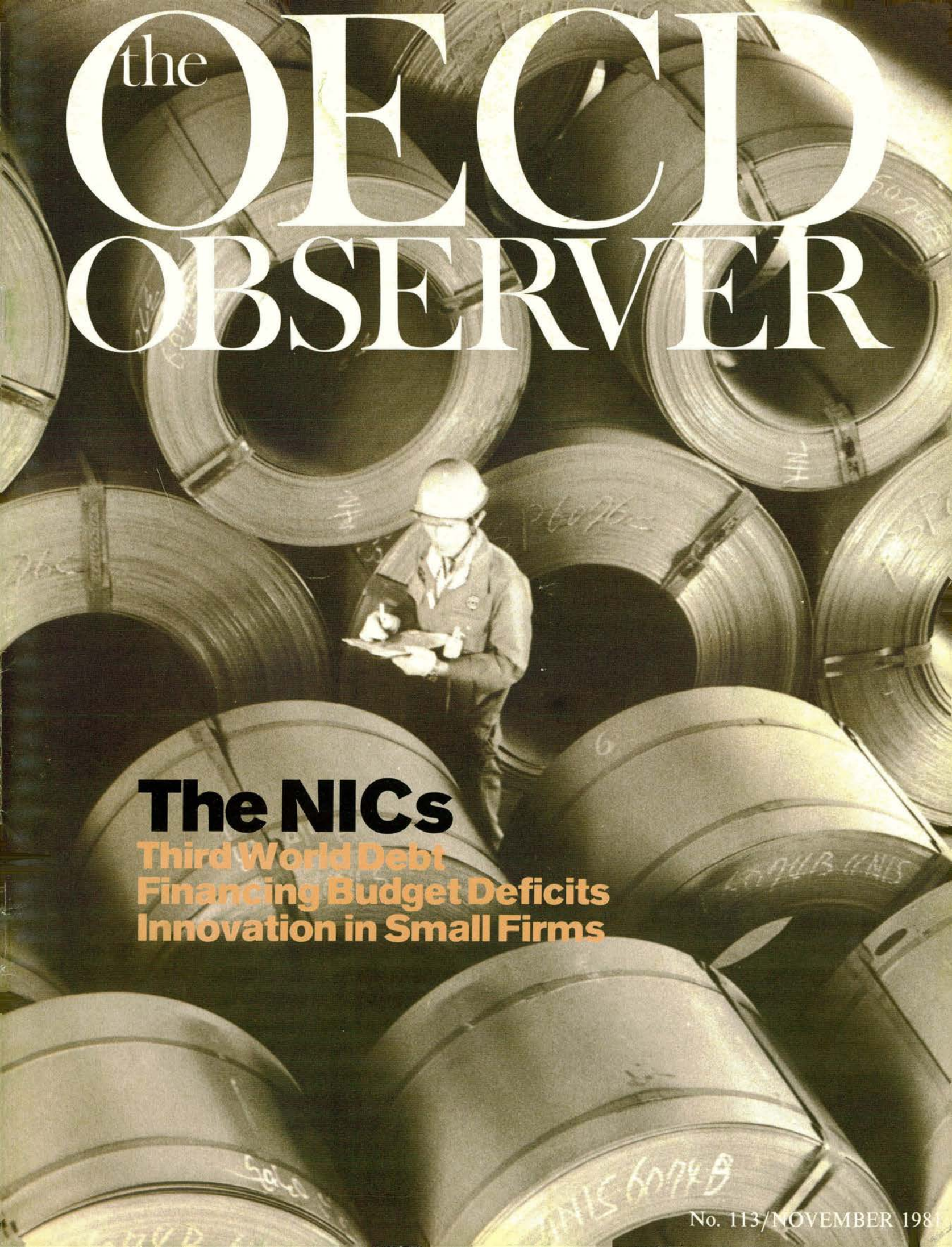
the OECD OBSERVER



The NICs

Third World Debt
Financing Budget Deficits
Innovation in Small Firms

No. 113/NOVEMBER 198

Contents

Cover: *Pohang steel mill, South Korea.*

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The Third World- Aid and Trade

In his valedictory personal report on development cooperation, the DAC Chairman observes that there can be little doubt about the scarcity of official development assistance (ODA) even though in real terms it is rising by some 4 per cent a year.

ODA, of course, is only one way in which the richer countries contribute to the development of the poorer. The *OECD Observer* underlined, in its September issue, the growth of private investment and the new forms it is taking, and the role of private aid by voluntary non-governmental organisations (NGOs). But although private profit-seeking investment is growing faster than ODA, it tends to by-pass the basic development needs of the poorest countries, where there is no immediate profit. And although aid by NGOs, with its comparative freedom from political trammels, can be highly advantageous, it amounts to only 10 per cent of ODA, and its relative importance seems unlikely to change substantially in the next few years.

The role of ODA is likely, therefore, to remain crucial even if present economic circumstances seem little conducive to its accelerated growth. The battle against inflation makes it difficult for most OECD countries to employ all their labour all the time. This is one of the reasons why budgets in donor countries are under pressure, and it isn't easy for all governments to exempt development aid from the overall budgetary constraint. The DAC Chairman draws attention to the consequential need to ensure that the aid that can be obtained is used to the best advantage, and lists seven major problems on which aid managers need to determine their attitudes.

To ensure that concessional aid goes principally to the countries most in need of it looms large in this list. The question of how far a given volume of aid should be disbursed bilaterally, or channeled through multilateral agencies, is another issue of importance, and the article of the DAC Chairman spells out some of the special advantages of the latter.

Development depends, overwhelmingly, on indigenous effort by the developing countries themselves. This immediately raises the question of how far donors should make aid conditional on policy decisions in the recipient countries. The DAC Chairman underlines the advantages that the multilateral agencies can have in this highly delicate political area.

When development financing takes the form of loans, Third World debt rises. And when interest rates rise, the cost of servicing the debt is pushed up further. Is debt now reaching a danger point? An article in this issue suggests that currently there is room for neither complacency nor alarm on the debt issue. It also suggests that a simple arithmetical approach to the question can be misleading. Much of the recent increase in debt is the direct reflection of inflation. In real terms, debt probably hasn't risen faster than the Third World's GNP. And both debt and debt service are heavily concentrated on the more advanced developing countries, or on certain oil producers, with reasonable prospects for external earnings or for rolling over amortization obligations through new borrowing. For the most part, low income countries' debt is at highly concessional interest rates, and their concern is not so much the rising cost of debt service, but falling demand for their exports associated with severe monetary policies and high interest rates in industrial countries.

The arithmetic of debt has to be watched. But the viability of the situation depends less on the statistics of debt growth than on the uses to which the debt is being put – the extent to which it is used for sound development and adjustment rather than for consumption and the displacement of domestic savings.

Of prime relevance in judging the position of the Third World is the extent to which developed countries are keeping their markets open to the industries that the Third World is building up. It is being argued in some quarters that the threat to advanced OECD countries from exports by the newly industrialising countries (the NICs) is such as to justify an intensification of trade barriers. In 1979 the OECD Secretariat published a study which sought to put trade trends into perspective. Its message was that, although adjustment problems had increased in certain sectors in the industrialised world, other sectors were profitting from higher exports to the Third World, and that rising trade in manufactures should prove highly beneficial to both worlds. The study has now been updated, and its results are summarised on pages 12. The message does not seem changed by the later figures.

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Why do countries provide aid? The question is of more than rhetorical importance to the aid manager designing his future policy, and to the voters who provide the resources. The DAC Chairman lists reasons which range from the strategic to the moral: defence and access to essential raw materials are instances of the former, the desire to love one's neighbour like oneself of the latter. Many existing or potential donors, however, may be increasingly impressed by a third type of reason – recognition that the well-being of the planet is now indivisible. All parts of the world will suffer if development is insufficient and inefficient. The disturbing effects of a Third World in which, for example, deforestation was increasing and agricultural yield declining would soon rub off on the industrialised countries themselves. The old term *enlightened self-interest* may still be applicable – but the concerns which it covers are new.

Aid Issues - 1981 and Beyond

by John P. Lewis,
Chairman of OECD's Development Assistance Committee (DAC)

Disappointment

1980 was a disappointing year for the cause of development co-operation. In some respects 1981, at least until shortly before this writing, was worse.

Global negotiations

In the first half of this year, the pessimistic prospects for formal global negotiations with which the year had begun were borne out. A new element of uncertainty was introduced by the scepticism with which the new United States Administration addressed what had appeared to be the established agenda for North-South accommodation. By late spring something that many might previously have singled out as the one worst set-back that could befall aid to the poorest countries had actually occurred, at least temporarily: IDA, the World Bank's soft-loan window, had ceased making new commitments, its authority to do so having run out.

Internal policies in the developed countries

Inflationary recession in the OECD countries, the intensification of which had imposed binding effects on budgeting and on policies in favour of the developing countries in 1980, persisted. Especially in the United States these effects were accentuated by higher defence budgeting and more rigorous domestic economic policies. Elsewhere they were aggravated by the impact of the high American interest rates, which were in part, a by-product of that country's new economic régime, on exchange rates and more generally on the internal economy.

Protectionism

Protectionist pressures against developing-country imports mounted in the OECD countries. By mid-year, the latter were looking towards a new Multi-Fibre Arrangement which, if the more protectionist-minded among them have their way, could further reinforce barriers to textile and clothing imports from developing countries. This would bear heavily, not only on those countries which have become major exporters, but also on some of the poorest, least-industrialised developing countries, which have recently been trying to promote such exports.

OPEC aid

No major breakthroughs in OPEC assistance to the oil-importing developing countries materialised. The rates of aid of the capital-surplus exporters of oil remained high. But a variety of political and other internal difficulties within OPEC impeded agreement concerning any of the grander initiatives that had been suggested.

Positive Developments

Thus there has been much in the happenings – and non-happenings – of 1981 to discourage partisans of development promotion. Yet, psychologically, the year was not as bad as 1980: it began with lower expectations. Moreover, a number of positive elements of development co-operation held their own or advanced.

DAC aid flows

This was conspicuously the case with DAC aid flows, the perception of which always lags behind the fact because of the time it takes to assemble and collate the numbers. Thus in June 1981 we learned that in 1980 DAC Members' official development assistance (ODA) had, in real terms, exceeded that of 1979 by 9 per cent, raising Members' collective ODA/GNP ratio from 0.35 to 0.37 per cent. Looking ahead, Japan has set itself a new aid-doubling target in nominal terms and hopes further to improve its ratio. Germany will at least sustain its substantially improved ratio. Of the DAC's four "frontrunners", Denmark and Norway project substantial increases in their high ratios; the Netherlands and Sweden plan, at minimum, to maintain theirs. Canada, Italy, Finland and Switzerland are committed to higher ratios. The new French Government projects a substantial increase in its ODA. The collective near-term prospect turns heavily on the United States, but one's best guess is that DAC ODA may not fall off much from the trend of 4 per cent annual real growth that it recorded during the 1970s (roughly double the growth rate of the 1960s).

Strengthening the IMF

Various measures announced late last year to enhance the capacity and readiness of the International Monetary Fund to ease the nearer-term balance-of-payments problems of developing countries took shape and began to operate in 1981. The Fund augmented its resources with a large Saudi Arabian loan (coupled with some

Two of the four aid frontrunners, Denmark and Norway, project substantial increases in their already high ratios of aid to GNP. These two countries have been helping to build a Nordic agricultural research centre in Tanzania, shown above.

further enhancement of Saudi representation in Fund governance). After debate, the proposal that compensatory financing by the Fund be extended to developing countries confronted by sharp rises in their food-import bills (whether caused by internal crop failures or international price surges) was accepted. Implementation, however, is to be by incorporation into the existing Compensatory Financing Facility, not by way of a separate food facility.

Recycling

With the help of this reinforced IMF, including the psychological reassurance thus provided, the international financial system continued to cope with the massive recycling of oil-exporter surpluses to a fairly broad array of oil-importing developing countries. The system remained centred on the mediation of OECD-based commercial banks but also involved other instruments and flows and was aided by the "Paris Club" which, in disposing of certain countries' debt in orderly, non-panicky fashion, prevented serious over-extension by these countries, but it needed further strengthening and better articulation; and the adjustment burdens it imposed on the poorest and least creditworthy countries cut too deeply into their access to essential imports. But the recycling system did not come close to collapse.

Food and energy

Schemes for improving the stocking and distributional aspects of food security remained in the talk stage, but the talk was further focused. Similarly, there has been a continued policy priority on energy support for developing countries. Energy has turned out to be the fastest growing sector of bilateral aid programmes. Non-concessional support, mainly in the form of export credits, has also been growing rapidly. Although the chances for establishing an Energy Affiliate of the World Bank now seem greatly diminished, the Bank still hopes to be able to expand its energy support programme significantly, and to do so increasingly through co-financing with the private sector. The Nairobi Conference on New and Renewable Sources of Energy turned out to be fairly non-confrontational and gave a further important impetus to improved international energy co-operation which is bound to bear fruit in the years to come.

Science and technology

During the middle months of the year, both the wealthier OPEC countries and a number of the DAC donors were impressed by an unorthodox initiative taken by a group of ten oil-importing developing countries. This group, setting aside the 77's bloc mode of dialoguing, sent a team of their ministers on tour to make a reasoned

THE RATIONALE FOR AID — BEYOND SOLIDARITY

The rationale for aid has not been much discussed because it has been considered an issue that could easily lead to a philosophical quagmire. But at a difficult time for aid the chairman of the DAC felt that the question must be explored and will do so in this year's report to Member countries. He gives three types of reasons of which the last has increasingly come to the fore in recent years.

National Interests

National self-interest as traditionally construed can reflect strategic considerations: economic aid, like military assistance, can be used to strengthen Third-World allies or can be used indirectly to facilitate the donor's defence installations or heighten recipients' resistance to competing blandishments. It can reinforce or improve donors' access to strategic materials.

Aid can be motivated in part by comparatively straightforward political and/or ideological purposes: to influence behaviour in multilateral fora, to strengthen donors' cultural and historical ties with particular regions, including former colonies, or (aside from the utilitarian outcomes) to propagate social models on which the donor places intrinsic value (personal liberties, parliamentary democracy, private enterprise, socialism, Islam).

Finally, of course, aid can reflect the donor's commercial and economic self-interests: via tying or subsidised export financing it can promote his exports; it can facilitate the outreach of his private investors; it can improve his access to needed materials, even if they are not literally "strategic"; and in a macro sense he may see concessional as well as non-concessional transfers as a way of reflating a languishing domestic economy.

Humanitarian, Moral and Ethical Considerations

These are most evident in the case of sudden catastrophes abroad — natural or man-made. But humanitarian motives are also reflected in the way nearly all donors in recent years have demonstrated increased concern for the poorest countries, for the basic needs of the poorest people in those countries, and for the promotion of broad popular participation in the development process.

The comparative importance of the humanitarian drive varies from time to time and among donors. Indeed latterly, enlightened, intelligently pursued humanitarianism has become so characteristic of the DAC's four "frontrunning" Members — the Netherlands, Norway, Sweden and Denmark — that this humanitarianism itself has become self-rewarding (in a wholly honourable fashion): it has strengthened their voice and influence in international fora. Yet at all times, and in the cases of all the traditional donors, the per se *social-justice concerns of certain of their interest groups, certain sections of their parliaments and portions of their bureaucracies are one of the forces driving their development policies.*

Maintaining a Viable Global System

Intellectually, the idea of keeping the planet a viable place for individual and nation-state interaction is not new. Yet since the late 1960s, awareness of the finiteness, of the increased interdependence, and therefore of the heightened fragility and vulnerability of the global system has burgeoned. The urgency of a whole set of issues is now recognised. These include the world's needs, to:

- *halt and, where possible, reverse environmental degradation*
- *halt the growth of global population sooner rather than later, and by human means*
- *achieve a secure balance between world food needs and supplies*
- *by means of conservation and the development of renewable substitutes, to reduce the rates at which non-renewable natural resources are being exhausted*
- *bring energy demands and supplies into sustainable balance*
- *render and keep the world's trading, financial, and monetary systems efficient and viable.*

How this complex of global issues is labelled is not important. What matters is that these issues should play a greater and greater role in the aims that countries assign to their aid policies.

