countries will provide the best framework for sustainable economic growth in the medium term. It is true that the reduction of fiscal deficits

<sup>35</sup>Minutes of EBM/82/54 (April 22, 1982), p. 18. De Larosière stated his views on this subject even more clearly during the March 1984 WEO discussion, in responding to a comment by Polak that “references to a change in the policy mix were often unclear” and should be avoided. “The reference to the policy mix in the staff paper,” de Larosière replied, “had been meant to suggest that monetary policy in the United States should remain essentially unchanged while fiscal policy should be more restrained than hitherto; and the hope was that an appropriately restrictive monetary policy, together with a more restrained fiscal policy, would loosen monetary conditions somewhat.” Minutes of EBM/84/50 (April 2, 1984), p. 9.

required by this process involves a withdrawal of stimulus. The staff believes, however, that such an influence would be offset in due course by the effects of lower interest rates and improved confidence on the investment climate.<sup>36</sup>

Most Executive Directors supported this view, but some took exception to it. For example, John Tvedt (Norway) noted that Japan and Germany had inflation “firmly under control” and “could usefully stimulate their economies without any inflationary consequences.” Luke Leonard (Alternate—Ireland) and Mohamed Finaish (Libya) took a similar view. E.I.M. Mtei (Alternate—Tanzania) accepted that fiscal control was necessary but suggested that “monetary policy should be assigned a more active role to provide the necessary stimulus for the recovery. . . .” Jacques de Groote (Belgium) reasoned that medium-term restraint and inflation control were not sufficient to generate a recovery. If they were, then Germany and Japan would already have seen more robust growth. He attributed the recovery in the United States and the United Kingdom to the adoption of more flexible demand management than in Germany and Japan, and in particular to a “strong expansionary fiscal impulse” in 1983.<sup>37</sup> Not only was fiscal stimulus through “reduction of the tax burden” appropriate in countries where inflation had been brought under control (i.e., Japan and Germany); the “structural transformation” that they needed to remove market rigidities required “more buoyant economic activity.” The prevailing view in the boardroom, however, was that if Japan and Germany would just persevere with restraint, recovery would come in due course.<sup>38</sup>

Throughout the 1980s, the WEO papers stuck to an advocacy of medium-term stability in macroeconomic policies, though without pushing that view to an extreme. The closest that the staff came again to advocating an active demand-management policy was in 1987, when Japan and Germany were being pressured by other countries to ease up on the restraint of aggregate demand. As Crockett explained the staff’s support of that view to the Executive Board, the “medium-term assessment had tended to be qualified by the judgment that the speed with which progress was made toward that medium-term objective could be modified in the light of economic conditions prevailing at a given time. Based on the current belief that there would be a substantial withdrawal of fiscal stimulus in the United States, the occasion might be presenting itself for other countries to modify the pace of fiscal consolidation accordingly.” That view was initially greeted with considerable skepticism on the Board, but six months later, it won endorsement: “There was widespread agreement [among Executive Directors in September 1987]

<sup>36</sup>“World Economic Outlook—General Survey,” EBS/84/33 (March 2, 1984), p. 47.

<sup>37</sup>Table A-8 in the staff paper (Table 8 in *WEO*, April 1984) showed a fiscal impulse equal to 1.6 percent of GNP in the United States in 1983, and 2.4 percent in the United Kingdom; in contrast, the fiscal impulses for Japan and Germany were –0.4 percent and –0.1 percent, respectively.

<sup>38</sup>Minutes of EBM/84/48 (March 30, 1984), pp. 11 (Finaish), 28–30 (de Groote), and 36 (Leonard); EBM/84/49 (March 30, 1984), pp. 8 (Tvedt) and 17 (Mtei); and EBM/84/50 (April 2, 1984), p. 13 (Chairman’s summing up).

<sup>39</sup>Minutes of EBM/87/48 (March 17, 1987), p. 5 (Crockett); and EBM/87/136 (September 14, 1987), p. 17 (Chairman’s summing up).

that Germany and Japan need to aim for a rate of growth of domestic demand that is faster than the underlying growth in their productive potential.”<sup>39</sup>

Perhaps the most interesting, and certainly the most important, example of the staff’s attempt to steer a moderate medium-term course was the WEO analysis of the effects of the Gramm-Rudman-Hollings (or, as it was commonly known, Gramm-Rudman) legislation in the United States. That legislation, enacted in December 1985, mandated a schedule for eliminating the U.S. fiscal deficit (then running at approximately 5 percent of GNP) by fiscal year 1991.<sup>40</sup> The first WEO papers prepared after the start of Gramm-Rudman presented three scenarios on how the world economy might evolve through 1991. The baseline scenario assumed partial implementation of the law, with the deficit declining only to 2½ percent of GNP by the time the law decreed it should be reduced to zero. That scenario reflected a judgment by the staff that the Gramm-Rudman target was not just too ambitious politically, as was obvious, but excessively contractionary and thus economically unrealistic as well. In the alternative scenario with full implementation, U.S. and global economic growth were both shown to be significantly reduced during the first four years (1986–89), so that the level of output would remain below the baseline until well into the 1990s. The staff also discussed a second alternative, with no deficit reduction at all. Under that scenario, U.S. debt was shown to grow relentlessly relative to GNP, and the staff concluded that such a scenario would be disastrously unsustainable.<sup>41</sup> Reduction of the U.S. fiscal deficit was therefore essential but would best be pursued moderately over a period of years.

The staff’s treatment of the Gramm-Rudman targets drew fire from several Executive Directors, led by the U.S. Director, Charles H. Dallara. While acknowledging that it was always appropriate for the staff to express a “healthy degree of skepticism” about policy implementation, Dallara argued that the staff’s analysis appeared to be “too mechanically Keynesian,” meaning that it made insufficient allowance for favorable shifts in expectations and other supply-side benefits.<sup>42</sup> Aggressive deficit reduction, he argued, would reap its rewards rapidly. That argument was endorsed by several other chairs, including those of Japan, Germany, the United Kingdom, Australia, and Saudi Arabia; the Directors from Belgium, Canada, and India sided broadly with the staff view.<sup>43</sup> In the event, these competing views of the world were never tested, because the U.S. deficit remained high

<sup>40</sup>The analysis of the Gramm-Rudman legislation in the context of the Article IV consultations with the United States is discussed in Chapter 3.

<sup>41</sup>The baseline scenario was presented in “The World Economy to 1991—General Survey,” EBS/86/42 (February 28, 1986). The alternatives were presented in “World Economic Outlook—Policy Interactions in Industrial Countries,” SM/86/46 (February 28, 1986).

<sup>42</sup>In fact, the model (MINIMOD) on which the zero-deficit scenario was largely based did incorporate endogenous, model-consistent expectations as well as other extensions of the conventional Keynesian model (see below, pp. 256–57). Those effects, however, dominated the effects on aggregate demand only after a lag of a few years, as was true in virtually all of the major econometric models then in use.

<sup>43</sup>Minutes of EBM/86/51 (March 24, 1986), pp. 5–12.



throughout the 1986–91 period, and the Gramm-Rudman legislation was eventually abandoned.

