

ESSAYS IN INTERNATIONAL FINANCE

No. 24, September 1955

INTERNATIONAL COST-SHARING
ARRANGEMENTS

THOMAS C. SCHELLING



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DEPARTMENT OF ECONOMICS AND SOCIOLOGY

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the twenty-fourth number in the series ESSAYS IN INTERNATIONAL FINANCE published from time to time by the International Finance Section of the Department of Economics and Sociology in Princeton University.

Prior to taking his present position as Associate Professor of Economics at Yale University, the author spent several years in Western Europe and in Washington as an official of the U.S. Government. Although Professor Schelling had many occasions during his years of government service to ponder some of the problems he discusses here, this essay has no official character and the author speaks only for himself.

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The submission of manuscripts for this series is welcomed.

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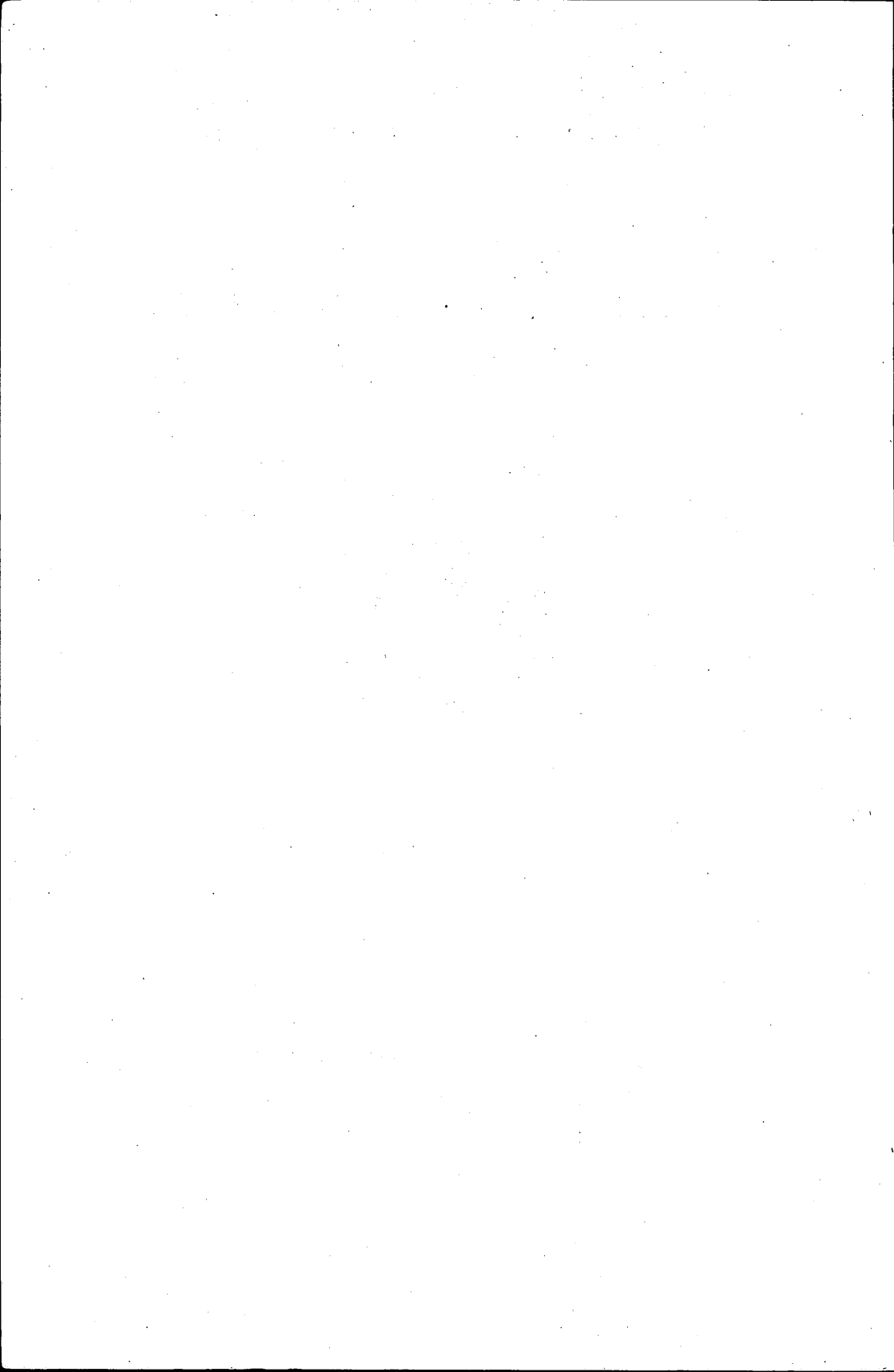