AID RECEIPTS – 1979

ODA from all sources[1]
by selected developing countries and groups[2]

	ODA			GNP per capita ($)	Population (million)
	receipts net ($ million)	as a % of GNP	per capita ($)		
Least-developed countries	4,965	8.74	19	212	267
India	1,370	1.08	2	193	658
China	116	0.05	–	230[5]	965
Other low-income countries[3]	5,949	4.44	11	246	543
Middle-income countries excluding Israel and French DOM/TOM[4]	11,559	0.72	13	1,808	890
	9,032	0.57	10	1,790	885

– *Negligible.*
1. *No allowance made for ODA disbursements other than to a specific recipient country (e.g. regional projects, amounts reported as "unallocated").*
2. *ODA from DAC countries, OPEC countries and multilateral organisations.*
3. *Source: OECD Secretariat estimates based on IBRD World Atlas. The low-income countries are here defined as those with an average per capita income in 1979 of less than $500.*
4. *Overseas departments and territories.*
5. *1978.*

appeal for better funding of science and technology for development.

Trade

Despite protectionist pressures, the OECD governments at the Ottawa Summit and elsewhere roundly reasserted their commitment to improving the openness of the markets they offer developing countries, and some acted in this vein.

The least developed

The OECD governments saw the UN Conference on the Least-Developed Countries held in Paris in September as an occasion for shaping useful selective initiatives.

As a group, DAC Members found themselves tightly constrained, but also genuinely uncertain of the developmental utility of stepping up the volumes of aid flows to the LLDCs that already were growing at 7 per cent annual rates. But in the light of the particular problems and infrastructural (especially human infrastructural) gaps in those countries, DAC Members were ready to engage in as much differentiated and relevant technical co-operation as could be agreed with the least-developed countries.

Dialoguing

As for the more comprehensive dialoguing, the mood also changed. At Ottawa the leaders of the seven large OECD countries affirmed their readiness "to participate in preparations for a mutually acceptable process of global negotiations" (albeit with that term uncapitalised) "in circumstances offering the prospect of meaningful progress". There was renewed emphasis on North-South interdependence and, in some contrast with the same group's communiqués from Tokyo and Venice in the two preceding years, on co-operating with the members of OPEC on matters of mutual interest rather than blaming the oil exporters for contributing to the world's recent economic problems. This co-operation is to include the development of the oil-importing developing countries.

Cancún

At the instance of President Lopez Portillo of Mexico and Chancellor Kreisky of Austria, who decided to pursue a proposal made by the Brandt Commission in early 1980, an *ad hoc* summit of the heads of state and government of twenty-two countries – North and South, oil-exporting and oil-importing, from Asia, Africa, Europe and the Americas – was arranged for Cancún, Mexico, in late October.

Uncertainties in the Outlook

The biggest anxiety lurking just beneath the surface of DAC deliberations in recent months has concerned the part the United States will play in the collective development assistance effort over the medium term of the 1980s. The issue should not be exaggerated. In no case, either by word or deed, is the United States dropping out of the aid business – multilateral or bilateral. Nor is it isolated in a simple or extreme way. Nearly all its positions on particular North-South questions including aid have been shared by some and in many cases by all or most other members of OECD's Development Assistance Committee. A number of the latter have defended the priority the United States now is assigning to "getting its own economic house in order". Operationally, the United States aid agency continues to work closely with, and to take fresh co-operative initiatives vis-à-vis, other donors. Its analysis of development processes and sectors as well as of aid procedures remains among the donor community's more knowledgeable and professional. Substantively, the United States' emphasis on agriculture and rural development, population and health, women in development, basic needs of low-income groups and, more recently, on better mobilisation of constructive external private inputs to Third-World development resonate well with other donors, including the most progressive "frontrunners".

Yet the following facts are of concern to other donors. The United States, with Switzerland, is one of two DAC Members which never have accepted the target of 0.7 per cent of GNP for ODA even as a goal. The United States ODA/GNP ratio (if one omits a low-side aberration in 1979 and a resulting high-side one last year) has settled latterly into the 0.25 per cent range, far down the DAC list, where it is due shortly to be overtaken by Finland and Italy.

On the basis of existing indications (which are not, however, firm) the likeliest direction for the United States ratio in the next two or three years would appear to be somewhat downward, not up. And because of its size (it accounts for about 35 per cent of DAC Members' GNP), the United States will continue to exert a powerful pull on the collective performance. This is the purely arithmetical side of the other donors' concern.

In the wake of the American delay in replenishing IDA (for the sixth time) at what the other donors had understood to be the agreed scale and pace, they are deeply worried about what could be the reverberating effects of a United States shift away from the multilateral agencies. These worries extend beyond the sixth replenishment, to the United States' posture towards future multilateral replenishments and contributions.

But the concern of the others is also broader and, in part, qualitative: many have been at pains in internal DAC discussions to urge that, unless and until the United States resumes a greater degree of leadership in the field of development promotion, the thrust of aid in the 1980s will not achieve its feasible potential. What they have in mind is not a sudden surge of American ODA to the 0.7 per cent target but a convincing advance in United States aid volume coupled with the return of the development priority to a more central place in the array of American objectives.

The prospects in this regard are not

necessarily bleak. They depend heavily, of course, on further American assessment of priorities, but they depend too on how successful other donors are in finding ways to accommodate the greater diversity of purposes now animating aid (including that of the United States) while still maximising the pro-development effects of the common effort. Meanwhile, how the United States' role evolves and certain other critical issues outlined below will have a considerable effect on the shape and impact of aid in this decade.

Seven Critical Issues

Issue No. 1 – *How central and distinctive is the aid instrument?*

How much development assistance can accomplish in the 1980s will depend in part on how important a policy instrument it is seen to be. Economic aid certainly is a relatively small instrument in budgetary terms. It always has been – for all donors. Even the Marshall Plan was a *relatively* small budgetary claimant. This is precisely one of the hidden strengths of the instrument: it is capable of being responsibly insulated from general budgetary disciplines if one has the political will and capacity to do so.

Issue No. 2 – *The multilateral-bilateral balance*

During the 1970s, DAC Members' contributions to multilateral aid institutions and agencies rose much faster than did their total ODA. There has been a widespread impression (aggravated by questions being raised by the new United States Administration and in the United States Congress) that a painful crunch is coming, that unsustainable growth in multilateral programmes will have to be reconciled, not only with slower total ODA growth but with the determination of donors to reinforce their bilateral efforts.

In fact, the anticipated reconciliation has already begun. A marked slow-down in DAC contributions to the multilateral agencies appears to have been underway since 1978 – at the hands of the multilateral agencies' best friends, i.e., those donors channelling the highest fractions of their GNP into multilateral ODA. Even with reasonably conservative assumptions about total ODA availability, it looks as if something approaching what the existing multilateral agencies are likely to be asking for could be accommodated within their present fraction of total DAC aid.

This last is good news. It means that the maintenance of a viable multilateral-bilateral balance may not be as painfully difficult as we had feared. Even this optimistic estimate, however, suggests very little aggregate room for new starts – either new agencies or major new programmes within agencies – on the multilateral side.

The stakes involve much more than, as it were, numerical architecture. Multilateral programmes collectively are better than the combined bilateral programmes in channelling resources to agricultural development. A larger fraction of their flows goes to the low-income developing countries, and they carry most of the burden of engaging recipient governments in dialogues concerning needed changes in the latter's policies.

Issue No. 3 – *The volume-distribution trade-off*

During the past couple of years pragmatic analysts of aid prospects have become progressively inured to diminished forecasts of aid volume. But we have not remembered equally that, under the principles respecting the preferred distribution of scarce ODA to which virtually all donors broadly agree, every lowering of sights as to ODA volume should be accompanied by a further effort to concentrate what is available on the neediest recipients.

The present guess is that, even within the constraints of the 1980s, volume solutions to the volume-distribution dilemma will be easier to come by than the alternatives.

Nevertheless, it is true that conscientious donors will be struggling to improve the quality of their inter-country allocations.

Indeed the perfect solution to the volume-distribution trade-off is to improve distribution and volume simultaneously.

Issue No. 4 – *What to do about India and China?*

One of the established principles of inter-country aid allocations is almost never articulated. It is that, while the allocations tend to respond positively to poverty and therefore (since poverty is inescapably a condition of individual people) to low income per capita, they systematically discriminate against countries with super-size populations. Until now there has been only one country – India – in the set of such recipients. Its population has been four times larger than the next largest aid recipient (Indonesia), as large roughly as the combined populations of Latin America and Africa.

Throughout the history of development co-operation, India has been the object of very serious and, for the most part, sustained aid efforts on the part of many DAC, multilateral and other donors. And yet the rule has held – invariably: throughout the 1960s and 1970s and now into the 1980s, aid per capita to India has been just about the lowest of that to any aid recipient of the time, while, simultaneously, its income per capita also has remained near the bottom of the list. (See Table.)

But now, at the same time that the Indian case itself has become less quiescent (the second oil shock is taking a fearful balance-of-payments toll, the remittance flow from the Middle East has flattened, the weather is less favourable), the world's other, even more, vastly populous country is entering the list of aid recipients. The one-member set of outsize recipients has doubled.

Donors collectively cannot afford to march much farther into the 1980s without a more explicit rationale for coping with this situation. In the present view, this "discriminatory" principle is, as to its direction, appropriate and defensible. It can be defended on sheer grounds of expediency: there is no way under any plausible aid projections for the 1980s that India and China could be given their "fair shares" of ODA, under some formula of inverted income per capita times population, without destroying the effectiveness of the flows to other recipients. But happily there is also a better reason for discrimination: these exceptionally populous economies do have certain inherent developmental advantages – larger, potentially more efficient markets, earlier capacities to accommodate processes involving economies of scale and therefore to build an array of technical and industrial sophistication in the midst of their poverty, and, not the least, earlier potentials for assembling critical, self-renewing, masses of expertise in a variety of skilled occupations and disciplines.

So donors can justify a second, lower standard – as it were, a legitimate degree of discount – for their aid to these two outsize countries. But what they lack now is any rule of thumb, any sense at all of how much this discount should be. And lacking it, what is now threatening to happen as China enters the competition for scarce ODA would probably be the least fair outcome of all: the preference of other recipient countries, already tacitly accepted by some donors, is that whatever China gets should come out of India's share.

There is little ready-made theory on which a differentiated rationale for economic aid to China and India could be based. Nevertheless donors should find a way to set a reputable advisory group to work on the problem. In the absence of some guidelines on this score, aid allocations in the 1980s will be more jumbled as well as less equitable than they need be.

Issue No. 5 – *What kind of special treatment for which least-developed countries?*

The U.N. Conference on the Least Devel-

oped Countries held in Paris in September succeeded in agreeing on a Substantial New Programme of Action for the 1980s. This was a notable achievement, given the brief time available and the participation of all U.N. Members who had approached the Conference with a variety of motivations and attitudes. The fact that agreement was reached, attributable in good part to the chairmanship of the French Minister for Development Co-operation, reflected the determination of two principal sets of actors, the OECD countries and the least-developed countries themselves, to reach practical compromises.

Most attention has been focused on the paragraph in the Special New Programme of Action setting out the intentions of donors to increase the volume of their bilateral and multilateral ODA to the least-developed countries, but this paragraph, and the significant efforts it implies for many donors, should not distract attention from the remainder of the document, which reflects an exceptionally detailed convergence both of diagnosis and prescription concerning the least-developed countries. Not every problem cited by the Special Programme is true of every least-developed country, nor could any one of the latter apply all the policies suggested. But the articulation of the Programme does mean that any least-developed country with a particular sectoral or structural problem, or a particular problem caused by aid procedures, now knows that donors recognise its importance and are prepared to help in dealing with it. Given this agreed itemization of concerns, one critical issue aid donors will need to address further during the balance of this decade will be the kinds of follow-up on behalf of countries designated as the least developed that will be as helpful as possible to those countries, yet consistent with a balanced over-all aid effort.

Another issue, now that the Conference and its outcome have further established the officially designated least-developed group as favoured claimants of aid, concerns the list itself. The list has been subject to some, but limited, changes since it was first established in connection with the United Nations Second Development Decade. Its modification is resisted – by those already on the list, by donors who are not anxious to see the roster of favoured beneficiaries lengthened, and by certain other members of the Group of 77, who do not wish to see this case of accepted "differentiation" broadened. Yet it is quite clear that, with the passage of time, the existing list contains certain anomalies. Under the three accepted criteria for selection as a least-developed country (income per capita, degree of industrialisation, and degree of literacy) some of the present incumbents no longer belong on the list, while certain other countries could appropriately be added. Moreover, in the light of data and knowledge that have accrued during the past dozen years, the criteria themselves could be improved.

Until now India has been the only aid recipient with a supersize population. Now an even more populous country is entering the list – China. Above, *the streets of Peking.*

It would appear, therefore, that donors who propose to give weight to the least-developed category as such in their aid allocations should seek that, within the United Nations framework, a thoroughgoing review of the least-developed list be made before the decade is much further advanced – with such a review at the same time encompassing those other, partly overlapping, special country categories (e.g., landlocked, island, food deficit, and most seriously affected countries) that meanwhile have attained some quasi-official standing in various U.N. deliberations.

Issue No. 6 – *OPEC's options*

DAC donors trying to size up the policy terrain in which they will be working during the balance of this decade have a keen collaborator's interest in what participation can be expected from the OPEC aid donors. Moreover, the actions and attitudes of DAC Members may have some infuence on the scale of OPEC aid and, in particular, on the channels through which it is provided.

Although there is little superficial evidence of this in the formal dialoguing between North and South, relations between the two groups of donors have matured a great deal in the past three or four years. Annual meetings between DAC Members and the Arab/OPEC development funds have become a *de facto* institution. These are held at high level, are highly substantive, and involve joint preparation and exchange of documentation. They have led the two sides into quite detailed comparisons of their aid procedures. Both have learned how much they share objectives, perceptions, and problems, especially in Sub-Saharan Africa, the area where their geographic overlap is the greatest. Co-financing between the Arab/OPEC agencies and other donors, bilateral as well as multilateral, has become extensive.

Moreover, the macro relations between the two groups are maturing. On the DAC side there is less tendency than a year ago to blame OPEC for worsened problems of the oil-importing developing countries or to hold the OPEC donors accountable to a different and higher standard of obligation. From their side a number of OPEC members have expressed greater understanding of the constraints on the traditional donors. While the proof lies still mainly in plans rather than decisions, one senses that the stalemate mentality noted last year (see OECD Observer No. 105) has diminished. There is more disposition, if and as a decision can be concerted within one group or the other, to move ahead – hoping for, but not conditioning movement on, a balancing response from the other side.

By now it goes without saying that Members of DAC would like to see the OPEC donors raise their aid in the 1980s: there is little doubt about the scarcity of total ODA compared with the needs, and, other things being equal, any increase in the total improves the chances for particular components to be aimed and implemented more effectively. Thus the size of

prospective OPEC aid is a significant datum for non-OPEC aid planning. Unfortunately, for DAC donors, this aspect of their future is not only hard to influence, it is hard to predict. The traditional donors, however, may have greater influence on how much OPEC aid, including increased aid flows through universal multilateral channels (the World Bank, the regional development banks, IFAD, UNDP, and the other U.N. agencies) rather than to the recipients directly through so-called South-South routes – via either OPEC bilateral programmes or those of the Arabs' and other OPEC members' own limited-membership multilateral institutions.

DAC donors have a considerable stake in encouraging the first of these alternatives. OPEC aid flowing through the universal multilateral agencies is subject to the same disciplines as multilateral DAC aid with respect, for example, to inter-country allocations, emphasis on agriculture, and reinforcement of the multilateral agencies' capacities for engaging in effective policy dialogues with recipients. To maximize OPEC encouragement however, they will need to do two things: first, at times, make matching contributions of their own beyond what otherwise would be their preferred scale; second, and probably more important, share the governance of the multilateral development banks more than they thus far have been prepared to do.