### Inflation Control

At the end of the 1970s, by far the dominant economic problem in the world was inflation. Throughout the late 1970s and early 1980s, the Fund's Executive Directors generally treated inflation in the major industrial countries as a structural as well as a monetary problem, while the staff treated it more as the result of lax monetary policy. For example, the spring 1979 WEO paper included an analysis of overall monetary growth in the large industrial countries, which showed that a broadly defined aggregate money stock for the G-10 countries had grown by about 10 percent a year since 1975; the paper concluded that the primary method available for cutting inflation was to reduce that growth rate. That approach was criticized at the Executive Board meeting by Bernard J. Drabble (Canada), Lamberto Dini (Italy), and others. Drabble argued that in 1979 the United States was the only major country experiencing pressure from excess demand and that inflation elsewhere was the result of cost-push pressures. Dini stressed the importance of institutional factors that were left out of the staff analysis, and he questioned the attempt to gauge monetary pressures by aggregating money stocks across countries.<sup>44</sup>

If inflation was partly structural in its origins, then a case could be made for structural policies to control it. One leading candidate in the discussions of the 1970s and 1980s was “incomes” policy: direct limits on the rate of growth of wages and/or prices. Overall, the staff was skeptical of incomes policies, but with some prodding by Executive Directors and the Managing Director, the staff gradually adopted a more eclectic stance.<sup>45</sup> That process began in January 1980, when the staff paper for the WEO discussion noted that the recent tightening of monetary policies in several industrial countries was driving up interest rates and slowing output growth, and invited Executive Directors to discuss options for alleviating those pressures. The Board, with the “full agreement” of the Managing Director, responded that incomes policies could help.<sup>46</sup> A few months later, in the next WEO survey, the staff grudgingly gave its first qualified endorsement: “Incomes policies can sometimes help in solving the inflation problem while cushioning the impact of restrictive monetary policy on real activity” (WEO, May 1980, p. 7).

The soul-searching over incomes policies was far from academic. In 1981, five of the G-7 industrial countries were actively implementing incomes policies, and many policymakers in those countries had concluded that the strong ideo-

<sup>44</sup>Minutes of IS/79/1 (February 23, 1979), p. 21 (Drabble); IS/79/2 (same date), pp. 14–16 (Dini).

<sup>45</sup>J. Marcus Fleming, Deputy Director of Research under Jacques Polak (1964–76), favored the careful and limited application of incomes policies as an adjunct to stable monetary policy; see Fleming (1959). After his early death in 1976, the influence of his views on this matter apparently waned.

<sup>46</sup>See “World Economic Outlook—The Current Picture,” ID/80/1 (January 3, 1980), pp. 14–15 and 25; and the Chairman's summing up, minutes of EBM/80/11 (January 17, 1980), p. 5.

logical opposition of the governments in the other two—the United States under President Reagan and the United Kingdom under Prime Minister Thatcher—was forcing an unnecessary reliance on monetary restraint and thus unduly driving up world interest rates. The undercurrent of the discussion was an attempt to bring the influence of the Fund to bear on the two holdouts. The staff paper for the spring 1981 discussion contributed to the debate by including a favorable analysis of several successful cases. The paper supported the idea of the “more flexible forms of incomes policies . . . in which efforts are made to relate the growth of real wages to the average economy-wide gain in productivity corrected for changes in the terms of trade” (WEO, June 1981, pp. 9–10). Much of the Executive Board, of course, endorsed that view, and Directors expressed particular admiration for the Japanese structural approach to inflation control. In concluding the discussion, de Larosière made a personal plea for the Fund to rise above the controversy of the subject: “I know incomes policies are not always popular, but some understanding in this field is necessary if we are to tackle the problem. . . .<sup>47</sup>

Whatever the WEO may have contributed to an “understanding in this field,” it did little to resolve the policy debate. Two years later, during the February 1983 WEO discussion by the Board, several Executive Directors complained that the staff paper had said little about incomes policies. Schwartz responded that the staff had—on this and earlier occasions—favorably characterized informal incomes policies such as those in effect in Germany, Japan, Canada, France, and Italy. He concluded, however, that the staff saw no point in trying to push the United States and the United Kingdom into adopting policies that they clearly opposed.<sup>48</sup>

By that time, inflation was beginning to recede as a major policy issue. The average inflation rate of consumer prices for the G-7 countries had been reduced from a peak of 12 percent in 1980 to just 4½ percent in 1983. The decline in the United States was even greater: from 13½ percent to just over 3 percent. Nonetheless, memories of the inflationary mess of the 1970s were still vivid enough that few were prepared to declare victory. The U.S. authorities occasionally professed to be pursuing a target of zero inflation, which struck many observers as excessively ambitious. The U.S. Executive Director, Richard D. Erb, put it slightly more guardedly: “price stability . . . was something quite close to a zero rate of inflation, perhaps in the range of 1–2 percent.” In that context, a number of Executive Directors asked the staff to develop a view on the optimal inflation rate. Schwartz gave a cautious reply that preserved the Fund’s credentials as a hawk on inflation while distancing the staff from an extreme view: “a low positive rate might be acceptable,” he averred, but the optimal rate would be hard to assess and would not be uniform for all countries. In any case, he concluded, most

<sup>47</sup>Minutes of EBM/81/74 (May 4, 1981), p. 11 (Chairman’s summing up). On the Japanese model, see the statement by Teruo Hirao, EBM/81/73 (May 4, 1981), pp. 13–17.

<sup>48</sup>Minutes of EBM/83/24 (February 2, 1983), p. 8.

<sup>49</sup>Minutes of EBM/83/23 (January 31, 1983), p. 4 (Erb); and EBM/83/24 (February 2, 1983), pp. 9–10 (Schwartz).

countries were still far enough from zero inflation that the question was essentially moot.<sup>49</sup>

### Price of Oil

Of special importance for any discussion of inflation in the 1970s or 1980s was the price of oil in world trade. In the wake of the second major round of oil price increases, in 1978–79, the questions of how independent an influence the oil shock was for inflation and output growth and of how countries should adapt to the new circumstances were key issues in the WEO discussions.

When the Executive Board met on June 27, 1979, to discuss the WEO, the oil market and the world economy were at a critical juncture. On that same day, the oil ministers of OPEC were gathered in Geneva, in a meeting that would lead to a major jump in the price of oil. Measured in U.S. dollars, the official price of a barrel of Saudi Arabian light crude had already risen from \$12.70 at the end of 1978 to \$14.55 in April 1979. It would now be raised to \$18.00, and the average export price for the major oil-exporting countries would soon be some 60 percent above the end-1978 level.<sup>50</sup> Also on that same day, the heads of state and government of the G-7 countries were assembled in Tokyo, in a summit meeting devoted predominantly to dealing with the growing pressures in the oil market.<sup>51</sup> In normal times, the WEO would not have been on the agenda for another two months, but a crisis was at hand. For the second time in seven months, the Fund was holding a special, ad hoc surveillance meeting on the WEO.<sup>52</sup>

The basic conclusion reached by Executive Directors in June 1979 was that the world economic situation was worse than when the first oil shock had hit in 1973, because inflation was higher, economic growth was weaker, oil output was “less elastic,” and the oil-importing developing countries were financially weaker because of their heavy post-1973 borrowing. Consequently, the “industrial countries should pursue a coordinated demand strategy,” in which the countries with “relatively strong external positions” should expand to “counteract the deflationary impact of the oil price increases. . . .”<sup>53</sup> In essence, the Board was reaffirming the “locomotive” strategy that had debuted to mixed reviews at the Bonn summit the year before.<sup>54</sup>

At the next regularly scheduled WEO discussion, in September 1979, the on-going rise in oil prices was again the main agenda item, and the central issue was still the need for a global adjustment strategy for coping with it. The staff paper set

<sup>50</sup>At the Geneva meeting, OPEC ministers agreed that the official “marker” price for Saudi Arabian oil would be raised to \$18, but other OPEC members could raise their own prices to as much as \$23.50.