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A NEWLY prominent field of international economics has emerged during the last decade. It consists of programs—the United Nations Relief and Rehabilitation Administration, the North Atlantic Treaty Organization, the United Nations—undertaken jointly by several countries and involving costs that have to be allocated among them. In some cases the sharing of costs has been decided by *ad hoc* negotiations, unfettered by precedents, or agreed principles, or the desire to create any. But in many important instances there has been an attempt to apply recognized principles or agreed criteria to the sharing of costs; and in some cases the outcome has been a quantitative formula, supported by arguments of “equity” or “ability to pay.”

While there has been no coherent evolution of these cost-sharing schemes, some consensus on criteria does seem to be developing—criteria that are analogous to principles of international taxation or, perhaps more accurately, of intergovernmental taxation. A body of precedent is growing that is likely to influence future agreements. It may therefore be worthwhile to trace briefly the recent history of this development, to review some of the principles that are emerging, and to examine some of the theoretical and practical problems that have arisen or that will arise as the process continues. The process seems likely to continue, for the present era of expensive international collaboration gives no evidence of being over.

I. RECENT HISTORY

For historical perspective we can compare the efforts of the United Nations and the League of Nations to assess their members for operating costs. The United Nations early in its life delegated to a Contributions Committee the task of finding a fair system for sharing costs among the member countries. The Committee was instructed to follow the principle of “capacity to pay,” and the suggestion was made to it that national income would be the “fairest guide” to follow. The Committee deliberated for several months and submitted a proposed division of costs, expressed as percentages allotted to the various member coun-

tries for whatever total budget eventuated. No formula appears in the Committee's report, but the discussion states explicitly that the principle of "progressive taxation" was followed.

Progressivity—by which the Committee meant that the percentage of national income contributed should be higher for countries with higher per capita incomes—seems to have been achieved through the device of exemptions rather than by a variable "tax rate." Thus, "... in the case of countries with low per capita income only a portion of the total national income will be taken into account for assessment purposes, while in the case of countries with high per capita income all or practically all of national income would be considered."* This statement suggests that progressivity was obtained not just by fixed exemptions per capita, but even by smaller exemptions for countries with higher per capita income.

It is not worthwhile to search for *the* implicit formula in the percentages ultimately produced, for the Committee report makes clear that nearly every case was considered individually, with only the concept of progressive taxation as a guide. Foreign exchange difficulties and "temporary dislocations" resulting from the war were two additional factors mentioned. And, incidentally, the figure of 49.86 percent for the United States reflects the quite independent principle that the United States share should not exceed 50 percent.†

The League of Nations, faced with the same need to assess administrative costs on its members, initially followed the expedient of adopting an existing model. It turned to the Permanent Court of Arbitration at The Hague; the latter, in turn, had been using for twenty years the contributions arrangement of the Universal Postal Union, which in 1874 had adopted a system of seven classes based on population, area, and volume of postal traffic. Apparently with little debate, a provision was adopted in the League Covenant whereby costs would be divided in pro-

* The report of the Contributions Committee, which also contains extensive quotations from the Committee's terms of reference, is contained in UN General Assembly document A/80, October 11, 1946.