To the extent the foregoing scenario does not work but the OPEC donors nevertheless do expand their aid, going their own (South-South) route, DAC donors certainly will not throw up their hands. The argument above about the importance of the total flow would still hold. But then, under this scenario, the intelligent reaction of all parties would be, along lines already emerging in the bilateral interaction between DAC and OPEC donors, to give redoubled attention to the problem of aid co-ordination.

Issue No. 7 – *How much policy conditioning and by whom?*

The final factor on the present list is of a different order from that of the others. But like some of them it is a sensitive issue hesitantly discussed. And once aid policymakers have sorted out their stances on the matter, it will importantly shape the nature of their programmes in the 1980s.

There is no donor any longer so naive as not to recognise – and respect – the need of every recipient country to retain command over its own policy making. Some bilateral donors have been bruised in their past attempts to attach policy conditioning to their aid, and the rest have observed the bruising of others. Their foreign offices almost without exception have developed an aversion to such efforts: they are undiplomatic, they ask for trouble, and they make few friends.

Yet the unmistakable facts remain that development depends overwhelmingly on indigenous effort; that many developing countries are likely to make little progress towards either self-reliance or improved social justice without policy changes of broadly identifiable kinds – of their own particular design and in their own interests; that ODA in the 1980s will be painfully scarce; but that, on the other hand, it can carry more than its weight if it is provided in a way that, without intruding unacceptably, encourages and assists the adoption and implementation of needed policies.

As they look into the 1980s, a number of bilateral aid managers are mindful of these considerations. They have not yet sorted out all of the operational implications, let alone carried their foreign offices with them. But one implication is quite clear: it would almost be a contradiction in terms for a bilateral donor concerned about this problem not to be concerned also to sustain a fairly robust scale of multilateral aid since capacity to influence policy is a function not only of a donor's analytical resources and style but of the scale of resources he deploys.

Beyond this, however, the bilateral donors have to figure out whether, how, and to what degree they should, in their own bilateral operations, follow and reinforce the policy leads being given by multilateral agencies; whether, as governments, they would wish henceforward to take a more active hand in trying to shape those multilateral leads.

*
* *

How the foregoing seven issues turn out – some of them still half hidden as well as uncertain – will go a long way towards defining the policy space within which development assistance will operate in the medium term.

How Serious is the Third World's Debt Problem?

The sharply rising external debt of developing countries – and the acute debt servicing difficulties of some of them – have given rise to heightened international discussion and to concern over the debt-servicing capacity and future borrowing ability of a number of these countries. OECD has just published a study on this vital subject which is the basis of the following article[1].

"The current debt posture of the Third World gives room for neither complacency nor alarm" the OECD study concludes. Although both external debt and debt service of the developing countries have increased tremendously in recent years, much of the rise reflects inflation. Debt service charges as a proportion of total export earnings have heardly grown because of the rise in exports of major borrowers, mainly manufactured goods from the newly industrialising countries, (see page 12), oil proceeds from OPEC but also non-OPEC countries, and workers' remittances.

This situation may deteriorate, however, in the near future because of depressed world export markets and high interest rates. In fact, the non-oil developing contries are already saddled with unsustainable current account imbalances which they must reduce by strong and comprehensive adjustment policies in order to limit their future demand for credit and the consequent growth in their external debt.

Still, as the OECD study concludes, there is no generalised debt problem calling for generalised solutions: acute debt-servicing difficulties have remained exceptional, have affected only a few countries, and have been efficiently dealt with on a case-by-case basis through multilateral debt renegotiation. The bulk of both external debt and debt service is concen-

1. *External Debt of Developing Countries*, OECD, 1981.

1. THIRD WORLD DEBT

$ billion

Total Nominal Debt[1]					*Source of Lending*	*Annual Debt Service*				
1971	*1978*	*1979*	*1980 prelim.*	*1981 estim.*		*1971*	*1978*	*1979*	*1980 prelim.*	*1981 estim.*
68.8	261.8	308.7	351.0	398	1. DAC countries and capital markets	9.3	49.8	64.6	79.9	98.3
24.7	*49.0*	*53.1*	*57.0*	*61*	• *ODA*	*1.4*	*2.3*	*2.6*	*2.9*	*3.3*
27.5	*85.3*	*100.7*	*114.0*	*128*	• *Total export credits*	*5.2*	*21.0*	*25.5*	*31.0*	*38.0*
16.6	*127.5*	*154.9*	*180.0*	*209*	• *Capital markets*[2]	*2.7*	*26.5*	*36.5*	*46.0*	*57.0*
9.4	105.7	129.9	149.0	172	*of which:* bank loans	n.a.	23.2	32.3	41.0	51.0
10.0	40.2	47.9	56.0	65	2. International organisations	0.9	3.2	3.8	4.9	6.0
3.2	16.4	19.6	23.2	27	*of which:* concessional	0.3	0.8	0.8	0.9	1.0
6.4	13.8	16.2	18.2	21	3. Centrally-planned economies	0.6	1.4	1.7	2.1	2.5
0.4	13.2	15.2	18.5	23	4. OPEC countries	–	0.9	1.4	1.8	2.0
1.0	4.1	5.3	6.5	9	5. Other LDCs	0.1	0.7	0.8	1.1	1.4
–	3.5	4.0	6.0	8	6. Unspecified and adjustments	–	0.9	1.3	1.4	1.5
86.6	**336.6**	**397.3**	**456.2**	**524**	**TOTAL**	**10.9**	**56.9**	**73.6**	**91.2**	**111.7**
					of which:					
					• interest	3.3	19.8	26.0	34.9	46.5
					• amortisation	7.6	37.1	47.6	56.3	65.2
16	*27*	*18*	*15*	*15*	*Annual nominal increase %*	*16*	*38*	*30*	*24*	*22*

1. *Disbursed at year end.* 2. *Bank loans (other than export credits), bonds and other private lending.*

trated on a relatively small number of developing countries – mainly oil exporters and dynamic newly-industrialising countries (NICs).

Poorer developing countries as a group account for only a small part of the debt burden of the Third World, but this pattern masks the fact that in most of the poorer countries the debt burden is increasing, and balance of payments problems are becoming more difficult. For a few – notably India, Pakistan and Egypt – the ratio of debt service to export earnings has been decreasing over the decade; these countries are very large, however, and hence dominate the picture for the poorer countries as a whole.

In any analysis, it is important to focus on the relevant concepts and magnitudes. Nominal debt in itself – even related to other variables, such as export earnings or GNP – is of very limited analytical value. It merely reflects the amount of external loan resources which have not yet been repaid and are therefore still "at work" for development in the borrowing countries. The debt moreover is composed of three main types of resources with very different terms – flows at market terms, subsidized export credits, and soft aid loans.

The loan inflows and the resulting debt are beneficial for the borrowers as long as these flows support productive investment rather than consumption and do not displace domestic savings, and as long as their interest cost is lower than the marginal rate of return on the investment undertaken (both cost and yield expressed in foreign exchange). It is clear, however, that some foreign resources are in fact used for consumption (often to meet pressing social and financial needs) and that future rates of return on investment are often highly uncertain.

Another confusion surrounds the concept of "debt problems", which are in fact usually balance of payments problems. The causes range from external shocks, depressed export markets and bad harvests to excessive imports of consumer goods and a wasteful use of resources. "Debt service" is blamed for these problems because it is a contractually fixed and rigid item in the balance of payments and is treated as a "residual".

The Source of Debt

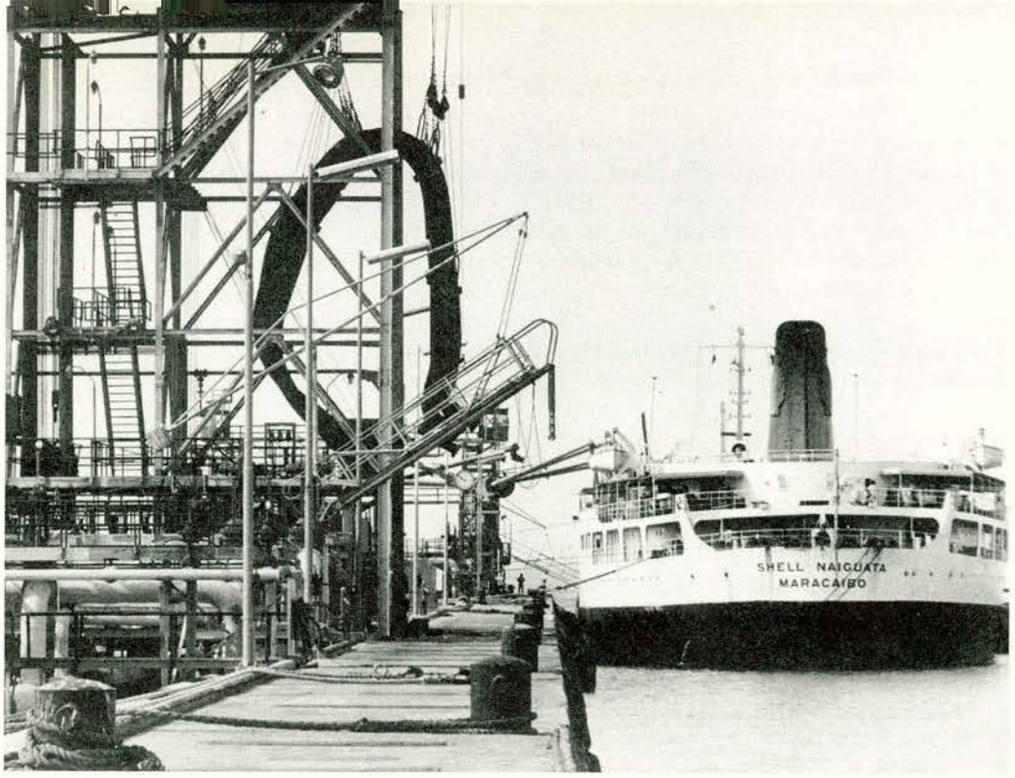
The external (disbursed) debt of developing countries increased from $87 billion in 1971 to $524 billion in 1981 – by almost 20 per cent a year on average (see Table 1). Since 1978, however, this growth rate has diminished, from a peak of 27 per cent in that year to a current rate of 15 per cent. If account is taken of inflation, the recent increase may have been of the order of 5 per cent a year, a rate which is commensurate with the average yearly increase in GNP of developing countries as a whole.

During the past decade, DAC countries and Euro markets have been the source of some 75 to 80 per cent of total debt. Within this sum, the share of private banks and other private financial institutions in DAC countries which lend at market terms has risen from one-quarter to one-half of the total. The share of debt owed to OPEC countries has also increased, from virtually nothing to some 4 per cent, while the proportion of ODA and export-credit debt has diminished. The World Bank and regional development banks have kept their share of about 12 per cent of the total debt of developing countries.

More economically relevant for the measurement of the debt burden is *debt service* – interest plus amortization payment (see right hand of Table 1). This figure reflects the terms of the debt and the annual charge on the debtors' economies. Debt service payments increased faster than debt itself, rising from $11 billion in 1971 to $112 billion in 1981 – a growth rate of some 26 per cent a year on average (though again, there has been a slowdown since 1978). The large increase in recent years is due to:

- the large amount of debt contracted during the first oil price shock
- higher interest rates on private market borrowing
- the prepayment of debt by several developing countries which availed themselves of better market conditions in 1978 and 1979 and reborrowed on longer maturities.

Even within debt service, it is necessary to distinguish between interest and amortization payments. The former denote the



Brazil, Venezuela and Mexico alone account for 30 per cent of total Third World debt service. This pattern is reassuring because these countries have used the borrowed funds to promote their economic growth. Above, *Puerto Miranda, oil port in Venezuela.*

current cost of the debt while amortization payments usually get more than rolled over through new borrowing and thus constitute no net charge on the balance of payments.

Although over the decade the share of interest payments in debt service increased from some 30 to 40 per cent, the current cost of borrowing (as expressed by interest payments on all types of outstanding debt) is still only some 10 per cent in nominal terms on average (hence hardly positive in real terms). The picture varies, of course, greatly among different debtor countries and even income groups.

- For the *low-income countries,* the rise in nominal interest cost on debt was modest (from 2.8 to 4.0 per cent) so that real interest rates remained significantly negative; the average cost of foreign finance is even smaller if the massive inflows of grants are taken into account.
- For the *middle-income countries,* the nominal interest cost on their debt rose from 4.2 to 8.6 per cent – still a negative rate in real terms. →

2. THE 20 DEVELOPING COUNTRIES WITH THE LARGEST DEBT-SERVICE PAYMENTS[a]

Country ranked by average debt service in 1979/1980	*Debt Service Paid*				*Disbursed Debt Year-End*			*Total Reserves Year-End*		*GNP Growth Rate*	*Per Capita GNP*
	1978	*1979*	*1980 prelim.*	*1981 estim.*	*1978*	*1979*	*1980 prelim.*	*1978*	*1980*	*1970-79*	*1979*
	$ billion									*% per annum*	*$*
1. Brazil	8.1	10.8	13.4	16.0	44.2	50.6	56.6	11.9	5.9	8.7	1 687
2. Mexico[c]	7.0	11.0	9.0	12.2	30.5	34.5	42.4	1.9	2.9	5.1	1 592
3. Venezuela[b]	1.6	2.8	5.1	6.8	9.7	11.6	13.2	6.6	7.1	5.9	3 135
4. Algeria[b]	2.0	3.3	4.2	4.6	14.7	17.4	17.8	2.2	4.0	5.9	1 578
5. Spain	3.0	3.2	4.1	4.9	13.1	15.0	18.2	10.8	12.5	4.0	4 338
6. Saudi Arabia[b]	1.8	2.9	(3.5)	(4.0)	2.3	3.1	4.0	19.4	23.6	11.4	7 373
7. South Korea	2.0	2.9	3.3	4.0	12.5	15.6	20.5	2.8	2.9	9.9	1 501
8. Yugoslavia	1.8	2.5	2.9	3.5	11.3	13.3	15.0	2.5	1.5	6.5	2 430
9. Argentina	2.2	1.8	2.8	3.6	7.8	11.3	14.0	5.2	6.9	2.7	2 281
10. Indonesia[b]	1.6	2.3	2.3	2.7	14.5	15.6	17.0	2.6	5.5	6.9	376
11. Chile	1.5	1.6	1.9	2.5	5.3	7.1	8.8	1.2	3.2	3.2	1 781
12. Iran[b]	2.4	1.9	(1.4)	(6.5)	10.6	(9.9)	(9.5)	12.1	10.0	6.4	2 028
13. Peru[c]	0.8	1.1	1.9	2.1	6.0	6.8	6.9	0.4	2.0	2.6	726
14. Egypt[c]	1.4	1.2	1.7	2.0	10.3	12.0	12.7	0.6	1.2	7.5	455
15. Philippines	1.3	1.3	1.5	2.0	6.2	7.2	9.5	1.8	2.9	6.3	601
16. Greece	0.9	1.2	1.6	2.0	4.8	5.6	6.5	1.2	1.3	5.1	3 890
17. Taiwan	0.9	0.9	1.3	1.6	3.5	3.9	4.9	1.5	2.4	9.9	1 802
18. India	1.1	1.1	1.1	1.3	15.9	16.6	16.7	6.8	7.3	3.1	191
19. Morocco	0.6	0.9	1.2	1.6	5.4	6.6	7.5	0.7	0.4	6.1	740
20. Thailand	0.8	1.0	1.1	1.4	2.6	3.7	5.6	2.1	1.7	7.4	592
TOTAL 20 countries	**42.8**	**55.7**	**65.3**	**85.3**	**231.2**	**267.4**	**307.3**	**94.3**	**105.2**		
% of Total LDCs	*76*	*76*	*72*	*76*	*69*	*67*	*67*	*62*	*51*		

a. Next-ranking countries include Turkey (whose original debt service obligations of over $2 billion in 1980 were substantially reduced by debt relief), Israel (excluding military debt), Ecuador, Libya and Portugal. b. OPEC Member. c. Net oil exporter.