<sup>51</sup>For a review of the Tokyo summit discussions on energy, see Putnam and Bayne (1987), pp. 110–18.

<sup>52</sup>The previous ad hoc meeting, precipitated by the dollar crisis of October–November 1978, had been held on December 13 and 19, 1978.

<sup>53</sup>Chairman’s summing up, minutes of IS/79/6 (June 29, 1979), pp. 24–25.

<sup>54</sup>For the development of the locomotive strategy and for other reactions to it in the Fund, see the section on Germany in Chapter 3.

out in some detail the consequences of the oil shock: a marked slowdown in industrial country growth, mainly owing to the onset of a recession in the United States; a consequent slowdown in growth of world trade; “a virtually worldwide acceleration in inflation”; substantial shifts in current account balances among the industrial countries (strengthening in the United States, weakening elsewhere: changes that would, serendipitously, foster external adjustment); and a large increase in current account deficits for oil-importing developing countries and other producers of primary commodities. The paper then noted that this last development raised the possibility that greater recourse to official—especially multilateral—financing would be required, but also that recycling of the oil exporters’ surpluses by commercial banks would be crucial. Consequently, as the Managing Director noted in summing up the Board meeting, “increased cooperation between multilateral organizations and commercial banks would be useful.”<sup>55</sup> That theme would take on increasing importance over the next several years, especially after the debt crisis hit Latin America in 1982.

The Fund’s support for coordinated action in response to the oil shock was recorded in subsequent WEO discussions as well. For example, in January 1980, the Managing Director paid homage to the “significant role” played by “coordinated policy actions” in reducing the current account imbalances that had built up among the major countries. Officials from the major oil-exporting countries sounded a similar theme, but they also complained that they were being unfairly singled out as being responsible for the poor state of the world economy.<sup>56</sup> In their view, the oil-importing industrial countries also were to blame, for excess demand in general and excessive consumption of oil in particular. They pointed out that the standard WEO analysis, by limiting the forecast horizon to one or two years, caught the negative macroeconomic effects of a rise in oil prices but missed the offsetting benefits to global demand and output as the exporters’ surpluses began to be recycled.<sup>57</sup> Subsequent staff papers typically took a slightly softer tone in dealing with the subject.

<sup>55</sup>“World Economic Outlook—General Survey,” ID/79/7 (August 30, 1979), pp. 1–3; and minutes of IS/79/8 (September 12, 1979), p. 21.

<sup>56</sup>In December 1979, the Fund adopted a basic scheme for classifying countries in which oil trade played a dominant role. The staff at that time had proposed a tripartite scheme that would have divided the world into industrial, major oil-exporting, and non-oil developing countries. (This classification would replace the earlier practice of classifying countries as industrial, developing, or in an intermediate group called “more developed primary producing countries.”) Following an extended discussion in which some oil exporters objected both to being singled out and to the apparent implication that they were not developing countries, the Executive Board decided that there should be two broad groups—industrial and developing—with the latter divided into oil-exporting and non-oil. See “Classification of Countries,” SM/79/275 (November 28, 1979), and minutes of EBM/79/185–186 (December 17). That scheme was retained until January 1985, when the oil/non-oil distinction was relegated to a subsidiary status. See “Classification of Countries,” SM/85/8 (January 3, 1985), and minutes of EBM/85/10 (January 23, 1985).

<sup>57</sup>The latter point was made most explicitly in an April 1980 letter to the Managing Director from the Minister of Finance of Kuwait, Abdul Rahman Salim Al-Ateeqy; in IMF/CF, S 321 “World Development Outlook—Fund Review (*Tours d’Horizon*), April 1980–August 1980.

The more fundamental issue concerned the extent to which the burgeoning current account deficits of the oil-importing countries (industrial and developing) should be financed, and the extent to which the authorities should be urged to restrict the growth of demand in order to reduce the deficits to more easily manageable levels. In the WEO discussion of May 1981, Ariel Buira (Mexico) laid out the case for financing over adjustment. The oil-importing countries, he argued, had overreacted to the emergence of large current account deficits, which were a normal by-product of the rise in oil prices that had occurred since 1973. By trying to reduce those deficits sharply, they risked producing a global contraction. That view, however, did not prevail. Overall, the Board by that time was gravely concerned about the “frightening” prospects for external deficits in the oil-importing developing countries, which were “probably not financeable.”<sup>58</sup> As the 1980s began to unfold, the only choice was between a sharp downward adjustment in demand and a leap from crisis to crisis.

### International Monetary System

The controversy that more than any other could be characterized as a battle for the heart and soul of the IMF was the debate over fixed versus floating exchange rates. As with other economic issues, this debate took place on two levels: in the field, especially in the policy recommendations given to countries requesting to borrow from the Fund, and at headquarters, especially in research and policy papers. The international monetary system of the time was usually described as a system of floating rates, in contrast to the pre-1973 system of adjustable pegs, but the reality was an eclectic jumble that had arisen more from historical accident, previously valid relationships, and inertia than from any rational political economy.

From 1982 to 1989, countries with independently floating rates ranged from 8 to 19, while about 90 countries pegged their currencies to a single reserve currency or to a currency basket. The rest of the world managed their currencies under more or less flexible arrangements (see Chapter 2). Within the G-7, the currencies of the three largest countries (the United States, Japan, and Germany) and the Canadian dollar floated relative to one another; two currencies (the French franc and the Italian lira) were linked to the deutsche mark through the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS); and the pound sterling (which was not in the ERM though the United Kingdom was a member of the EMS) was managed with varying degrees of flexibility. Neither the economics profession at large nor the Fund staff had developed any real consensus on whether countries overall should edge closer to fixity or to flexibility.

The WEO papers and discussions seldom tackled this question directly. Rather, the emphasis was on defining the domestic macroeconomic policies that would be best suited to bringing about sustained (noninflationary) growth and thereby a stable or sustainable pattern of exchange rates for the major reserve currencies. As a

<sup>58</sup>Minutes of EBM/81/72 (May 1, 1981), p. 4 (Buira); and EBM/81/74 (May 4, 1981), p. 13 (Chairman’s summing up). For a further discussion, see Chapter 6.

general proposition, the staff position evolved moderately during the 1980s, from one favoring *laissez-faire* on exchange rates to one that gave more prominence to the desirability of stabilizing rates.