† The United States ultimately agreed to contribute 39.49 percent of the total, taking the position that a limit of $33\frac{1}{3}$ percent should apply in principle to the contribution of any one member. Announcing that its acceptance of a figure in excess of this limit should be interpreted as an extraordinary voluntary contribution, the United States further stated that "it would also anticipate that other factors than so-called 'relative capacity to pay' will be given hereafter the consideration they deserve as a matter of sound public policy in an international organization of 'sovereign equals.'" See UN General Assembly document A/274, December 13, 1946. The United States was represented on the Contributions Committee; it may therefore be surmised that the change of position was forced by the Congress. The United States share was subsequently reduced to $33\frac{1}{3}$ percent and that figure has often appeared as the preferred—though not always attainable—United States position on financing other UN programs.

portion to the members' Postal Union contributions. But almost immediately the League began to seek a better system. The experts assigned to the problem considered and discarded the idea that contributions should be related to the benefits that countries might receive from the organization* and adopted instead the principle of "ability to pay." For this purpose they recognized the relevance of national income figures but were forced by the undeveloped state of national income statistics to rely on cruder devices. They finally proposed to class each country according to a simple weighted average of its (a) government revenue calculated as a percent of total government revenue in all League countries, and (b) population calculated as a percent of total population of League countries. To reduce the effect of their huge populations, India and China were assumed to have populations equal to Britain's. Each country was placed in an assessment bracket, according (with a few exceptions) to a simple average of these two indexes; the ratio of the assessment in the highest bracket to that in the lowest was 95 to one. Whatever the results of this method, the intention was to "place the states in the approximate order of [national] income."†

Four points deserve emphasis in comparing these two schemes separated by twenty-five years. First, both bodies fastened in principle on national income as the basic statistical measure of a country's economic size, although it is doubtful whether many but the experts knew what national income meant in the early 1920's, and many government officials still did not know in the late 1940's. Second, in the 1940's it was statistically feasible to talk about national income estimates, at least for the more industrialized countries, while in the early 1920's an exceedingly crude and indirect statistical compromise was adopted. Third, the United Nations added a dimension to "capacity to pay" in the *personal* concept of income per capita, that is, in its progressivity principle. Not only did the League system lack "progressivity," it was biased in the opposite direction. If government revenue was a good estimate of national income, a country's population would have had to receive a negative rather than a positive value in the formula in order to achieve progressivity.

* For example, ". . . that a nation's expenditure on armaments is an indication of the likelihood of its being involved in war and therefore measures its need of the League of Nations."

† See League of Nations, Memorandum by the Secretary General, "Allocation of Expenses of the League of Nations," Annex 2, November 29, 1920. For a brief history of the League's allocation arrangements, see the pamphlet *Financial Administration and Apportionment of Expenses*, Information Section, League of Nations Secretariat, Geneva, 1928, Part II, pages 21-41. For a history of the negotiations over a contributions system for the UNRRA program, see George Woodbridge, *UNRRA, The History of the United Nations Relief and Rehabilitation Administration*, Vol. I, p. 81ff.

Finally, the difference in the two organizations' awareness of the problem is of some significance. The United Nations was aware of the need for a system and adopted straightaway the notion of "capacity to pay." Moreover, its discussions showed some awareness of precedent for future, and perhaps larger, contributions for other purposes. The League initially neglected the problem, then hastily adopted the nearest available model, treating the problem so carelessly that it became constitutionally dependent on a Postal Union of substantially different membership.* Eventually it had to extricate itself from this embarrassment by formal amendment to the Covenant.