• For the (non-European) *newly-industrialising countries,* the nominal interest cost on debt grew from 7 to 13.3 per cent and hence became positive in real terms.

Because of the growing importance of commercial lending in the flows of resources to developing countries, up to 90 per cent of total debt service is being paid to commercial lenders and only some 10 per cent to aid donors and other official lenders (a reflection of the extremely soft terms, low interest rates and very long maturities of the underlying flows).

The Largest Debtors

Third-World debt and debt service are both heavily concentrated on a limited number of developing countries. In 1980, Brazil, Mexico and Venezuela alone accounted for 30 per cent of total debt service. If one adds Algeria, Spain, Saudi Arabia, South Korea, Yugoslavia, Argentina and Indonesia, the share of these 10 largest debtor countries comes to 56 per cent of total debt service. (This group includes 5 major oil exporters and 5 newly industrialising countries.) In recent years, three-quarters of the total debt service has been paid by only 20 countries (See Table 2). This pattern is reassuring as it demonstrates the positive impact of external debt on economic growth and vice versa. Indeed, a considerable number of Third-World countries – particularly the newly industrialising and the oil exporting countries – have demonstrated their capacity to attract significant amounts of external finance (mainly at nonconcessional terms) and have used them successfully to promote their economic growth.

Another interesting phenomenon is the year-to-year variation in the ranking of developing countries according to the amount of their debt-service payments. It is surprising, for example, to see a huge country like India now down to eighteenth on the list, with a drop to an even lower ranking expected in the future. The reason is that India has received external finance on fairly soft terms and has managed its debt well but has not sought, as it might have done, to borrow, external resources on a scale corresponding to the size of its economy so as to support higher growth.

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External debt of the Third World is one of the key economic phenomena with respect to its impact on both the world financial system and North/South relations. As long as developing countries depend on increasing capital inflows, their debt will increase: apart from grants and foreign direct investment, external capital consists of loans, and every dollar of net loan inflow creates a dollar of additional debt. There is thus a non-sequitur between Third World claims for more external resources and their complaints about increasing debt.

Recycling has "worked" in the sense that the balance-of-payments deficits of developing countries have been financed. But this is a tautology: a deficit can only exist if it is "financed". What is at stake is whether the "right" amount of money at the "right" terms goes to the "right" countries. The sustainability of capital inflows and the resulting debt place responsibilities on capital providers and recipients alike. The latter must follow prudent economic and balance-of-payments policies, manage their debt effectively, safeguard their credit worthiness, and assure that resources – both foreign and domestic – are put to productive use. Adjustment to changing economic conditions is unavoidable, but the international community should stand ready to support this process and minimize its social and political costs.

OECD and the NICs: The Current Trade Pattern

How has the emergence on the international scene of the newly industrialising countries (NICs), as dynamic new exporters of manufactured goods affected the economies of the advanced industrial countries? A 1979 OECD study concluded that trade with the NICs has been beneficial to both parties even though it necessitated policies of adjustment on the part of the advanced industrial countries in certain sectors[1]. How has the situation evolved since publication of that study, which was based on available statistics up to and including 1977? The OECD's secretariat has now updated much of the material, revising the figures for 1977 (which were preliminary) and adding information for 1978 and 1979[2].

OECD Imports from NICs: Growth...

The share of NICs in OECD imports of manufactured goods rose from 8.1 per cent in 1977 to 8.9 per cent in 1979, thus continuing the broad trend observed since 1973. However, in this latest period, the share of Brazil and Mexico has proven relatively stable, whereas those of OECD NICs and of the Far Eastern NICs have increased from 1.8 to 2.1 per cent and from 4.8 to 5.3 per cent, respectively.

... and Diversification

NIC exports to OECD countries have expanded to include more products. In the two product groups where the NICs' share of OECD imports was the highest in 1977 (clothing and leather, footwear and travel goods), their importance has stabilized or even declined slightly while penetration of OECD markets by "miscellaneous manufactures" and textiles has slowed down more markedly. In contrast, substantial increases were registered in practically all product groups where NICs were fairly small suppliers in 1977. At the same time there has been a marginal shift recently to other LDC suppliers in commodity groups where NIC shares are levelling off.

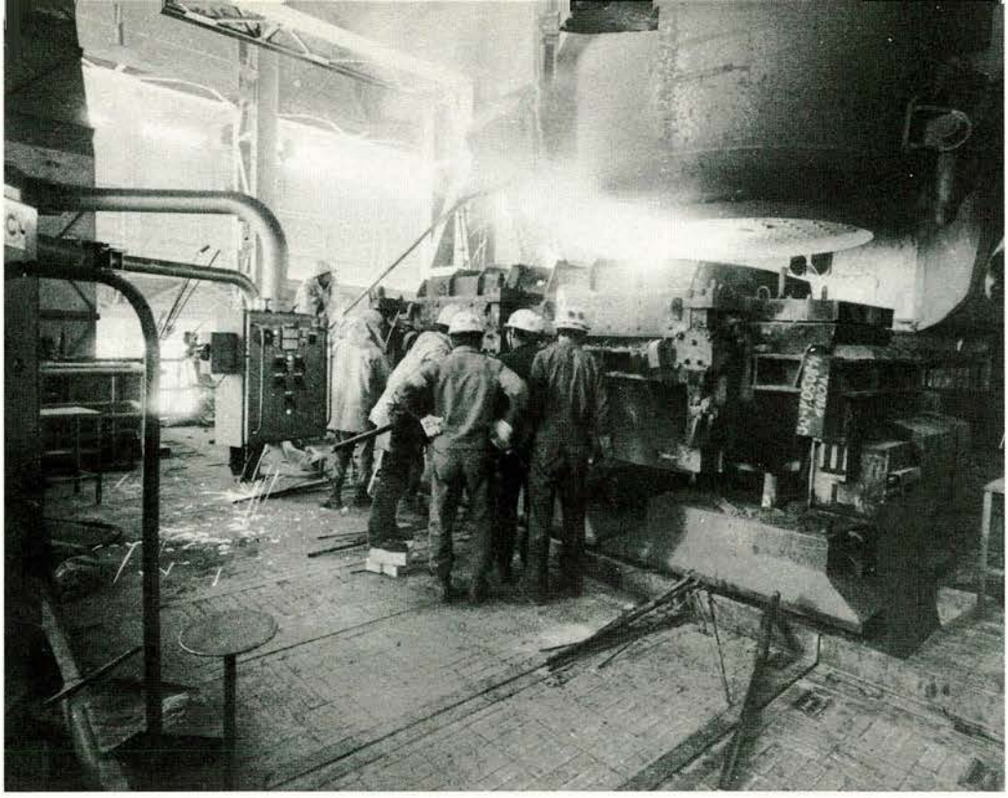
OECD Exports to NICs: An Upswing in Investment Goods

Between 1973 and 1977, there was a shift of OECD exports of manufactured goods to the OPEC countries while the share of NICs declined. This trend was reversed between 1977 and 1979 as the share of NICs increased from 9.3 to 10.1 per cent, with exports concentrated on the Far Eastern NICs, Brazil and Mexico. At the same time the share of OPEC in OECD exports dropped from an all-time peak of 10.8 per cent in 1977 to 8.4 per cent in 1979.

The rising share of NICs in OECD's

1. *The NICs are Brazil, Greece, Hong Kong, Mexico, Portugal, Singapore, South Korea, Spain, Taiwan, Yugoslavia.*

2. *Publications include* The Impact of the Newly Industrialising Countries on Production and Trade in Manufactures, *the* OECD Observer, *No. 99, July 1979 and* The Impact of the Newly Industrialising Countries, *OECD 1981.*



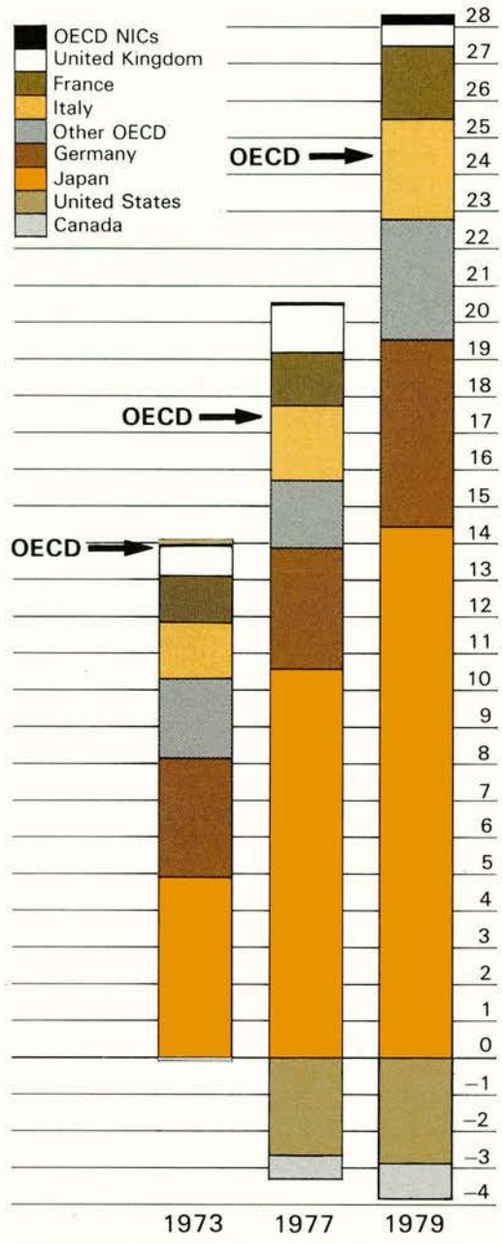
OECD imports from the NICs increased by $22 billion between 1977 and 1979, but exports to them increased much more. Above, *a South Korean steel mill. Korea is the second largest exporter of standard types of steel among the NICs but also imports substantial amounts of high quality steel from OECD.*

markets for manufactured exports is largely accounted for by investment goods. Indeed, the volume of such exports which had been more or less stable between 1973 and 1977, increased by about 16 per cent over the following two years, when they were stagnating on all other export markets.

As for individual OECD countries' dependence on markets of the NICs, there was little change in share between 1977 and 1979, except for the United States where there was a sharp recovery in exports and in the United Kingdom where exports to the NICs fell as they had done between 1973 and 1977.

A. OECD-NICs TRADE BALANCE IN MANUFACTURES

fob-fob – $ billion



OECD – NICs TRADE

Source/destination	Manufactured goods – Total OECD Imports (I) and Exports (E)						Investment goods – Total OECD exports	
	%						1973 = 100	
	1973		1977		1979		1977	1979
	I	E	I	E	I	E		
Canada	4.9	5.6	4.8	4.9	4.1	4.2	99.6	100.6
United States	13.8	12.3	13.1	11.2	12.7	10.6	107.9	120.0
Japan	7.3	2.2	8.8	1.4	8.0	1.8	75.2	101.3
France	8.0	7.2	7.9	6.8	8.2	7.2	111.8	124.4
Germany	19.2	8.9	17.6	8.6	17.4	9.6	118.9	143.6
Italy	6.1	4.0	6.5	3.3	7.0	4.0	95.3	114.3
United Kingdom	6.9	5.6	6.9	5.0	6.8	6.1	93.4	112.7
OECD NICs[1]	1.6	3.3	1.8	2.7	2.1	2.5	96.2	84.4
Other OECD	22.1	24.1	20.9	22.6	19.8	22.2	114.3	113.0
OECD	89.9	73.2	88.4	66.5	86.0	68.2	106.8	114.5
Brazil and Mexico	0.9	2.6	1.0	2.1	1.1	2.4	97.8	119.4
Far Eastern NICs[2]	3.8	3.3	4.8	3.4	5.3	4.1	128.6	171.0
Total NICs	**6.8**	**10.3**	**8.1**	**9.3**	**8.9**	**10.1**	**106.7**	**124.2**
Eastern Bloc[3]	2.1	4.1	2.3	4.8	2.3	4.7	149.7	142.2
OPEC		4.7		10.8		8.4	320.3	248.8
Other devel. countries	2.1	8.1	2.4	8.7	2.6	8.2	139.9	131.1
Other countries	0.7	2.9	0.7	2.6	2.3	2.9	115.9	131.0
World	100.0	100.0	100.0	100.0	100.0	100.0	125.0	128.2

1. *Greece, Portugal, Spain.*
2. *Hong-Kong, South Korea, Singapore, Taiwan.*
3. *CMEA and communist countries in Asia.*

The Balance: Growth of the OECD Surplus

OECD's export surplus with the NICs grew by more than $7 billion between 1977 and 1979 (See Chart A). With the exception of the United Kingdom, the United States and Canada, all OECD countries participated in this growth, although the surplus continued to be heavily concentrated on Japan. In constant prices however, the overall surplus diminished in 1979 for the first time since 1972.

Agreement on Export Credit Terms

Most OECD governments support credits offered by their exporters and financial institutions to potential buyers, and this can be a crucial element in international competition for markets. An important international objective is to prevent the distortion of trade which may result from excessive competition in official support for export credits.

After intensive negotiations at OECD headquarters, twenty-two countries reached agreement on a set of guidelines for government action with regard to such export credits. This "Arrangement on Guidelines for Officially Supported Export Credits" went into effect on 1st April, 1978.

On 1st July, 1980 minimum interest rates included in the guidelines were raised slightly but negotiations for a more substantial increase that would bring the minimum closer to conditions prevailing on world financial markets continued.

In December 1980, there was a deadlock, but following the fresh political impetus given to their efforts by both the Ministerial Council of OECD last June and the Ottawa Summit, Participants in the Export Credit Arrangement met at the beginning of October at OECD with a view to negotiating adaptations of the Arrangement, in particular the level of minimum interest rates.

Several moves were made to achieve a mutually acceptable solution. *Ad referendum* agreement was finally reached among nearly all delegations on a compromise presented by the representative of the Commission of the European Communities. This proposal had four elements:

1. An increase in minimum interest rates in the present matrix, of 2.5 percentage points with one exception credits over 5 years for so-called "Category III", the relatively poor countries; for these the increase would be 2.25 percentage points. This results in the following amended matrix:

Classification of country	*Term of Credit*		
	2-5	*Over 5-8.5*	*Over 8.5*
I Relatively rich	11.0%	11.25%	n.a.
II Intermediate	10.5%	11.0 %	n.a.
III Relatively poor	10.0%	10.0 %	10.0%

n.a. = not applicable.

2. A specific provision for countries with market interest rates below the lowest minimum rate of the amended matrix. Official funding of export credits in the currencies of those countries would be subject to a minimum interest rate of 9.25 per cent.
3. A strengthening of the disciplines of the Arrangement for mixed credits, i.e. those which combine export credits and development aid. Such tied aid will be submitted to the prior notification procedure provided for in the Arrangement. There will be discussion of the notification in the case of credits with a grant element of less than 15 per cent. Those having a grant element of 15 per cent or more but less than 25 per cent will be submitted to the prior notification procedure without discussion, the procedure which previously applied to the first category. Credits with a grant element of 25 per cent or more which did not have to be notified at all will be submitted to the prompt notification procedure, applied previously to the second category of credits.
4. The proposal as a whole constitutes an interim solution for a period of six months and would be subject to review before the end of that period.

It was furthermore agreed at a meeting on 6th/7th October, that this solution should be implemented as from 16th November, 1981.

Budget Financing and Monetary Control

The potential for conflict between persistently large budget deficits and restrictive monetary targets is discussed in detail in a forthcoming OECD Secretariat publication entitled "Budget Financing and Monetary Control"[1]. This study focuses on (a) the implications of financing large budget deficits for aggregates-oriented monetary policy, and (b) the extent to which increased public sector borrowing may constrain the financing of the private sector. The experience with budget financing in ten OECD countries, including the seven largest, is reviewed over the period 1965-1980.