In the spring of 1981, as the U.S. dollar, the Japanese yen, and the pound sterling were all appreciating strongly relative to other major currencies, the WEO staff paper concluded that exchange rate movements over the past year had “in some cases been excessive.”<sup>59</sup> Nonetheless, it also concluded that the “first priority for monetary policy must be to counter inflationary pressures, and that a certain degree of short-term fluctuation in exchange rates has to be accepted.” Executive Directors broadly agreed with that assessment.<sup>60</sup> Three years later, however, concerns about short-term volatility of exchange rates had given way to more serious anxieties about large and sustained misalignments—especially the continuing appreciation of the dollar. Still, the Managing Director noted at the conclusion of the April 1984 Executive Board meeting on the WEO:

Directors did not in general suggest direct action to influence the pattern of exchange rates. They felt that an improvement in the U.S. fiscal position, coupled with a firm monetary policy, would facilitate a reduction of interest differentials between the United States and other countries, and that this would in turn lead to a gradual decline in the dollar and restoration of a more sustainable pattern of exchange rates and current account balances.<sup>61</sup>

In other words, bringing exchange rates back to a more sustainable pattern was important, but through policy adjustments rather than through direct intervention.

The controversy over the stability of the international monetary system climaxed in the spring of 1985, shortly after the major industrial countries had finally undertaken to engineer a reversal of the appreciation of the dollar through coordinated intervention in the foreign exchange markets. The staff produced a record amount of documentation for the Executive Board, comprising three main papers on the outlook and the main policy issues, the usual statistical appendix, and no less than 11 supplementary papers: in all, more than 550 single-spaced pages of text and tables. In response, the Board spent a record amount of time—two very long days and part of a third—discussing the outlook, much of which was directed at the question of whether the unstable values of the key reserve currencies were creating major problems for the world economy.

The central question at that time was whether the U.S. dollar was headed for a “hard landing.” The strong dollar of the early 1980s had been associated with a growing current account deficit for the United States. The predominant creditor

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<sup>59</sup>The characterization of exchange rate changes as having been “excessive” derived from the view that rates tended to “overshoot” the changes that were needed to restore equilibrium following a disturbance. Specifically, the staff paper argued that market participants seemed to have overreacted to the emergence of current account deficits in continental European countries and therefore to have excessively driven up the relative values of the dollar, the yen, and the pound. “World Economic Outlook—Situation of the Industrial Countries,” ID/81/2 (April 15, 1981), pp. 23–26.

<sup>60</sup>Chairman’s summing up, EBM/81/74 (May 4, 1981), p. 13.

<sup>61</sup>Chairman’s summing up, EBM/84/50 (April 2, 1984), p. 15.

nation of the world just a few years earlier, the United States was now by some measures already becoming a net debtor. Once the dollar started tumbling from the heights, would it return to a normal and sustainable level, or would it overshoot and become seriously undervalued?<sup>62</sup> The WEO did not take a clear-cut position on this crucial issue, but the staff did raise a warning flag. Although the fundamental attractiveness to investors of the U.S. economy was strong in that inflation was low and investment returns were high, it was hard to see where the large continuing net inflows of funds to the United States would come from without large shifts in exchange rates, interest rates, or other prices.<sup>63</sup> On the whole, Executive Directors were more inclined than the staff to take these concerns seriously, and the Board concluded in April 1985 that “the vulnerability attached to the present and projected external positions was . . . one of the important challenges to policymakers in the industrial countries and to the Fund.” Directors called for “carefully coordinated . . . policy measures that would facilitate a smooth convergence to a more sustainable pattern of exchange rates.”<sup>64</sup> That call, however, did not extend to a specific recommendation for greater fixity in exchange rates or other changes in the functioning of the system.

The general position of the Fund on this issue underwent little further change in the second half of the decade. In March 1987, the Board convened to discuss the outlook just three weeks after the meeting at the Louvre at which major industrial countries announced their agreement “to cooperate closely to foster stability of exchange rates around current levels.”<sup>65</sup> The staff took a neutral view on the wisdom of trying to keep the dollar from depreciating further in 1987, partly because of the ambiguity about whether the shifts that had already occurred would continue to pull down the U.S. external deficit, and partly because the staff generally viewed exchange rate changes as neither necessary nor sufficient for shifts in current account balances.<sup>66</sup> The medium-term scenarios for the spring 1987 exercise did show that the projected decline in the U.S. fiscal deficit was unlikely by itself to bring about a substantial reduction in the current account deficit. However, both the staff and the Executive Board were divided on the question of whether a shift in relative monetary conditions (lower interest rates in the United States, higher rates in Europe) aimed at further realigning exchange rates would lead to a more sustainable pattern of international trade. The Managing Director summarized the matter as follows:

<sup>62</sup>For an exposition of the “hard landing” scenario, see Marris (1985).

<sup>63</sup>See the staff statements at EBM/85/53 (April 3, 1985), pp. 12–13 and 17–18.

<sup>64</sup>Chairman’s summing up, EBM/85/55 (April 5, 1985), p. 7.

<sup>65</sup>Communiqué of the ministers of finance and central bank governors of six major industrial countries (February 22, 1987), para. 10; reproduced in Funabashi (1988), pp. 277–80.

<sup>66</sup>The latter argument derives from the fact that the exchange rate and the current account balance are both endogenous variables that respond to a variety of disturbances such as monetary and fiscal policies and shifts in market perceptions. The theoretical arguments and empirical evidence were set out in a background paper for the spring 1986 WEO: Boughton and others (1986). A theoretical model and the implications for the international monetary system were discussed in Boughton (1989 and 1991).

. . . most Directors viewed the recent Louvre agreement as a major step toward a more viable payments pattern in the medium term. . . . While noting that further [exchange] rate movements might at some time be necessary, they felt that stability in rates was important at the present time. . . . Several speakers, however, noted that there was little sign so far of any narrowing in the payments imbalances, and little evidence in the staff's projections that a significant narrowing would take place in the medium term. Under the circumstances, these Directors questioned whether the Louvre agreement would be sufficient to prevent the reemergence of exchange market pressures.<sup>67</sup>

Several months later, in the wake of the stock market crash in October 1987, exchange market pressures did reemerge: in three months, the U.S. dollar depreciated by about 15 percent against both the mark and the yen. The staff—in a WEO paper prepared especially to analyze the effects of the market turmoil—concluded that it would be a mistake for the major countries to try to adhere rigorously to the original Louvre agreement: “cooperation on exchange rate matters should focus on underlying policies, rather than a particular pattern of rates.”<sup>68</sup> At the Board meeting in January 1988, most Directors took a stance tilted more toward actively trying to prevent further depreciation of the dollar.<sup>69</sup>

By the end of the 1980s, exchange rates seemed to have stabilized reasonably well, but the external imbalances that had plagued the major countries for several years were still very evident. Whether rates shifted further or not was no longer considered very important, as long as they did not return to the volatility and gross misalignments that had characterized the first half of the decade. What mattered to the Fund was that the United States should finally get its fiscal deficit under control, that the “surplus countries . . . promote adequate growth of domestic demand in excess of output growth,” and that industrial countries generally should adopt much more flexible structural policies, especially regarding labor markets. If those goals could be achieved, then the world economy could easily adapt to the prevailing pattern of exchange rates.<sup>70</sup>

<sup>67</sup>Chairman's summing up, at EBM/87/48 (March 17, 1987), p. 19.

<sup>68</sup>“World Economic Outlook—Preliminary Assessment of Prospects and Policy Issues,” EBS/88/1 (January 6, 1988), p. 21.

<sup>69</sup>The Managing Director summed up part of the discussion as follows: “There was a widespread feeling that, by the end of 1987, the dollar had fallen enough and that a further decline would be counterproductive. Most Directors holding this view . . . felt that monetary policy could have a role in defending the desired pattern of exchange rates.” Minutes of EBM/88/6 (January 13, 1988), p. 28.