The United Nations Relief and Rehabilitation Administration

Shortly before the contributions to the United Nations itself were worked out, a system of contributions had been established for the United Nations Relief and Rehabilitation Administration (UNRRA). In this case the eventual formula, after discussion of alternatives involving per capita income, foreign exchange reserves, volume of trade with recipient countries, and similar variables, was a flat percentage of national income.†

This use of national income does not by itself imply analogy with the personal income tax. The important characteristic of the latter is not that taxes are proportionate to income but that they are disproportionate. UNRRA used national income in the way the League seems to have wished to, as a measure of a country's economic "size." The system was, however, probably less regressive than the population-weighted system of the League.

The UNRRA distinguished between program costs, amounting to several billions of dollars, and administrative costs, amounting to some tens of millions. Contributions toward the latter were to be equal for all countries, regardless of size, and were levied on countries receiving aid as well as those providing it. This treatment, analogous to membership "dues," was a matter of principle and was designed to make every

* Even the official French and English texts of the League Covenant lent themselves to different legal interpretations on a critical ambiguous point, namely whether the Postal Union proportions of 1919 had been adopted permanently or the League proportions would change whenever the Postal Union changed its proportions.

† The uniform percentage conformed to the position taken by the United States throughout the negotiations. The same uniform-percentage rule also received official expression in relation to the incidence of the financial costs of World War II. The President's *Twentieth Report to the Congress on Lend-Lease Operations* (June 30, 1945) referred to approximately equal percentages of national income devoted to the war as being "according to the rule of equality of sacrifice and equality in effort." A quite different view was later expressed during the period of assistance to the North Atlantic Treaty Organization, when income per capita was stressed by the Executive Branch and recognized by the Congress as an important qualifying factor.

member a shareholder in the organization with the right to a voice in the operation of the program.

The distinction in the UNRRA program between *contributors* and *recipients*, which had no counterpart in either the League or the United Nations budgets, suggests a sliding scale of contributions. If some countries are sufficiently well off to be major contributors and some so badly off as to be large recipients, one logically expects other countries to be distributed in between in various gradations. But the problem of developing a sliding scale with a zero point to distinguish net contributors from net recipients was avoided in UNRRA through the formal device of determining potential recipients on a qualitative, rather than a quantitative, basis. Thus, recipients were to be among former occupied countries, with eligibility finally determined by individual consideration of needs and foreign exchange earnings.

As in the case of the United Nations, an effort was made to keep any one country from contributing more than half the total, but in the outcome the United States provided nearly three-quarters. This result reflected in part the large United States national income, but it also reflected recognition by the United States that if it wanted a large relief program it would, as a practical matter, have to put up most of the funds.

The UNRRA negotiations reflected a double standard. The big contributors' shares were the real issue, especially those of the United States and Britain; for small countries any necessary exceptions could easily be made without appreciable effect on the program. The problem was therefore to find an ostensible formula that was realistic in terms of the ability, willingness, and negotiating positions of the few big contributors.

In comparing the UNRRA contributions scheme with the later United Nations system it is important to keep in mind that UNRRA was to deal with billions of dollars while, at the outset at least, the United Nations budget was in tens of millions per year.* One can afford to be fair, moral, and logical about a tax system when the total tax is not going to be large; as a matter of fact, the immediately foreseeable United Nations budget was small enough to cause some countries to seek larger shares for the added prestige. But when substantial contributions are involved, as in UNRRA, the search for an equitable formula is likely to be a gentlemanly guise for bargaining. While the

* Compare the quaint statement in the League of Nations pamphlet explaining why the Postal Union formula was intolerable: "To apportion £265,494 (6,000,000 gold francs) among 32 States was, however, a very different matter from that of dividing 125,000 francs (the annual expenditure of the Postal Union) among 81 contributors." About three more zeros would bring the quotation into modern perspective.

guise itself affects the outcome of the bargaining, it must be taken at less than face value.