The article below by Adrian Blundell-Wignall and Jean-Claude Chouraqui[2] summarizes some of the main issues examined in this publication.

After the collapse of the Bretton Woods system in the early 1970s, countries at times found both the need and the apparent opportunity to isolate themselves – via exchange rate flexibility – from the possibly more inflationary policies of their trading partners. Subsequently, the emergence of inflation as a central policy issue led to more emphasis on aggregates-oriented monetary policy[3].

Furthermore, during the 1970s budget deficits tended to grow – both because slower economic growth during this decade reduced revenues and raised certain expenditures (e.g. unemployment benefits) and because discretionary actions were taken to support demand through fiscal expansion. More recently, policy makers in a number of countries began to attach increasing importance to cutting budget deficits. One reason for this has been a concern about the implications of *financing* large budget deficits. Two policy issues in particular were raised. First, while external flows need not inhibit the pursuance of independent monetary policies under floating rates, the financing of a large budget deficit could compromise them if this led to an expansion of *domestic* bank credit. Second, if the supply of domestic bank credit is successfully constrained by policy, the non-monetary financing of budget deficits may absorb private saving, hence reducing (or "crowding out") financial resources available to the private sector.

Monetary Control Problems

The institutional arrangements for monetary control in the countries shown in the Chart differ substantially, but may broadly be divided into two groups, Type 1 and Type 2 systems. The basis of this distinction relates to the sectors whose behaviour the authorities attempt to influence directly in controlling the money supply.

In Type 1 systems, authorities mainly operate on the portfolio behaviour of the commercial banks to influence their liabilities directly. The most straightforward example is monetary-base control, a version of which is currently practised in the United States. Banks are required to maintain a minimum ratio of cash reserves to deposit liabilities, so that the size of the former imposes a ceiling on the level of the latter. The central bank manipulates the size of banks' cash reserves (its own liabilities) through open-market operations, its own lending policies with respect to the commercial banks, etc. Interest rates adjust to equate demand and supply in money and credit markets, and there is no resort to administrative controls on bank credit. An essential institutional feature of such a system is that the central bank is independent of the budget financing process. That is to say, the monetisation of public debt by financing through the central bank is in no sense automatic.

Type 2 systems, on the other hand, are characterised by attempts to control the money supply through its asset counterparts by operating, essentially via administered interest rates, on the portfolio behaviour of the private non-bank sector. Typically, interest rates are set to influence the private sector's direct demand for bank credit and its demand for government bonds which, given the budget deficit, indirectly determined the government's demand for bank credit. At given interest rates, the banking system is normally committed to provide residual finance for the budget deficit, and changes in the required level of cash reserves is readily forthcoming from the central bank.

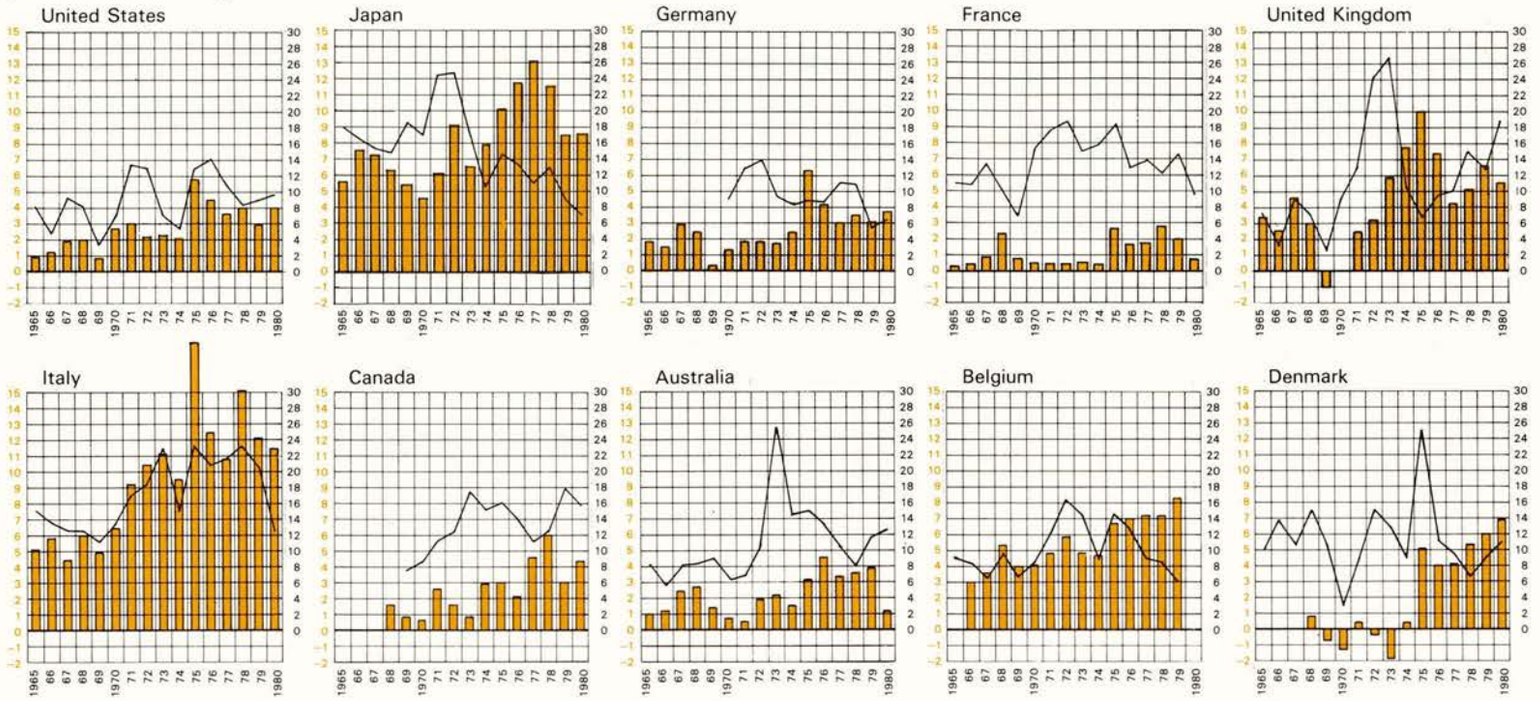
Apart from the United States, which typically belongs to the Type 1 system, the classification of different countries is not clear-cut in practice. The German and Canadian authorities attempt to target a monetary aggregate affected by switches between different types of bank deposits by non-banks in response to interest rate changes, and some attention is paid to the interest elasticity of the demand for money. However, in both countries, it is on the liquidity and portfolio behaviour of commercial banks that the authorities operate directly to achieve targets for some definition of the liabilities of the latter. In this sense they can be considered broadly to belong to the Type 1 system. On the other hand, Japan, France, the United Kingdom[4], Italy, Australia, Belgium and Denmark could be classified on the whole as Type 2 systems.

In Type 2 systems, an unanticipated rise in the budget deficit, at given policy-determined interest rates, will normally expand bank credit and the money supply in the first instance[5]. With no change in interest rates, the private sector will not be induced to increase its purchases of government debt and the extra finance will normally be obtained directly from the banks, with central banks accommodating any increase in required reserves. Difficulties of forecasting variables may also compound the problem of getting back to monetary targets once a deviation has taken place. The demands for bank credit and for government debt by households and companies are difficult to predict, as is the budget deficit itself. Authorities in Type 2 systems have frequently resorted to quantitative ceilings on bank credit expansion to give themselves an additional degree of freedom in achieving monetary targets. While this form of credit rationing has often proved to be effective in helping

1. *OECD Monetary Studies Series (1981).*
2. *Members of the Monetary and Fiscal Policy Division of the Economics and Statistics Department. Other members of this Division, notably Paul Atkinson, contributed to the preparation of the above-mentioned Survey.*
3. *The transition to monteraty targeting is discussed in "Monetary Targets and Inflation Control" OECD Monetary Studies Series (1979). See also the OECD Observer No. 103, March 1980.*
4. *At least until recently. Recent reforms in U.K. monetary policy include the abolition of the "corset", the imposition of a uniform cash reserve requirement, and more emphasis on interest-rate flexibility in general.*
5. *In choosing monetary targets and setting interest rates, central banks in Type 2 countries take into account the forecast budget deficit. Consequently, it is* unanticipated *changes in the budget deficit that may lead to monetary fluctuations.*

BUDGET DEFICITS AND MONETARY GROWTH

Bars in colour (left-hand scale) *show public sector borrowing requirements as a percentage of nominal GNP/GDP. The black line* (right-hand scale) *shows annual rates of change of the broad money supply.*



Public Sector Borrowing Requirements *normally correspond to the increase in liabilities of central, state and local governments, and public corporations, in a sector-by-sector flow-of-funds matrix. However, institutional arrangements for budget financing and the money supply process in some countries required the "public sector" to be defined as central government, while other levels of government and public corporations are treated as though they were part of the private sector. The borrowing requirement of the full public sector is considered for* Japan, *the* United Kingdom *and* Belgium, *whereas for* Germany *and* Italy *it is that of the general government (i.e. excluding public corporations). The public sector borrowing requirement is defined to be that of the central government in the* United States, France, Canada, Australia *and* Denmark, *including central government borrowing on behalf of regional governments, which is important in* Canada *and* Australia. *Figures for* Australia *are based on fiscal year ending 30th June. The terms "budget deficits" and "public sector borrowing requirements" are used interchangeably in the text.*
Money Supply *concepts used are: United States, M2; Japan, M2 (+ CD since 1979); Germany, M3; France, M2; United Kingdom, sterling M3; Italy, M2; Canada, M2; Australia, M3; Belgium, M2; Denmark, M2.*

to achieve stated money supply objectives, banks may find ways of avoiding ceilings and expand credit through other channels (e.g. by discounting commercial bills), a process sometimes referred to as "disintermediation".

A casual inspection of the data on money supply growth and budget deficits shown in the chart sheds little light on the question of whether fluctuations in the latter pose problems for controlling the former. Monetary growth accelerated very sharply indeed during the early 1970s, and this did coincide with fiscal reflation in a number of countries. But the much larger deficits of the mid-1970s and afterwards were in many cases accompanied by less monetary growth than in the earlier period. Since the data is ex-post, the reasons for this are self-evident:

- Discretionary monetary policy may counteract the potential money supply impulse implied by an increased budget deficit, and it was in the later 1970s that authorities attempted to implement monetary targeting.
- To the extent that authorities attempt to manage the exchange rate, external monetary flows may offset developments in the domestic credit markets, since central banks are committed to buy or sell domestic currency on the exchange markets.
- The large budget deficits of the mid-1970s were a response to the recession, and increased government demand for credit may simply have substituted for falling private credit demand.

These issues and others are discussed on a country-by-country basis in OECD's report. Some simulation results from econometric models are also provided in that publication. The issues involved may prove to be more problematic during the 1980s, as efforts to deal with a stubborn inflation "test the nerves" of authorities who must permit interest rates to rise in order to achieve monetary targets at a time of historically high budget deficits.

"Crowding Out" Problems

"Crowding out" is a term coined by economists to describe any displacement of private economic activity by public economic activity. In the present context it refers to the case where government expenditure is financed in such a way as to deprive the private sector of the financial means to make its demand for real resources effective. The central question is whether a bond-financed increase in the budget deficit – i.e. one which does not create any extra money – displaces an approximately equal amount of private expenditure, offsetting any net stimulatory effect on national income.

If a money-supply target is adhered to, government borrowing in credit markets to finance a higher fiscal deficit increases interest rates by enough to effect a transfer of funds to the government. Private expenditure will decline except to the extent that alternative sources of finance can be found. The possible alternative sources are essentially threefold. First, the private sector may economise on its holdings of money balances, i.e. demand to hold less money in its asset portfolio. Second, the influence of government debt on the size and composition of net wealth may independently influence expenditure, credit demands, etc. Finally, government demand for credit may attract capital from the rest of the world.

Money/Bond substitution

Economising on holdings of money balances is perhaps the most well known economic mechanism through which "crowding out" may be offset. Private wealth owners hold both money and bonds in their portfolios, and the bidding up of interest rates may induce a substitution towards bonds. If the money supply remains unchanged, this effect is consistent with higher levels of income and expenditure, and fiscal policy is more effective in influencing the economy. The importance of this effect depends on the interest elasticity of the demand for money. The more interest elastic the demand for money

and the less interest elastic are expenditure items, the less "crowding out" will be associated with a bond-financed growth in the fiscal deficit.

The evidence about these effects in the countries shown in the chart, surveyed in the forthcoming publication, is generally not conclusive. Stable interest rate elasticities of the demand for money and/or expenditure items are difficult to identify. Moreover, in some countries administrative (non-price) rationing of credit implies that interest rates may frequently be poor measures of the cost of credit. It is worth noting that in such countries, somewhat paradoxically, "crowding out" effects are likely to be greater. This is because the private sector does not have the incentive to economise on holdings of money balances, which would otherwise have been stimulated by the rise in interest rates.

Bonds as wealth

The second avenue through which "crowding out" may be offset, i.e. the influence on wealth, is thwart with controversy. Do government bonds constitute an increase in net wealth to holders which stimulates demand? Or does the burden to taxpayers in the form of current and future interest payments, together with the eventual amortisation of the bonds, reduce wealth? Does any private physical investment "crowded out" by government spending reduce the net capital stock? Or is this adequately compensated for by government capital formation? Higher interest rates imply lower market values of existing financial assets which might also serve to reduce wealth. As these possibilities suggest, it is possible for the perceived wealth of the private sector to rise or to fall as a consequence of a bond-financed fiscal stimulus. Empirical evidence on these issues is even less decisive than on the interest rate elasticities of the demand for money discussed above.

One interesting related issue concerns the case where bonds issued to finance the budget deficit are sufficiently short-term and liquid as to be excellent substitutes for the targeted money supply. If this were the case, such bond issues would lead to a fall in the demand for money which, given its supply, would lead to a net expansionary impulse. This effect, sometimes referred to as "crowding in", requires that the bond issue constitute an addition to the "effective" money supply. However, if this were the case, it would tend to suggest that the targeted money supply was "badly" defined, and would contradict the "spirit" of monetary targeting underlying the current approach to anti-inflationary policies.

Attraction of foreign capital

In an open economy, private borrowers displaced from the domestic credit markets may borrow from abroad, to the extent that capital is mobile internationally, providing a third channel through which private expenditure may be maintained in the face of a bond-financed fiscal stimulus. Indeed, if the exchange rate is fixed, the money supply will rise, in which case "crowding out" is not an issue. But if, in attempting to maintain its monetary target, the central bank avoids intervening in the exchange market, allowing the currency to float, the outcome will depend on the extent to which foreign capital supplements domestic sources of finance. If sufficient capital is imported from abroad to keep domestic interest rates down in response to increased government borrowing, private expenditure will not be "crowded out". In this case, however, there is likely to be even less income-generating effect from the fiscal stimulus, a phenomenon which might be called "exchange rate crowding out". Capital inflow and private expenditure rise; but since total foreign reserves remain unchanged, the exchange rate must appreciate by the amount necessary to push the current account deterioration to the point where it offsets the induced capital "inflow".

Evidence on the effectiveness of fiscal policy in influencing economic activity in the countries shown in the chart can only be ascertained with simulations based on econometric models. Such evidence from national econometric models is surveyed in the Monetary Study referred to above. Some evidence is also provided by small models developed by the OECD Secretariat. Some results of the latter are shown in the table below, which presents estimates of income multipliers emanating from government expenditures in circumstances of an accommodating monetary policy on the one hand and a non-accommodating one on the other. While caution should be attached to the numerical aspects of the results, the main points of interest are:

- Multipliers in response to a given government spending impulse which are accommodated by monetary policy are smaller under fixed than flexible exchange rates. This reflects the stimulatory effects of exchange rate depreciation in the latter case, compared to the monetary leakage abroad under the former.
- Multipliers in response to a given government spending impulse which are not accommodated by monetary policy are much smaller[6], as increased credit demands and ex-ante upward pressure on interest rates generate capital inflow, causing the exchange rate to appreciate. This worsens the current account deficit, which has a negative effect on income.