<sup>70</sup>Chairman's summing up, at EBM/89/119 (September 8, 1989), p. 18.

<sup>71</sup>In addition to the issues summarized here, a wide range of other structural policy issues was examined occasionally. From 1978 on, for example, the WEO regularly reviewed the growing tendency of both industrial and developing countries to implement protectionist trade policies; that issue is covered in Chapter 2. Other structural policies are covered in Chapter 2 (on the general surveillance implications), Chapter 4 (on the implications for the use of indicators, as noted in footnote 30 of this chapter, p. 237), and Chapter 13 (on conditionality issues).



### Structural Rigidities

Beginning around 1986, structural policies played an increasingly central role in the WEO.<sup>71</sup> One driving force behind this shift in emphasis was a conviction that structural rigidities in many countries had adversely affected the efficiency of markets—labor markets in particular—and had distorted estimates of the rate of growth of potential output. This problem was especially acute in the industrial countries of Europe, where the unemployment rate had risen from 5½ percent in 1978 and 1979 to 11 percent in 1984 and 1985. The staff argued, in a series of papers beginning with the spring 1986 WEO exercise, that excessive labor costs—associated in part with restrictive and protective labor laws and with high taxation of labor—accounted for a large portion of this problem.<sup>72</sup> As long as such policies persisted, potential output would be depressed and efforts to raise employment through stimulus to aggregate demand would result primarily in higher inflation. These propositions, which would have been controversial a few years earlier, were readily accepted by Executive Directors—including those representing European countries<sup>73</sup>—and gradually became central to the staff analysis both in the WEO and in Article IV consultations.<sup>74</sup> This evolution continued and became increasingly central for the Fund in the 1990s.

### Forecasting Process

A key feature of the WEO exercise has always been the generation of forecasts that are conditional on standard assumptions. That is, the WEO forecasts are not necessarily the staff's best judgment of what will happen; they are the best judgment of what would happen subject to certain assumptions. The standard “technical” assumptions for the short-term forecasts (i.e., forecasts for the remainder of the current year plus the following one) were that exchange rates among industrial countries would remain fixed in nominal terms, that oil prices would remain fixed in terms of U.S. dollars, and that current economic policies would continue. The definition of current policies was interpreted to allow for changes that had been announced, regardless of whether they had yet been implemented. (See, for example, *WEO*, October 1985, p. 1.) Overall, the short-term forecasts incorporated enough flexibility that they could be interpreted as if they were unconditional. Similar assumptions underpinned the medium-term scenarios, except that exchange rates and key prices were fixed in real rather than nominal terms beyond the end of the short-term forecast horizon. In this context, the constraints were more fundamental.

<sup>72</sup>See Adams, Fenton, and Larsen (1987), Feldman and others (1989), and Bayoumi and others (1989). For the evolution of modeling of potential output at the Fund, see De Masi (1997).

<sup>73</sup>See, for example, the comments by Guenter Grosche (Germany) at EBM/86/49 (March 21, 1986), p. 6; and by Hélène Ploix (France) at EBM/86/50 (same date) p. 21.

<sup>74</sup>See in particular the discussion of the Article IV consultations with Germany, in Chapter 4.

The specification of policy assumptions for the medium-term scenarios became especially difficult when current policies were thought to be unrealistic and unsustainable. The projections often became less and less believable as the forecast horizon lengthened, and the staff was forced either to hedge the forecasts or to derive complex explanations. This problem first became acute in 1984, when the strength of the U.S. dollar was clearly unsustainable. It cropped up again around 1987, when the prevailing policy stance in the United States implied a growth in the stock of U.S. debt that was inconsistent with the maintenance of unchanged real exchange rates.

Crockett solved the inconsistency problem beginning with the fall 1986 WEO—and even made a virtue of it—by emphasizing the “tensions” in the unrealistic scenarios. As the spring 1987 paper phrased it, “Circumstances may arise, of course, in which current policies appear to be either unsustainable or inconsistent with the underlying exchange rate assumption. In such cases, the analysis focuses on the alternative ways in which incompatibilities might manifest themselves, or be reconciled” (WEO, April 1987, p. 11). This approach acknowledges explicitly that the projections are overidentified. Too many variables are treated as exogenous; in reality, policies will have to be adjusted if the authorities hope to keep the exchange rate stable. By focusing on the “tensions” in the overly constrained scenarios, the staff could discuss the requirements for a responsible policy stance without having to predict either policy changes or exchange rates.

The “indicators” tables in the spring 1987 WEO paper for the Executive Board suggested that from 1986 to 1991, the U.S. general government deficit would be reduced by 1.8 percent of GNP under the assumption of partial implementation of the Gramm-Rudman deficit targets. The counterparts of that deficit reduction were shown as a rise in gross private investment of 1.4 percent of GNP and a fall in the current account deficit by 0.4 percent of GNP (with no change in the private saving rate).<sup>75</sup> The text pointed out that this scenario involved tensions, in that a strengthening of investment by that size seemed unlikely—whether on the basis of economic theory, econometric evidence, or historical perspective—while a larger reduction in the external deficit would seem to require a real depreciation in the dollar (which was inconsistent with the technical assumptions underlying the scenario).<sup>76</sup>

Another anomaly in the scenarios was that they excluded the possibility of recession. The reasoning was that since the timing of the business cycle could not be predicted with any confidence beyond the next 18 months or so, the only reasonable strategy for a medium-term scenario was to project the course of the economy without cyclical disturbances. If the initial conditions were weak enough that a re-

<sup>75</sup>The 1991 projections were not included in the published WEO. See p. 242, above, on the staff treatment of the Gramm-Rudman targets; and footnote 15, p. 231, on the relationships linking investment and the current account to fiscal policy.

<sup>76</sup>“World Economic Outlook—Prospects and Issues,” EBS/87/39 (February 24, 1987), Tables 2 and 3, and pp. 27–36.

<sup>77</sup>The most nearly explicit acknowledgment of bias was in the fall 1985 WEO, for which the staff decided to leave the baseline medium-term scenario unchanged from the spring but to stress the increase that had occurred in “downside risks.” That strategy resulted in part from concerns

cession *sometime* in the next few years was all but inevitable, then the projections contained an inherent bias.

The bias in the medium-term scenarios was recognized implicitly in the staff analysis of the “downside risks.”<sup>77</sup> Typically, the staff would describe a baseline scenario that showed moderate growth and was benign in its implications, and then separately would describe the various risks that might prevent such an outcome from materializing. In such cases, the baseline was primarily a reference point for discussing the policy requirements for achieving a good outcome. For example, the March 1988 paper on the medium-term scenarios noted that “the baseline case assumes that the large external imbalances among the industrial countries do not give rise to either interest rate or exchange rate pressures, on one hand, or to increased protectionism in the industrial countries, on the other. . . . The realism of this assumption is a key element in the sustainability of current policies . . . [and] there are very real downside risks.”<sup>78</sup> Those risks were then analyzed through the presentation of alternative scenarios.