The International Monetary Fund and the World Bank

As episodes in the evolution of national quota systems, the Bretton Woods institutions deserve mention. Although the criteria behind the Fund and Bank quotas were more elaborate—involving trade, foreign exchange, and national income—they were less comprehensive in their philosophy than the United Nations concept of “capacity to pay.” In the former, “need” and “capacity” related only to the need for, and the capacity to contribute, foreign exchange rather than the need for higher living standards or the capacity to absorb a reduction in them. While one may question whether there is any logical basis for considering need and capacity except in relation to ultimate ends as reflected, for example, in the standard of living, it has to be recognized that the Fund was not devised to redistribute income but to make an international payments system work. The financial arrangements were to provide necessary flexibility in international payments to keep the “rules” from being broken or bent. This purpose is even more clear in the quotas of the European Payments Union, which were simply proportionate to the volume of trade.

NATO and the Marshall Plan

The most ambitious plan for negotiating “equitable” contributions was what came to be called the “burden-sharing exercise” of the North Atlantic Treaty Organization (NATO) during 1951. This unrealized venture was something of a successor to the problem of dividing aid under the Marshall Plan, and it may therefore be helpful to look first at the latter as an effort to perform taxation in reverse: to distribute benefits in accordance with some concept of need or equity.

The criterion for allocating Marshall Plan assistance has sometimes been described as the “dollar deficit.” But since the dollar deficits were subject to control by governments and were limited by government estimates of foreign exchange availabilities, this statement begs the real question: how were the balance of payments deficits apportioned among the recipients?

No agreed formula—or even any general set of quantitative criteria—for the division of Marshall Plan aid was ever developed either by the Organization for European Economic Cooperation (OEEC) or within the U.S. Government. A number of “considerations” were treated as relevant, but it is difficult to find any explicit weights attached to them in the various decisions and agreements. Nevertheless, at a very ele-

mentary level, it is possible to look at a few potential criteria to see whether these played a role.

For example, there was no attempt to distribute aid so as to equalize incomes in all countries. Nor was there an attempt to maximize the aggregate income of the countries taken as a group. The strongest, and continually recurring, consideration was the use of the prewar level of income of a country as a bench mark from which to measure "recovery" and sometimes as a measure of "normal" inequality of income among countries. This standard was never, and could not have been, erected into an explicit principle for it could too easily be charged as freezing an inequitable status quo, to say nothing of practical questions of choosing the appropriate prewar year. All that seems to have commended it was the absence of any competing criterion. The convenience of taking historical periods as points of reference was illustrated by one of the few quantitative criteria ever established by the OEEC: namely, the very short-term goal that consumption levels in each country in 1948 should be at least as high as in 1947. What probably made it tolerable to use historical income levels as even a rough indication of a "proper" distribution of income among countries was the emergency character of the Marshall Plan itself, focused on recovery and avowedly temporary.

In NATO, the search for an equitable distribution of the defense burden received emphasis from the desire to separate physical tasks from financial contributions. Among the ambitious principles of NATO were, first, "balanced collective forces" (meaning that the appropriate balance among services should be achieved for NATO as a whole rather than individually by each country) and, second, the allocation of military production on the basis of efficiency in production and strategic location. But productive efficiency and the strategic and political factors affecting the raising of troops would only by coincidence allocate the burden in an equitable fashion if each country financed its own physical effort. An equitable sharing of this burden could be achieved only if the financial costs could be rearranged among the countries. Even without any inter-country compensation payments, the national contributions to defense would have been the subject of negotiations among the participants; but the need for an agreed formula, or at least an agreed set of quantitative criteria, was even greater if financial contributions were to be separated from physical tasks.

The burden-sharing exercise itself never took place, at least not in a manner that rose above the level of *ad hoc* negotiation. Nevertheless, the negotiations themselves raised many of the questions that a formal distribution of the financial costs would have raised. Some of these were already foreshadowed by the Marshall Plan, the UNRRA, and other

programs, but several additional considerations assumed a prominence deserving mention.