* * *

Two general points seem to be worth noting.

- First, large budget deficits may have increased the difficulties that national authorities seem to have had in achieving stated monetary targets in recent years. In some countries this may have been due to lack of knowledge about the future size of government and private demand for bank credit. Perhaps more importantly, large deficits may undermine the "credibility" of monetary targets if they push interest rates to very high levels. The expectations which may develop about a future relaxation of monetary policy may have consequences for inflationary expectations, and may serve to drive interest rates even higher. The rationale for cutting budget deficits in these circumstances is clear enough, and is partially responsible for recent policy announcements to this effect in a number of countries.
- Second, the non-monetary financing of a fiscal stimulus may "crowd out" some private expenditure, but economising on money balances and/or importing capital from abroad may offset this to a large extent. However, the potential for exchange rate appreciation in response to capital inflows may reduce the effect of the fiscal stimulus on national income. Disputes in economic theory about whether government deficits absorb private saving, whether government bonds constitute net wealth, etc., have frequently been conducted within the context of a closed economy. Exchange rate "crowding out" is more readily observable in the real world. Perhaps more attention should be paid to the international implications of large budget deficits.

GOVERNMENT EXPENDITURE MULTIPLIERS

Effect on Nominal Income Under Alternative Monetary Policy Assumptions and Exchange Rate Regimes

A = Fixed exchange rates
B = Flexible exchange rates

Country		*Accommodating monetary policy*	*Non-accommodating monetary policy*
United States	A	1.99	–
	B	3.35	0.35
Japan	A	2.41	–
	B	4.51	0.91
Germany	A	1.17	–
	B	3.11	0.67
France	A	1.23	–
	B	3.14	1.15
United Kingdom	A	0.98	–
	B	3.28	0.97
Italy	A	1.18	–
	B	3.45	0.41
Canada	A	1.33	–
	B	3.35	0.64

6. These multipliers assume flexible exchange rates.

Is There a Fourth Economic Sector?

by H.P. Gassmann,
OECD Directorate of Science and Technology

Conventional statistics divide the economy into three sectors: agriculture, manufacturing and services. Years ago Colin Clark drew attention to the structural change occurring among these sectors: the shift of the active population from agriculture to manufacturing and then to services. In several Member countries, such as Canada and the United States, more than 60 per cent of the workforce is now in the services. Perhaps the time has come to have another look at the classification. A new report just published by OECD[1] is an attempt to break new ground in this direction.

The occupations involved in production, storage, retrieval and distribution of information are an increasingly important component of the labour force in many OECD Member countries, and the resources these activities absorb have acquired a growing weight in the overall production of goods and services.

Since information is also the focal point of much of the most rapid technological advance in developed countries, an Expert Group of the OECD's Working Party on Information, Computer and Communications Policy has been trying to separate out the "information sector" from the traditional three sectors across which it cuts – agriculture, manufacturing and the services – so as to facilitate assessment of its present and future impact on employment, economic growth and trade.

How large is the information sector? OECD's experts applied three measures:

- employment as a percentage of the total labour force
- value added, as a share of GDP
- exports as a percentage of trade.

All measures show that growth has been very rapid over the post-war period, though the rate differs from country to country.

Information Occupations in the Labour Force

An element of "information activity" is present in any occupation. The report defines as information occupations those activities which have the production, processing or distribution of information as

1. Information Activities, Electronics and Telecommunications Technologies – Impacts on Employment, Growth and Trade. Volume I Summary and Analytical Report. Volume II Expert Reports. This subject was further explored at a meeting held at OECD in October 1981, with the theme: Information Technology, Productivity and Employment. A detailed report on this special session of the Working Party on Information, Computer and Communications Policy will appear in a later issue of the OECD Observer.

TYPOLOGY OF INFORMATION OCCUPATIONS

Information Producers
Scientific and technical workers (components)
Market search and co-ordination specialists
Information gatherers
Consultative services

Information Processors
Administrative and managerial
Process control and supervisory
Clerical and related
(components)

Information Distributors
Educators
Communications workers

Information Infrastructure Occupations
Information machine workers
Postal and telecommunications

* * *

Information Producers create new information or package existing information in a form appropriate to a particular recipient.

"Scientific and Technical" workers are primarily engaged in research, development and other inventive activities. "Information Gatherers" include a variety of occupations which by investigation and assessment, are mainly concerned with creating new information. "Market Search and Co-ordination Specialists" principally provide, via search activities, market information to buyers, sellers or (as in brokerage) both. Finally, "Consultative Services" are primarily engaged in applying a pre-existent body of information to the particular needs of the client or situation.

Information Processors are primarily concerned with receiving and responding to information inputs. The response may be to decide, to administer, or to perform some manipulative operation upon the information inputs.

"Administrative and Managerial" occupations receive information in the form of details about firm (or departmental) performance and environment, instructions from above, and so on, all of which are processed into some form of communication to those higher or lower in the hierarchy. Their job is to decide, organise, plan, interpret or execute policy, whether in private or public undertakings; "Process Control and Supervisory" occupations also co-ordinate and control, though usually in the more specific context of a particular technical process or group of workers engaged upon such a process. "Clerical and Related" occupations receive information inputs as correspondence and data, verbal or recorded, and manipulate such inputs into a form appropriate to the employer.

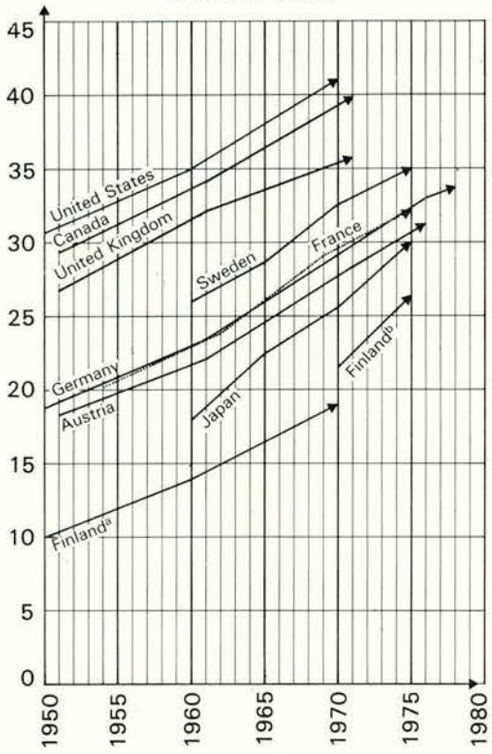
Information Distributors are primarily concerned with conveying information from the initiator to the recipient.

"Educators" mainly convey information which has already been produced and "Communication Workers" include a variety of occupations in the news and entertainment media. Both groups include elements of information "production" (e.g. research activities of university teachers and investigative journalism) but the primary activity is considered "distributive".

Information Infrastructure occupations install, operate and repair the machines and technologies used to support information activities.

A. THE EVOLUTION OF INFORMATION OCCUPATIONS

Information occupations as percentage of the labour force



Data for Finland was derived from two separate sources: (a) I. Pietarinen; (b) The Central Statistical Office of Finland, both sources using a rather more restricted definition of "information occupations" than that described in the inset on page 18. Absolute values for any given year are, therefore, not strictly comparable with other countries, although the trend is still of interest.

their *primary purpose* ("information workers" such as administrators, managers and secretaries). To these must be added occupations which build and maintain the information infrastructure, such as telephone network fitters, computer operators and office machinery maintenance men (See inset). Chart A shows the shift towards such information occupations that has occurred over the years since World War II in all the nine countries examined. In each five year period, on average, these information occupations gained an extra 2.8 per cent of all the economically active.

A further perspective on the growth of information occupations can be obtained by extracting such occupations from the conventional sectors of agriculture, industry and services. Chart B shows such a four-sector aggregation. The trend towards the information sector can be observed clearly in all reporting countries, with residual agricultural occupations contracting in all cases, residual industrial jobs contracting in all but Japan, and residual services expanding in all but the United Kingdom. In fact, with the single exception of Japan, the information sector became the predominant sector for employment in all the countries examined between the early 1960s and the mid1970s.

The Information Sector in National Accounts

In national accounting terms, the fourth sector is called the "primary information sector". It includes goods and services intrinsically conveying information (such as books) or directly useful in the production, processing or distribution of information (such as telephone services) *sold on established markets*. The table shows, for a few OECD countries, the value added by the primary information sector; it also shows its considerable increase from the early 1960s to the mid 1970s. On average, over each five-year period, the primary information sector contributed an additional 3.2 per cent of total value added in the countries represented. Most of the growth – roughly three quarters – was in "information handling services" (e.g. finance, real estate, education, legal, accountancy and other consultative services, and media of communications). The remaining quarter was in "information goods" – telecommunications equipment, office machinery, etc.

OECD's report also identifies a "secondary information sector", which incorporates information services used for *internal consumption* within government or private enterprise and which are not sold on the market. (See table).

The data are limited, but they show that during the late 1960s and early 1970s, the share of this secondary information sector declined. This means that many information services, which previously were performed inside a firm (accounting, tax counselling, personnel search, research and development) have been "satellised" and contracted outside the firm or government and, since they are sold on a market, are counted in the primary information sector. This also explains the rapid growth of the private service sector over the past 15 years: most of this growth was in information services.

THE FOURTH SECTOR IN NATIONAL ACCOUNTS

as a percentage of GDP at factor cost

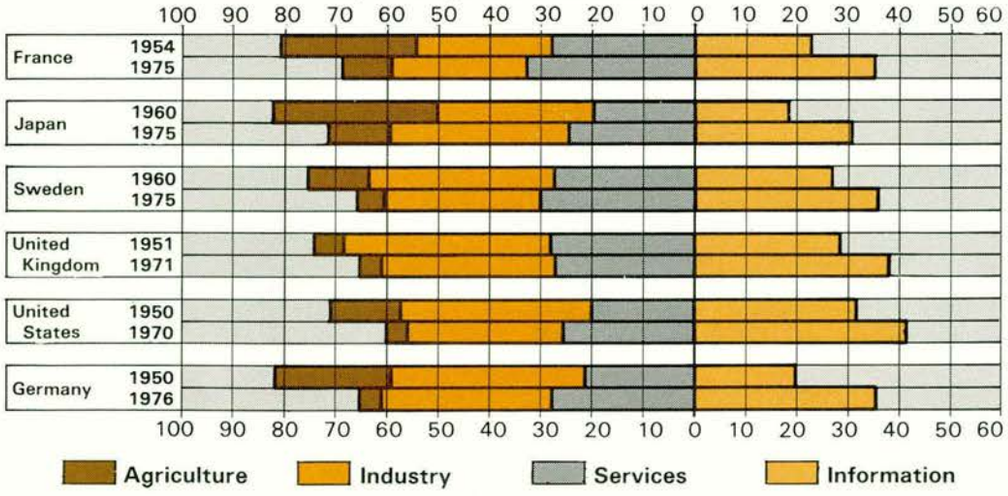
	Year	Primary Information Sector	Secondary Information Sector
Australia	1968	14.6	n.a.
France	1962	16.0	n.a.
	1972	18.5	n.a.
	1974	19.1	n.a.
Japan	1960	8.4	n.a.
	1965	14.4	21.8
	1970	18.8	16.2
Sweden	1970	16.9	n.a.
	1975	17.8	n.a.
United Kingdom	1963	16.0	13.8
	1972	22.0	10.9
United States	1958	19.6	23.1
	1967	23.8	24.7
	1972	24.8	–
	1974	–	24.4

Information Goods and Services in International Trade

The continuous post-war expansion of the share of information goods and services in the national income and output of OECD countries has inevitably had an impact on both the growth and structure of international trade. It is calculated that over the period 1965-75, the share of information-related goods and services increased from 13 to nearly 20 per cent of *total*

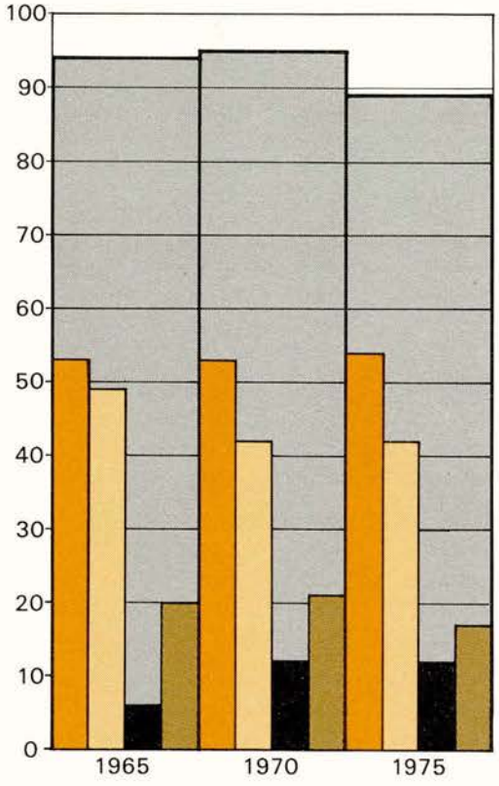
B. EMPLOYMENT IN THE FOUR SECTORS

as percentage of the labour force



C. SOURCE OF OECD IMPORTS OF INFORMATION-RELATED GOODS

as percent share by country of origin (World = 100)



1. *EEC nine*

OECD exports of goods and services, and from 17 to 30 per cent of *OECD trade in finished manufactures.*

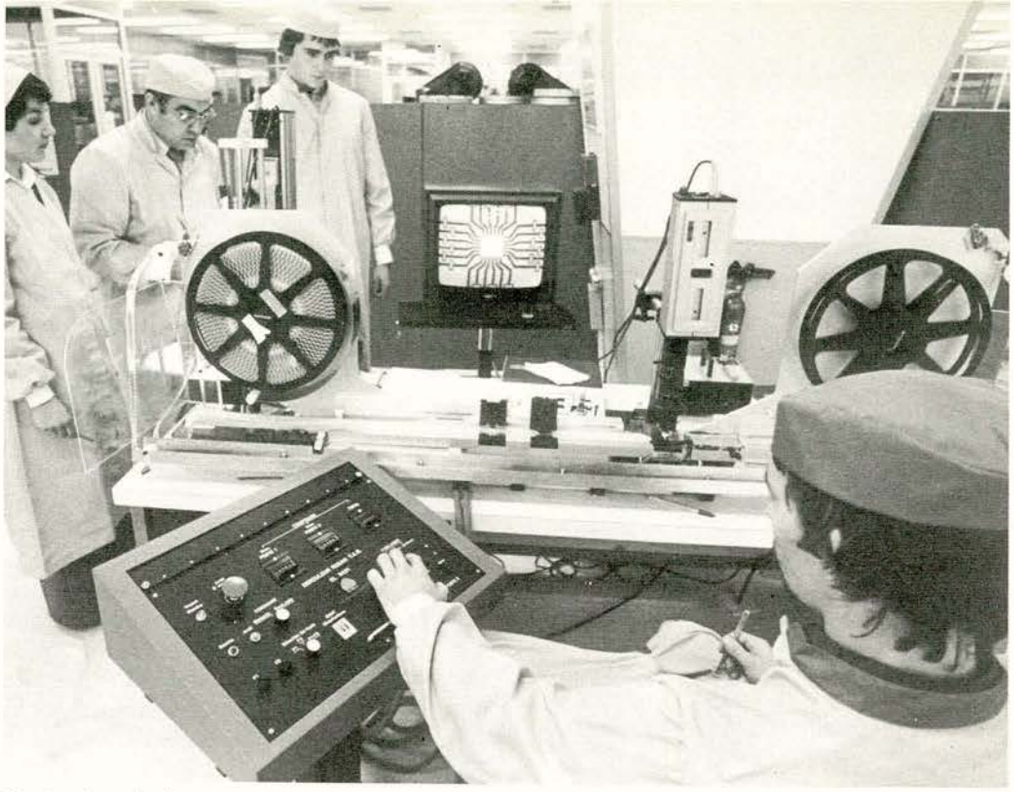
Japan experienced the fastest growth with over 46 per cent of her exports of finished manufactures to the OECD area consisting of information-related *goods* (e.g. TV sets, calculators) by 1975. The changing shares in total OECD imports of information goods are shown in Chart C. In particular, Japan's share doubled over the period 1965-75 while the share of the United States declined by 3 per cent and that of the EEC by 7 per cent.