The process by which these forecasts were produced was, for much of the 1980s, a cumbersome and unwieldy routine that was necessary to get a globally consistent outcome but that imposed severe strains on the staff’s limited resources. The Research Department, which had overall responsibility for the exercise, would initiate the forecasting round by circulating questionnaires to the area departments. Those questionnaires specified the main assumptions that were to underpin the forecasts (oil and other primary commodity prices, key-currency exchange rates, etc.) and asked the desk economists to provide initial projections for their countries on that basis. (Only the larger countries were included in this exercise. Small countries were assumed to follow the patterns of their larger neighbors or trading partners.) These first-round forecasts were produced by whatever economic theories, methodology, models, and data the desks believed to be relevant and appropriate for the country concerned. Some forecasts were derived primarily from official national projections, some were derived in part from models estimated and maintained by the area departments, and some were largely judgmental. The Research Department staff would then feed the results into the central WEO database for processing by (mainframe) computer and would carefully analyze the global and regional outcome for consistency and credibility. The results would then be returned to the area departments for further review and revision. Normally, several iterations would be required to produce a consistent forecast for the world economy, and over time this iterative interaction between the country desks

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that to lower the medium-term growth projections might inappropriately “sound alarms” to the public. See statement by William C. Hood (Economic Counsellor and Director of Research) at EBM/85/144 (September 16, 1985), p. 35. It should be emphasized that the question of bias in the way the medium-term scenarios were constructed and presented is independent from the question of whether the short-term forecasts might have been biased. That issue is discussed below, in the section on evaluation, pp. 260–61.

<sup>78</sup>“World Economic Outlook—Medium-Term Scenarios,” SM/88/52 (March 4, 1988), p. 4.

and the WEO staff became a year-round disciplinary influence on the Fund's forecasts and analysis.

The forecasting process gradually became more streamlined and efficient toward the end of the decade, partly because of the increased availability of computer technology and the successful development of multinational econometric models in the Research Department.<sup>79</sup> The latter development is examined in the next section.

## Modeling the World Economy

The debate over the appropriate balance between individual judgment and the output of econometric models in macroeconomic forecasting has always been contentious. Even in the heyday of the large models of national economies in the 1960s, most successful forecasters used the models more for evaluating internal consistency than for making baseline projections.<sup>80</sup> During the 1970s, the pre-eminence of large-scale econometric models for macroeconomic forecasting was challenged by several developments, including a return to simpler, smaller, and more transparent models and the development of more sophisticated techniques for analyzing time-series data. After Robert E. Lucas, Jr., of the University of Chicago published an influential article (Lucas, 1976) that set out what became known as the "Lucas critique," the use of models for forecasting fell for a while into almost total disrepute. Lucas—who was awarded the 1995 Nobel Prize in Economics for his contributions in this and related fields—argued that models were estimated on the basis of reactions by households and businesses to observed government policies. If those policies had been different, then people would have behaved differently. Consequently, one could not use an econometrically estimated model to predict the effects of policy changes. Not until the mid-1980s would econometric modeling techniques advance to the point where forecasters could comfortably conclude that they had taken adequate account of the Lucas critique, principally by allowing expectations to be determined by and consistent with the structure of the model.

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<sup>79</sup>Aside from the technological advancements, the forecast process improved in response to the need to reduce the amount of staff time devoted to it. In 1986, as the strains on the staff were reaching the breaking point and some area departments were close to open rebellion, the Fund hired a consulting firm to review the process and to prepare a detailed proposal for streamlining and automating it. Many of the firm's recommendations were implemented over the next few years, but the forecasting exercise was not fully automated until the early 1990s.

<sup>80</sup>Clive Granger (1980) summarized model-based forecasting experience as follows: ". . . the forecasts produced by the model are not necessarily the forecasts issued by the model's constructors. If a forecast . . . seems strange or out of line with . . . the econometrician's own judgment, then it will probably be altered to look more reasonable. This application of 'tender loving care' has been shown to result in improved forecasts . . ." (p. 119). For history and evaluation of policy analysis with econometric models, see Bodkin and others (1991) and (specifically in a multi-country setting) Bryant and others (1988).

### Multilateral Exchange Rate Model

While these theoretical debates continued, the staff at the Fund slowly built up its modeling expertise. The first model to play a significant role in the WEO exercise was the Multilateral Exchange Rate Model (MERM).<sup>81</sup> The idea for the MERM, which was developed by Paul Armington in the late 1960s (Armington, 1969), was to derive equilibrium relationships between exchange rates and trade balances by reference to highly disaggregated production functions. The model provided a working framework for the preparations for the December 1971 ministerial meeting of the G-10 (the Smithsonian meeting) at which a new set of par values for the major industrial countries was to be negotiated. The staff's estimates of the pattern of rates that would equilibrate current account balances were a major input into the negotiations, and the par values that emerged from the political negotiations were quite close to the MERM solutions.<sup>82</sup> Although the agreed par values soon turned out to be unsustainable (the whole par value system collapsed just 15 months later), the problem was only partly with the initial pattern and was seriously aggravated by the lack of stabilization and coordination of macroeconomic policies afterward.

The MERM was formalized first by Artus and Rhomberg (1973) and later by Artus and McGuirk (1981). It was a purely static but highly disaggregated system of relationships that explicitly recognized the multilateral dimension of the external adjustment process: a country's "effective" exchange rate could be derived as a weighted average of bilateral weights, not by the traditional arithmetic based on the value of bilateral trade with each country, but by estimating the elasticity of trade in specific categories of goods to changes in exchange rates and by taking into account indirect competition between countries.<sup>83</sup> The MERM could be solved either for the pattern of exchange rates that would bring about a desired set of current account balances (as for the 1971 Smithsonian discussions) or for the current account balances that would result from an assumed set of exchange rates. It was in this latter mode that the MERM played a key role in quantifying the WEO forecasts in the 1970s and early 1980s.<sup>84</sup>

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<sup>81</sup>Earlier partial-equilibrium empirical models were developed by Jacques Polak and others in the Research Department as early as the late 1940s; see notably Polak (1953), as well as Frenkel, Goldstein, and Khan (1991). In addition, throughout the late 1970s and 1980s, the WEO forecasting process made use of a basic computer model (known as the "WEO facility") to derive the global implications and to test the consistency of the forecasts generated by the country desks in area departments.

<sup>82</sup>For a review of the 1971 negotiations and the role of the staff's calculations, see de Vries (1976), Chapter 26; and James (1996), pp. 222–23.

<sup>83</sup>If two countries both sell the same good, or competing goods, to a third country, a change in either country's exchange rate vis-à-vis the third will affect the competitiveness of the other. That effect was captured by the MERM but not by models based on bilateral trade.

<sup>84</sup>The use of the MERM for computing equilibrium exchange rates in the 1970s after the collapse of the par value system is described in de Vries (1985), pp. 125–26. Its role in the WEO of that era and in the computation of effective exchange rates are described in de Vries (1985), pp. 790 and 810, respectively.