A major concern was the existing level of taxation in each country. Countries with high ratios of taxes to national income claimed a lesser ability to make further contributions. This position did not arise from an unsophisticated confusion between government revenues and national incomes. Rather, it reflected the fact that there is more to collecting taxes than finding incomes to tax. Indeed, Congressional committees in this country have shown a special interest in the ratio of taxes to national income in the participating countries. A preoccupation with the "tax burden" is not surprising in those who have to legislate taxes themselves.

Another important consideration was the evaluation of a country's contribution. This problem had already arisen in minor fashion and in a limited sense during the UNRRA program, when a distinction had been made between a country's contribution in its own currency and a contribution in the form of foreign exchange. The solution in UNRRA, not adhered to in practice, was to require up to ten percent of each country's contribution to be in convertible currency. NATO had this evaluation problem in much more serious form, including the evaluation of a country's contribution of men in armed service.

A third problem was that of "overlapping jurisdiction." Some countries in NATO had defense commitments outside the North Atlantic area—France in Indochina, Britain in the Middle East and Far East, the United States and Canada in the Western Hemisphere, and so on. Furthermore, in some cases parts of a country's contribution are exceedingly difficult to allocate by area or specific responsibility: the British Navy or the United States Strategic Air Command. All countries had some military forces or equipment intended primarily for home defense; were these to count? And if some countries were receiving assistance outside the NATO program, was it to be treated as an enlargement of national income, as a deduction from the country's contribution, or as not relevant?

While NATO has managed so far without any agreed rules for country contributions, the European Defense Community would probably have been forced to develop, if not a formula, at least a set of formal criteria. Recent events have eliminated that case study, but many of the preparations for the European Army reflected problems and considerations similar to those touched on above, including the internal tax burden, the use of foreign exchange, and the treatment to be accorded military expenditures outside the Community area.

An important aspect of cost-sharing formulas is particularly visible in the NATO case, although it had been recognized in UNRRA and was implicit in much of the discussion of lend-lease. This is the tendency for a formula, or a set of formal criteria, to lend the character of rights and obligations to what might otherwise be viewed as unilateral charity and so to take some of the dominance and submissiveness out of the roles of donor and recipient. This point is particularly emphatic in the NATO case because each recipient of United States aid was a "net" contributor to the program for common defense, and was in a position to argue that the direction in which "aid" flowed was simply a reflection of the geography of defense. This argument was not only expressed by Europeans, but was used by the Executive Branch of the U.S. Government in persuading Congress, first, that we were contributors to a multilateral program and were not merely extending voluntary assistance, and, second, that the disproportionate European contribution of manpower to North Atlantic defense offset our disproportionate contribution of capital equipment to the defense forces. This consideration even entered the arrangements for Germany's financing of Allied occupation costs during the NATO period; occupation costs became a less sensitive subject with a country about to be taken on as ally when they could be construed as a contribution to defense and when the criteria applied in negotiation could be identified with the considerations that entered the NATO discussions over the size of defense efforts.

Note must also be taken here of the dual role precedent has played in the development of cost-sharing arrangements. One is to constrain subsequent developments by the force of prior suggestion or prior commitment as to general principles; the other to constrain the negotiators themselves through an awareness that precedent is being established.

The European Payments Union agreement provides a curious, though substantively unimportant, illustration of both these roles. The Union received a grant of funds from the United States and therefore had some "net assets." The question of how to distribute the net assets upon liquidation had to be resolved. But the logic of the Payments Union contained no very relevant criteria, the negotiators were in a hurry to finish, and the potential value of the net assets was apparently not taken very seriously because the United States retained an option to intervene. Any convenient precedent would serve the purpose.

For the sake of solution, a set of proportions was borrowed from a then current OEEC recommendation on the distribution of dollar assistance for that year. The ingenious quality of this solution was that, being almost completely arbitrary, attached to some ephemeral numbers, and borrowed from a fairly irrelevant context, it committed no