Information *services* are harder to measure. One study of a specific area made by OECD's experts – international telephone traffic between OECD countries – showed a rise of 16 per cent per year between 1965 and 1975. This is over three times the rate of increase for domestic telephone traffic.

Macroeconomic Implications

Productivity

What about the future? One important determinant of the role of the fourth sector on the economy will be technological changes in electronics and telecommunications. Changes in production processes in manufacturing industries due to the introduction of microprocessors will be important and will probably contribute significantly to increases in productivity. In the office, widespread introduction of new information technologies – office automation – is anticipated. Because of the under-capitalisation of the office environment, and its relatively low labour productivity, it will constitute a fertile ground for the massive introduction of new information technologies.



Production of microprocessors using an electronic microscope to check tolerances at Honeywell Bull in Angers, France. Are these technicians members of a fourth sector?

Demand

As to final demand, there is little evidence that information goods and services have been capturing a larger proportion of household expenditure during the past 10 years or so. This is partly because new information goods like television substitute for older information services such as the cinema or theatre. It is not impossible that an untapped market exists for low-cost information services or for inexpensive household electronic equipment such as the home computer, but so far the post-war evolution of consumer final expenditure does not indicate that consumer tastes have shifted towards more information-intensive products.

Employment

Reduced levels of employment are by no means an inevitable outcome of new electronic and communications technologies, but to date we do not know what is the net balance of jobs lost and jobs created by them. These information technologies may, in any case, have a negative impact on routine information-handling jobs. Since at present female employment is rather high in these occupations, this may be a matter for concern. Similarly, unskilled workers might have some difficulty adapting to the new information technologies, which tend to be labour-substituting at the level of routine jobs (e.g. cashiers in supermarkets). Even certain craft occupations requiring highly specialised skills (e.g. typesetting, or adjusting machines to changing output specifications) might be affected.

Industrial Structure

Development of information technology may have a significant impact upon firm and industry structures. Within the information processing and telecommunication industries themselves, more rapid technological change may reduce barriers to entry and encourage firms to operate in varied new product areas. Such a development could create opportunities for small firms in these industries, but may equally induce diversification on the part of large firms. Similarly new applications of information technologies open up broad new possibilities for decentralising production. However, the exploitation of these possibilities may privilege the larger, more information-intensive enterprises, thereby increasing rather than reducing concentration levels.

*
* *

Such unconventional ways of discussing fundamental, long-term changes at work in the advanced economies are necessary if policy makers are to understand the complex dimensions of the economy of the future and ward off its less desirable consequences.

Stimulating Innovation in Small and Medium Firms

The ability to innovate is essential to the structural adjustment now being pursued by the OECD countries in all sectors of their economies, and government attention has increasingly focussed on the capacities of small and medium-sized firms in this regard. OECD's Commitee for Scientific and Technological Policy has just completed a study on this matter[1]; its main features are outlined in the following article.

The importance of the small and medium enterprise (SME) in national industrial structures could in itself explain the interest being shown by governments in innovation in this type of firm: between 40 and 75 per cent of industrial employment in the OECD countries is accounted for by firms employing less than 500 people (see table); in some sectors they account for the great majority of jobs and production (see chart page 27). In the regions, SMEs constitute the very basis of the economy; it is they which provide jobs and livelihoods for local inhabitants. Encouraging these firms to innovate, even on what may appear to be a very small scale, means strengthening their competitive position and equipping them to meet increased competition in a difficult economic environment. It also means harnessing their potential for job creation. In a number of countries, and especially the United States, the small firms have a greater capacity for job creation than the big ones.

But it is not only the economic and social importance of these firms that makes them of interest to governments; it is their innovative potential as well. Many large firms have grown out of innovative small firms set up by creative and enterprising individuals, and many of the inventions that have moulded Western civilisation are the work of individual inventors or small groups. One could argue that this era is over, that the preconditions for technical progress have changed, even within the last few years. One could also argue that innovation now stems from the systematic exploitation of scientific research by industry and that industrial research therefore is more and more concentrated in a small number of large firms or industrial groups. (According to recent OECD statistics, nearly one-half of industrial R & D expenditure is accounted for by some 40 large firms.)

But innovation cannot be confined to a simplistic scheme (see box page 22) and the facts show that small and medium firms, at least in some countries, can make a very significant contribution to technical progress. It is estimated that firms of less than 1,000 workers and individual inventors were responsible for more than 40 per cent of the major innovations appearing in the United States in the early 1970s.

This innovative potential can be explained by the advantages enjoyed by small firms over large ones in this domain. The large firm, under the constraints of size and competition, tends to increase profits by perfecting existing lines of production while small firms try to exploit the gaps that appear as a result. Unlike the giants, they are not obliged to engage in expensive conversion and can launch themselves on new, narrow or risky markets. Large companies it is true have many levels of management with well organised and established skills, but the small firms, which are weaker structurally, have an intrinsic flexibility. They can react rapidly to new demands and easily exploit new ideas and thus contribute to technical progress or form the nucleus of new high-growth industries.

These facts show how broad and diverse is government's interest in SMEs. Traditional sectors may merit as much attention as more spectacular achievements in high-technology sectors. Moreover small firms show a broad range of behaviour with regard to innovation; for some it is their *raison d'être* while others have little or no contact with modern technology.

SMEs' SHARE IN MANUFACTURING EMPLOYMENT
Firms of less than 500 employees

Country	*Year*	*Minimum firm size*	*%*
Australia	1976	⩾ 1	72.9*
Austria	1977	⩾ 4	58
Belgium	1976	⩾ 1	68.3*
Canada	1976	⩾ 1	65.3*
Denmark	1976	⩾ 6	65
Finland	1975	⩾ 1	40.9
France	1975	⩾ 10	41.2
Germany	1976	⩾ 20	43.4
Italy	1975	⩾ 20	53.7
Japan	1974	⩾ 20	54.4
Netherlands	1975	⩾ 10	56
Sweden	1977	> 5	59.3*
Switzerland	1976	⩾ 1	70.3
United Kingdom	1972	⩾ 1	44.3
United States	1972	⩾ 1	58.2*

* *Percentages based on* establishment *data and not on* enterprises. Establishment *is a legal entity controlled by the larger entity of* Enterprise.

Small Firms and Technological Evolution

The ad hoc group to which the Committee for Scientific and Technological Policy entrusted its study deemed it essential to examine the various ways in which small and medium firms contribute to current technical progress. To this end it surveyed some 100 specialists in 20 industries in 13 Member countries. The results can be interpreted by reference to an outline recently proposed by historians of technology[2] which sheds new light on the evolution of techniques. Technical progress appears to proceed in waves (lasting several centuries until recently but now only a few decades): there are stages in which so-called breakthrough technologies *appear* in the advanced sectors and stages

1. Innovation in Small and Medium Firms, *Report by OECD's Committee for Scientific and Technological Policy and Analytical Reports, OECD, to be published shortly.*

2. *Notably Bertrand Gille in* Histoire des Techniques, *Gallimard, Paris 1978.*

in which these technologies are *diffused* throughout industry. Since the various technologies are interdependent, they combine to form a "technical system".

The present period is one in which the second stage – transfer and diffusion – dominates; most current innovations result from the adaptation of existing technological elements: micro-processors (in automation, control, mini-computers, for example), the exceptionally wide variety of materials (techno-polymers, composites, etc.), new forms of energy (e.g. microwaves, heat pumps) and the tools of telematics. Through these technologies, many types of goods are being modernised: micro-processors are bringing new life to the toy industry, graphite is revitalising, weaving machinery and polyurethane glues are changing footwear.

The data collected during the study show that the small and medium firms play an essential role in the propagation of these new technologies throughout the industrial system; they help modernise and diversify the productive apparatus, playing the same role in technology as they do in production and marketing – filling the gaps left by the big firms.

Several types of sectors may be distinguished however. Where small firms dominate (and no great impetus is given by direct competition from big firms), the main innovation is likely to be the introduction of new materials and components by suppliers or technical centres serving the industrial branch. In sub-contracting and intermediate production, innovation by the small firms is very much conditioned by the strategies of the large client industries. In established sectors (such as mechanical engineering and scientific measurement) where large and small firms exist side by side, the latter face competition from considerably more powerful competitors better equipped for R & D and marketing; here the big firms usually retain the initiative in radical innovations which change the technology of the sector while the smaller firms adapt by applying these innovations in the niches which they have filled and by specialising so as to keep clear of their powerful competitors. Small firms are quite likely to take the initiative in some rapid growth sectors (telecommunications, health, industrial processes, etc.) characterised by diversified demand for non-standardized, high-performance products. These are areas in which the small firm with scientific and technical skills can flourish.

However, at the same time as the process of diffusion continues, new breakthrough technologies are emerging, some of which will, because of the variety of possible applications, form the basis of a future technical system. The biotechnologies are a good example. Small firms can play a pioneering role here, but so far have been doing so mainly in the United States where small firms are exploiting the discoveries of genetic science as they did with electronics over the last decade.

From this analysis, one may conclude that, although in theory small firms play a crucial role in today's innovations, as a group they rarely realise this potential or play the role governments might expect of them.

Principal Matters for Concern

While many SMEs are continually improving their products and processes, only a small proportion of them (possibly from 10 to 20 per cent) are engaged in designing and turning out new products. There are several reasons for this. First, innovation is a means and not an end in the strategy of small firms. They are driven to it by rising costs, unexpected competition, especially from new countries in traditional sectors, and many firms can still survive without innovating, especially if they are serving local protected markets.

A second reason for the small firm's static behaviour and inability to innovate is that they are not sufficiently open to new technology. Being receptive to technical developments requires a "technical culture" which makes it possible to understand their significance and to utilise them. The experts questioned by the group stressed the great need for training, technical assistance and information. They also stressed the serious obstacles to innovation faced by SMEs – particularly financial difficulties.

A third problem in most countries is that few new innovating firms are being set up, no more than a few dozen each year in the major European countries, Canada and Japan. In the United States there has been a disquieting decline which is reflected in the decreasing number of small technological firms registered on stock exchanges: there were between 100 and 200 each year in the 1960s, but the figure had fallen to almost zero by the mid-1970s; since then there have been signs of a recovery, attributed by some to tax measures which have made risk capital more plentiful.

Undue importance is sometimes attached to the small high-technology firms. They are far from being the only ones that contribute to technical progress. Nevertheless the lack of new highly innovative firms is a legitimate matter for concern. These firms are important as a source of new jobs and have a remarkable growth potential[3]. Moreover the number of new firms created

3. As shown in particular by U.S. studies among which are Small Business and Innovation, *Appendix 8, 18, U.S. Government Printing Office, 1978.*

INNOVATION, RESEARCH AND INVENTION

Innovation differs from two other notions with which it is sometimes confused: research and invention.

Innovation and research

The aim of research is to produce knowledge, that of innovation to produce objects which work and can be sold. Since it is inspired by different objectives, innovation can be completely independent of research. It is not based on the same skills. Even the relevant information required – on markets, on patents and on management – has little to do with research. Innovation requires financial judgments and risks.

Innovation may be based on the application of knowledge produced by research, but it may also be purely empirical; indeed practice often precedes theory and innovation may open the way to research (the steam engine for thermodynamics, or the computer for programming).

Moreover, many innovations are not based on research but on ingenious combinations of existing materials and components. Examples are to be found in the daily environment – in energy conservation, improved working conditions – but also in highly sophisticated products. An example is the scanner which is in fact an assembly of already existing elements – computers, basic scanning techniques, x-rays – combined to achieve new goals by ingenious methods which make use of higher mathematics.

Innovation and invention

Invention too is different from innovation. An invention becomes an innovation only when it is embodied in a product which can be successfully marketed. History abounds with examples of bankrupt inventors whose brainchild took hold years later. The innovator on the other hand is the person who comes on the scene at the right moment to find the missing element in an invention which will make it eminently marketable. Thus it is always difficult to identify the true innovator. Several individuals or organisations may simultaneously claim the authorship of the ideas or inventions which have given rise to innovation.

Traditional industries can be revitalized through use of new materials or new processes which combine to form a "technical system". Above: *Boatmaking: racing canoes are made from composites (carbon) and new glues (epoxy).* Below: *Metallurgy: X-rays and computers are used to "scan" metals.*

is important because of the high risk of failure run by such firms in their first few years.

For reasons such as these, governments are reviewing their policies. In order to assess the scope of future measures, the ad hoc group tried to find out how innovation actually works within the small firm or on the part of the individual. They used recent studies on the subject but also went into the field to meet the innovators themselves and others involved in the process (advisers on creativity, on patents, on marketing, those in charge of technical training and assistance, bankers specialising in risk capital). Three seminars were organised in France, Denmark and Switzerland, dealing respectively with product design, the management of innovation and its financing.

The Phenomenon of Innovation

Individuals

These discussions revealed that innovation is the work of individuals who have had some kind of preparation but, more important, are highly motivated – by love of their work, a desire to change the world or a taste for risk – not to mention the possibility of substantial financial gain. The innovators have then gone on to acquire know-how and practical skills. It appears that the ability to design a product and launch it successfully comes not so much from the application of theoretical knowledge of science, technology, marketing or finance, as from knowing how things work (a new product is basically an assembly of diverse components), the ability to discern needs (or even vague desires), and the ability to manage a firm on a day-to-day basis. Above all the innovator is someone who can mobilise and apply to a problem all the diverse skills he has acquired throughout the course of his life.

While innovation is the work of individuals, the environment in which these individuals find themselves is decisive in determining how much they can accomplish. Those who are deeply interested in a

subject need a sounding board for their ideas (innovation usually takes place within a small group), and an idea is more likely to be successfully transformed into a concrete object if the inventor has access to good counsel and sources of information (technical, commercial and other). Innovators often find themselves running up against the rigidity and scepticism of the establishment, ruffling feathers, exposing its bureaucratic practices and challenging its authority. These circles are often unreceptive, and success therefore may depend on finding a promoter to get the product underway and to facilitate contacts with aid-providing and financial bodies. Finally, innovation means taking risks, and here the institutions involved can be of help: some large firms and research outfits regularly take back employees who leave to build up their own firms but fail or give up.

As to the society more generally, it tends to consider the failure a learning experience for the innovator, at least in North America. In other Member countries there tends to be less tolerance of failure.