By the early 1980s, the comparative-static nature of the MERM had rendered it obsolete for most WEO purposes. As discussed above (pp. 235–36), the static medium-term scenarios were replaced by dynamic year-by-year projections starting in 1986. The MERM was still useful for computing the weights in effective exchange rates, but the WEO forecasting process had evolved enough that a more dynamic and more general equilibrium model was needed. For this limited purpose, however, the cost of keeping the MERM up-to-date became prohibitive, and it was eventually phased out before the end of the decade.<sup>85</sup>

### World Trade Model

The second general empirical model developed at the Fund was the World Trade Model (WTM), which was introduced in the late 1970s as a complement to the MERM (see Deppler and Ripley, 1978). The WTM was a global, partial-equilibrium model designed to estimate the effects on international trade from changes in domestic economic activity. Like the MERM, it focused primarily on the larger industrial countries, but it did include more dynamic adjustment.<sup>86</sup> The model was used by the Research Department to check the area departments' forecasts for consistency and to start the iterative process by which a global economic forecast was to be produced. However, these initial trade forecasts were never accorded much credibility by the area departments and therefore had little real influence. The WTM was updated and expanded (see Spencer, 1984), but its basic limitations—the absence of expectations or a role for international capital flows, limited dynamic adjustment, and minimal feedback from international trade to domestic activity—remained. It played less and less of a role in the WEO process over time and—like the MERM—was phased out completely by the end of the 1980s.

### MINIMOD

The real breakthrough in the evolution of modeling at the Fund came with the development of MINIMOD in 1986. The year before, the staff had produced an innovative simulation study of the medium-term implications of U.S. fiscal policy (see Chapter 3). Because the Fund still lacked a fully specified general-equilibrium

<sup>85</sup>The MERM computations were based on detailed input-output tables that ideally should have been updated every few years. By the mid-1980s, the principal consumers of the effective exchange rate data were the Bank of England and the Fund's own database for *International Financial Statistics*.

<sup>86</sup>The model comprised blocks of equations for 14 individual industrial countries, plus four blocks for groups of countries: developed countries producing mainly primary commodities, major oil-exporting countries, other developing countries, and centrally planned economies (including nonmember countries).

<sup>87</sup>Project LINK was established at the University of Pennsylvania in 1968, as an interlinked system of separate models of national economies. For a history of LINK and other early contributions to global economic modeling, see Hickman (1991).

model of the world economy, the staff examined simulations by several other groups—notably, the OECD, the U.S. Federal Reserve Board, Project LINK, and the Japan Economic Planning Agency—using their own multicountry models.<sup>87</sup> That study demonstrated the existence of a “Keynesian” consensus on how fiscal policy affects the economy, but the staff authors also stressed that these conventional simulation studies ignored the possibility that policy effects could be negated by endogenous shifts in expectations (that is, they did not take account of the Lucas critique). As a first step toward accounting for endogenous shifts in expectations, the staff study also reported the results of a comparison of policy effects with and without “rational” (i.e., model-consistent) formation of expectations about the economy.<sup>88</sup> That analysis showed that while policy effects were smaller when agents displayed perfect foresight, most of the qualitative conclusions of the more conventional models still applied.

Apart from the intrinsic interest of the analysis of how policy works, the 1985 study of U.S. fiscal policy illustrated both the potential value of econometric analysis of macroeconomic policies and the need for an in-house model of the world economy.<sup>89</sup> The following year, for the spring 1986 WEO, the Research Department asked the Federal Reserve Board, the OECD, and Project LINK to run special simulations with their models, using a common set of assumptions. The simulation results were then averaged and assessed by the Fund staff, and the results were used as the basic input for a set of medium-term scenarios, as described above (p. 236).

Clearly the practice of asking other organizations to run simulations with their own econometric models and then distilling the information through a derivative model at the Fund could not be a lasting solution to the need for timely policy analysis. As an intermediate step toward a fully homegrown product, the staff derived a scaled-down version of the Federal Reserve’s Multi-Country Model (MCM). The Fund version, dubbed MINIMOD, not only had far fewer equations to be solved and thus was more manageable; it also incorporated endogenous, forward-looking, model-consistent, expectations and thus was relatively immune from the Lucas critique.<sup>90</sup> Relationships such as saving and investment functions

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<sup>88</sup>The study, by Paul R. Masson and Adrian Blundell-Wignall, made use of a simplified version of the OECD’s INTERLINK model, called “Minilink.” It was first presented at a conference in Perugia, Italy, in 1984, and was published as Masson and Blundell-Wignall (1985). Both authors were on the OECD staff when they conducted the study. Masson moved to the Fund’s Research Department in July 1984; when he developed the models discussed here, he was a Senior Economist in the External Adjustment Division.

<sup>89</sup>At Crockett’s initiative, the Research Department conducted a thorough study during the second half of 1985 of the potential costs and benefits of developing a model or system of models in the Fund. The report, prepared by a working party chaired by Anthony Lanyi (Assistant Director of the Research Department), foreshadowed many of the characteristics of the MINIMOD approach. “Report of the Working Party on the Use of Models in Projections and Analysis,” Research Department (December 6, 1985); in IMF/RD (Historian’s files).

<sup>90</sup>See Haas and Masson (1986) and Masson (1987). The model could be solved either with or without endogenous expectations, but once the staff became convinced that the fully consistent solution gave the more realistic and credible forecasts, the partial version was largely abandoned.

depended in part on agents' expectations of future changes in interest rates, inflation, and exchange rates; and those expectations were formulated to be consistent with the long-run solution of the model (i.e., agents, on average, were assumed to forecast the eventual outcome of any policy or other exogenous action correctly).

### MULTIMOD

The final step, a direct outgrowth of the MINIMOD project, was the development of MULTIMOD. Once the principle of generating alternative scenarios by running simulations with a global model was established and accepted, the Research Department staff set about estimating its own model. By the time of the spring 1988 WEO, MULTIMOD was ready for its debut. The new model (Masson and others, 1988) differed from its predecessor in several respects. It was much larger (a total of 308 equations covering seven countries or groups of countries, compared with a total of 67 equations for the United States and the "rest of the world" as a single bloc in MINIMOD);<sup>91</sup> the parameters were estimated by the staff using the Fund's own WEO database, rather than being borrowed from other models; and the role of endogenous and model-consistent expectations was more extensive. Like MINIMOD, it was used by the staff to generate the *alternative* scenarios: the baseline projections were still based on the judgment of the country desks, and the model generated the deviations from the baseline in response to specified policy changes or other shocks.

When the Executive Board met to discuss the WEO in March 1988, the MULTIMOD projections immediately became the star of the show. The staff paper on the medium-term outlook now included, besides the baseline, 11 alternative scenarios predicated on specific shifts in policies or other conditions. Three scenarios detailed how the "tensions" in the baseline scenario might be manifested if the major countries did not change their policies in time. There might be another stock market crash like that of October 1987, there might be severe deflation, or there might be a run on the U.S. dollar. The next five scenarios explained the types of policy changes that could avoid these dire consequences: improved structural policies in Europe, more fiscal consolidation in the United States, increased domestic investment and import penetration in Japan, or combinations of the above. The remaining exercises examined other possible policy actions, such as increased financing for the heavily indebted developing countries and increased protectionist

<sup>91</sup>MULTIMOD was later extended to include a larger number of individual countries and greater disaggregation of the groups; the nonindustrial world, however, remained highly aggregated. See Masson, Symansky, and Meredith (1990) and Laxton and others (1998).

<sup>92</sup>The "reference" scenario was described in the main "Prospects and Policy Issues" paper for the Board discussion, "World Economic Outlook—Prospects and Policy Issues," EBS/88/44 (March 3, 1988). The alternative scenarios were summarized in that paper and were set out in detail in "World Economic Outlook—Medium-Term Scenarios," SM/88/52 (March 4, 1988). The scenarios were discussed by the Executive Board at EBM/88/48–50 (March 25 and 28, 1988).

<sup>93</sup>For an independent (World Bank staff) evaluation of the analytical and forecasting properties of MULTIMOD, see Jamshidi (1989).



measures in industrial countries. These simulations—presented in detailed tables covering projections for each year from 1988 through 1992, with accompanying analysis—provided a much more concrete foundation for the Board discussion than had ever before been possible.<sup>92</sup> This type of exercise thus became the standard for the years to come.<sup>93</sup>

### Developing Country Models

Empirical modeling of the economies of developing countries has always lagged well behind the analysis of industrial countries, owing to the much more rudimentary data and the much greater number of countries. The Fund staff began by constructing several partial- and general-equilibrium models of developing countries in the 1970s and 1980s. Two circumstances combined to spur this activity: Fund lending shifted heavily toward the developing world, which raised the demand by the Executive Board for detailed quantitative analysis of those economies, and the quantity and quality of data improved enough to support the estimation of at least rudimentary empirical models. Several early studies, such as Khan (1974) on Venezuela and Otani and Park (1976) on Korea, focused on the linkages between monetary policy and economic activity and inflation. By the beginning of the 1980s, more comprehensive macroeconomic models were appearing, such as the representative-country model published by Mohsin S. Khan and Malcolm D. Knight in 1981. Simultaneously with the empirical studies, Fund staff were conducting basic theoretical research on the structure of developing economies and the differences between modeling industrial and developing countries. That work culminated in a series of papers in the early 1990s by Nadeem U. Haque, Peter J. Montiel, and others.<sup>94</sup>

For the WEO scenarios, the Research Department developed two separate models of the developing world in the late 1980s. One, the developing country module of MULTIMOD, was used to project the implications of the industrial country scenarios for developing countries taken together. The other, LDCMOD, was used to disaggregate the projections so that the implications could be studied for both geographic and analytical groups of countries.<sup>95</sup> LDCMOD, which was designed by a team of economists in the Current Studies Division of the Research Department,<sup>96</sup> comprised some two dozen behavioral equations plus about 60 identities for close to 100 individual countries. Because of data limitations and the sheer size of the project, the structure and econometric sophistication of LDCMOD were far more rudimentary than those of MULTIMOD. The LDCMOD sim-

<sup>94</sup>Those papers, the 1981 Khan-Knight study, and others are collected in Khan, Montiel, and Haque (1991).

<sup>95</sup>Analytical categories included countries grouped by level of per capita income, type of principal exports, or degree of external indebtedness.

<sup>96</sup>See Adams and Adams (1989) and Kumar, Samiei, and Bassett (1993); the name LDCMOD was introduced in the latter paper. The project was initiated under the direction of Michael C. Depler (Assistant Director in the Research Department and head of the Current Studies Division), who was also the senior author of the earlier World Trade Model.

ulations took the industrial country output from MULTIMOD as exogenous inputs; in principle, the LDCMOD simulations could have been fed back into MULTIMOD and so on through an iterative interaction to produce a globally consistent set of projections. The MULTIMOD team, however, preferred to iterate with their own highly aggregated developing country blocs (which, like the rest of the model, incorporated forward-looking, model-consistent expectations) to produce an *internally* consistent outcome. This procedure was obviously inelegant, but it had a certain practicality that enabled it to endure well into the 1990s.

## Evaluation

How useful were the WEO forecasts in the 1980s? Answering that question is far more complicated than just comparing the forecasts with actual outcomes, because of the constraints in the forecast process. If countries' policies changed (as they inevitably did) in the interim, then the outcome would differ from the forecast even if the forecast was perfect on its own terms. Over a long enough period, however, such apparent errors should even out, and the forecasts should be unbiased. The two key questions, then, are whether a persistent bias has been evident—either in the observed forecast errors or in the qualitative approach taken by the staff—and whether the forecasts have been statistically efficient: that is, whether they have added significantly to the information that one could get simply by looking systematically at the historical time-series data without reference to an economic model.

In the policy discussions at the Fund, the question of bias arose primarily for the medium-term scenarios. As discussed earlier in this chapter, the staff acknowledged that the medium-term reference scenarios contained an inherent optimism in that they ruled out both recessions and exchange rate changes. That optimism was tempered by the construction of alternative scenarios that illustrated how the tensions in the baseline might be resolved, but the staff still ran into frequent criticism that it was viewing the world with rose-colored glasses. Even the alternative scenarios necessarily assumed that countries borrowing from the Fund would successfully carry out the economic programs on which stand-by arrangements were conditional. Since in practice many Fund-supported adjustment programs were not successfully completed, the potential for serious imbalances and crises was inherently greater than recognized in the scenarios.<sup>97</sup> Executive Directors often complained that the staff was failing to recognize the dire consequences that lay ahead like economic land mines. In September 1984, R.N. Malhotra (India) was skeptical that developing countries would enjoy falling debt and debt-service ratios over the medium term, as projected in the baseline scenario. Alexandre Kafka (Brazil) protested at a 1986 Board meeting on the WEO that the staff was being too optimistic about the willingness of creditors to finance the deficits of the heavily in-

<sup>97</sup>For a discussion of this point by the staff, see the minutes of EBM/88/144 (September 9, 1988), p. 7.

debted developing countries. Such optimism, he argued, was “dangerous,” because it could lead to “policy inaction.”

Occasionally, the question of bias arose in the discussion of the short-term forecasts. In February 1979, Executive Directors complained that the staff seemed to be overestimating likely growth in the industrial countries while underestimating the inflation problem. At the time, the OECD’s *Economic Outlook* was projecting 3 percent growth in 1979–80 for the industrial countries as a whole, whereas the WEO was projecting 3.7 percent. Executive Directors, on the whole, concluded that the OECD forecast was more realistic.<sup>98</sup> (The outturn, incidentally, was 3.5 percent.) That type of dispute, however, was uncommon.

Two assessments of the track record drew mixed conclusions. In 1988, Professor Michael Artis of the University of Manchester (England) completed a detailed evaluation of WEO forecasts for the Fund. He concluded that the forecasts of economic growth had been biased toward optimism in the 1970s but not in the 1980s, that in general the forecasts were statistically efficient, and that overall the Fund had done no better or worse than national or other international forecasters during the 1970s and 1980s (Artis, 1988, pp. 1–3). Four years later, José M. Barrionuevo, of the Research Department at the Fund, concluded (Barrionuevo, 1992) that although the WEO forecasts were not biased in the 1980s, they were less accurate than forecasts made with simple time-series methods.<sup>99</sup>

Considering the size and complexity of the task, most observers would probably conclude that the WEO became a major success story for the IMF in the 1980s. As a complement to the Article IV consultations with member countries, the WEO provided the Fund with a means of analyzing economic interactions and the requirements for consistency of policies among countries. Publication of the staff forecasts and analysis helped to strip away a veil and to generate constructive criticism of both the process and the conclusions. By the end of the decade, the WEO exercise had largely matured in the detail, intellectual rigor, and transparency of its short-term forecasts, medium-term scenarios, and macroeconomic analysis.

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<sup>98</sup>Concluding remarks by the Chairman; minutes of IS/79/2 (February 23, 1979), pp. 42–43.

<sup>99</sup>For an informal but independent analysis, see Worswick (1983). Artis (1996) updated and extended his earlier study and drew similar conclusions.

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