Financing

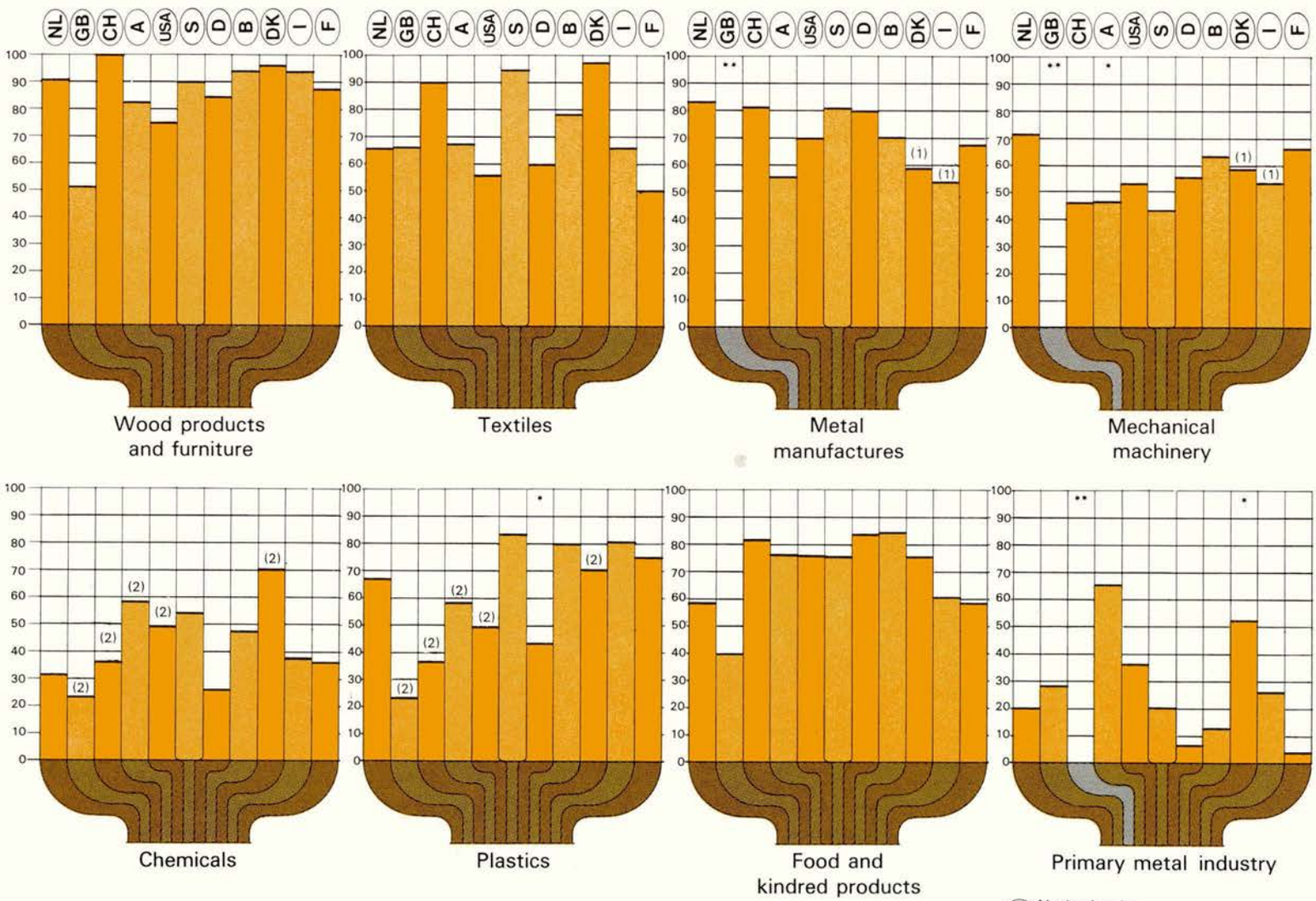
Although the cost of innovation varies greatly, large projects often involve tens of thousands of dollars, sums which cannot be financed out of an individual's own resources or those of his firm. Even where the authorities have provided appreciable amounts of aid for innovation, it is not always available to the small firm: procedures may be too complicated, payments too slow. Such aid is usually focussed on R & D moreover and rarely exceeds 50 per cent of the cost of a project. Other financial sources are often necessary and especially banks. But banks are often ill-equipped to assess the value of innovative projects and may tend to overestimate their costs (innovators on the other hand may tend to underestimate them); nor do their rules of management facilitate investment in risky projects. Experience seems to show that financial support for innovation is stronger when there is competition among sources of finance (banks, insurance companies, pension funds, and regional development funds, for instance).

The competitive climate

The climate of competition in which inventors and small firms work directly determines whether or not new ideas and new products can make their way. Anti-trust laws help to create a climate in which innovation can flourish. Legal systems and actual industrial practice also play a role – the way in which patents are acquired and protected and licences negotiated, the relationship between the big firms and their sub-contractors. Regulations as to the kind of products that can be made and sold and requirements as to their reliability can make design costs prohibitive for a small firm.

A. EMPLOYMENT IN SMALL AND MEDIUM-SIZED FIRMS – 1976 or 1977

per cent of total employment in the industry



* *Industrial sectors are defined in broader terms than in other countries.*
** *Not available.*
(1) This figure includes metal manufactures and mechanical machinery.
(2) This figure includes both chemicals and plastics

(NL) Netherlands
(GB) United Kingdom
(CH) Switzerland
(A) Austria
(USA) United States
(S) Sweden
(D) Germany
(B) Belgium
(DK) Denmark
(I) Italy
(F) France

Administrative practices with regard to the announcement and award of public contracts and the degree of competition in public services such as telecommunications and transport can also affect the result. In short, industrial policies must be improved in their entirety.

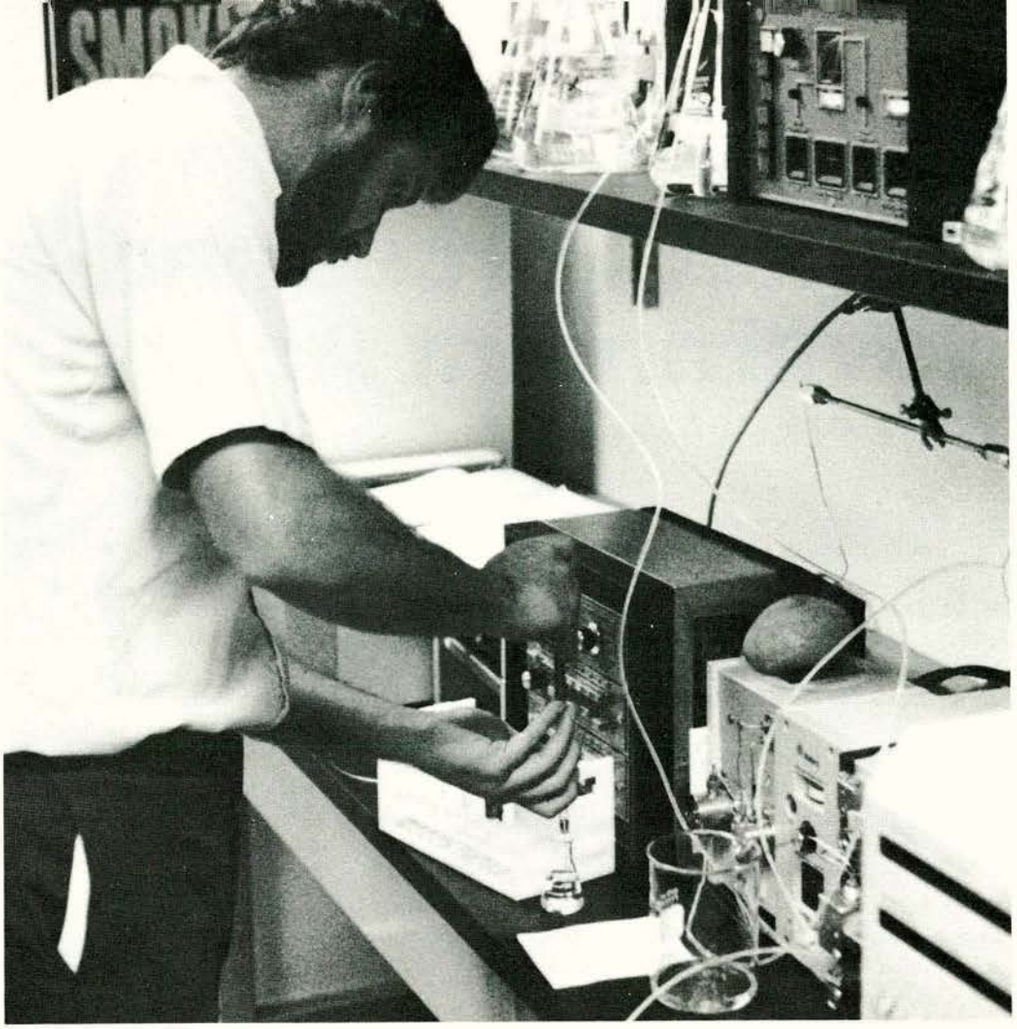
Elements of Government Policy

Thus innovation does not take root in a vacuum; it flowers only in the right institutional environment which must be patiently cultivated by the authorities; government policies must be broadly conceived and have an enduring effect on educational practices, on research, industry, finance and the administration.

On the basis of its analyses and of its systematic survey of what has been done in 20 Member countries, OECD's Committee for Scientific and Technological Policy has suggested a number of policy orientations for governments.

A receptive attitude towards innovation must be developed in the society as a whole

• Concrete measures are needed in education, particularly higher education and vocational schools, to get students interested in industrial life and help them to acquire industrial know-how;



Small firms can be pioneers in breakthrough technologies. Advanced scientific findings like recombinant DNA are used with classical technical apparatus to produce new substances. Above, *synthesis of nucleic acid. Small firms can also be more flexible than large ones in using known technologies to meet new demands.* To left: *a small windmill for farmers developed by a British engineer; it is easy to build and to maintain.*

• Information networks, training, technical assistance and research must be provided on a nationwide basis. Governments have taken vigorous action in this direction, but the needs are hard to satisfy; there is a need for greater involvement by both private and public bodies (technical universities, for example) in setting up such services on a regional basis would be useful.

Adequate financial incentives must be provided

Most countries have taken measures to stimulate research and development in the small and medium firms; aid specifically designed for this purpose has been provided and arrangements made to help these firms get governmental R & D contracts and other types of government aid. These measures have been useful. In the realm of taxation, particular attention should be paid to new firms, both as to profits and capital gains. Governments have tried to increase the supply of risk capital by guaranteeing bank loans and setting up specialised lending institutions, but it would also be desirable to attract the big investors such as investment banks and insurance companies to risk-capital markets, to revitalise regional stock exchanges and direct the savings of individuals to innovative firms.

The conditions of competition and regulation should be improved

The report alerts the authorities to the importance of antitrust laws (some countries have stronger provisions than others), to the improvement of regulations concerning intellectual property (for small firms the relevant rules have to do with the formalities involved in acquisition, the cost of litigation, and the protection of rights of the inventor who works for a firm) and to the improvement of government regulations which have an impact on the innovative activities of small firms and which facilitate their access to government contracts.

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As the Committee's report suggests, some of these measures may require a political will different in both magnitude and scope from what is required for conventional support or direct aid.

Energy-Market Forces and Government Action

by Ulf Lantzke and Fred Gorbet[1]

Although the IEA countries do share a common view that primary emphasis should be placed on market forces in dealing with the energy problem, there are distinct differences in approach. For example, of the 21 Member countries of the IEA[2], only six (Germany, Japan, Sweden, Switzerland, the United Kingdom and the United States) do not control oil product prices. And it is only within the last 2-3 years that such controls were removed in Japan, Sweden, the United Kingdom and the United States. Canada is the only IEA country in which crude oil prices continue to be controlled at levels below the world price, but this applies only to "old oil", and prices will be increased substantially over the next few years (see page 27). In other countries the operation of product-price controls can affect – and indeed on occasion has affected – the availability of oil, particularly when domestic prices do not keep up with rapid changes in the international price.

Price controls on oil have been an issue for discussion within IEA, and the general view within the Agency is that controls on product prices, where they cannot be removed for political reasons, should be operated in a way that ensures that the price of crude oil is passed through with minimum delay. This is particularly important to avoid imbalance in supplies among countries if the price of crude oil is rising rapidly. It is also generally agreed that oil prices to domestic consumers should reflect international levels.

At their June 1981 meeting, IEA Ministers discussed proposals for the economic pricing of all energy sources and agreed that this should be given priority in future Agency work. This is a difficult issue for a number of reasons. In the first place, once one considers fuels other than oil, an unambiguous "standard of value" is difficult to define. The world oil-price is by no means a free market price but at least has the merit of representing the "going price" for oil in world trade. A well-developed world trade in thermal coal or natural gas does not yet exist and, as these trades develop, there is no necessary reason why the prices that emerge, if the markets are competitive, should bear a fixed relationship to oil prices rather than being determined by supply and demand conditions for coal and gas. Indeed, for natural gas, because of the importance of transportation costs, one might see the emergence of different prices in different regions. Similarly for electricity, tariffs are now regulated in all IEA countries. The principles of tariff setting vary, and there is no unambiguous definition of what "economic" tariffs would be.

A second difficulty has to do with the structure of existing government intervention, particularly through subsidies. For example, coal production is subsidised in Japan, Germany and the United Kingdom, and in Germany the subsidy has been coupled with import restrictions, although these have recently been modified to the point where they do not represent a practical constraint on coal imports. In Canada and the United States, natural gas prices are controlled at relatively low levels. Although such practices may not be efficient from a strictly economic point of view, they do reflect the expression of strong social objectives and, as important, they are in many instances consistent with and supportive of national and international energy objectives.

The source of the difficulties is therefore both analytical and political, with the political problems stemming ultimately from

1. This article is extracted from a paper prepared for the Second International Energy Symposium at the 1982 World's Fair, to be held in Tennessee in November 1981. The authors are, respectively, Executive Director of the International Energy Agency and Director, Office of Long-Term Cooperation (IEA).

2. France, Finland and Iceland are members of OECD but not IEA.

Trading in gas and oil futures on the new International Petroleum Exchange in London.

the fact that energy objectives themselves include not only encouraging economically efficient use, but also promoting the substitution of other fuels for oil and increasing indigenous production. There may be cases where economic pricing of energy supports the efficiency objective but conflicts with other energy objectives. The focus must therefore be on assessing, in specific circumstances, the degree to which departures from economically efficient pricing practices are consistent with the overall thrust of energy policies.

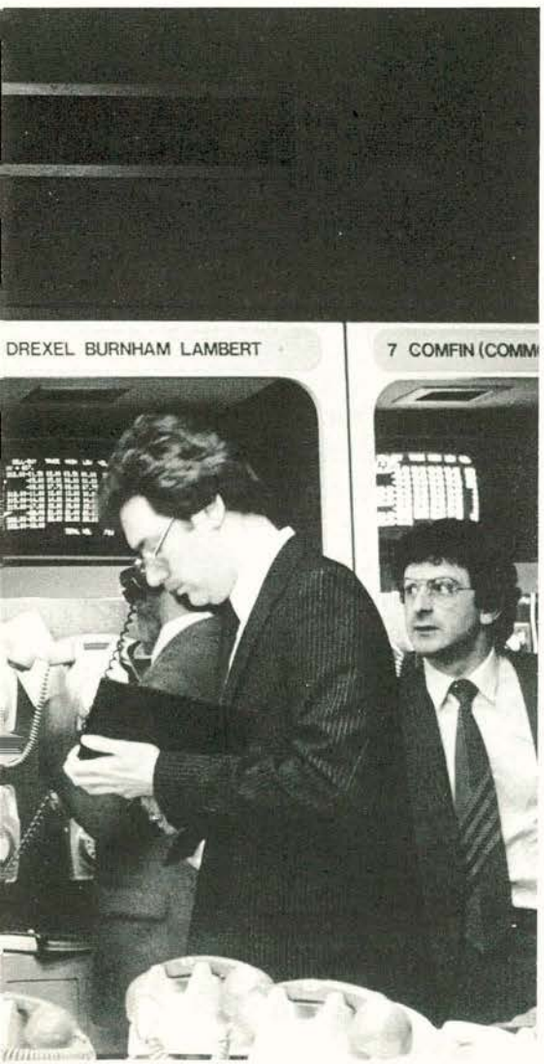
The Role of Governments

No government of an industrialised country adopts a completely laissez-faire attitude to energy. Nor, in our view, can any government afford to do so as long as a substantial proportion of total energy requirements remains controlled by other governments. Markets often function imperfectly and even where they do function well, in the sense of allocating resources efficiently, the outcome can conflict with other social objectives such as income and wealth distribution. For these reasons, governments have a legitimate role and a necessary responsibility to deal with the energy problem. The precise balance between reliance on market forces and an active government role will vary from country to country. But government actions are necessary, both nationally and internationally, if the overall situation is to be managed effectively.

In general terms, there are four key roles for governments:

- a leadership role, to provide an overall framework in which the energy problem can be intelligently discussed and to focus attention on the consequences of alternative courses of action. This is critical in the process of shaping consensus on the appropriate tradeoffs among energy objectives and competing goals;
- an information role, to disseminate practical advice to consumers and investors about the options available to increase the efficiency of energy use and switch away from oil. In their own operations as well, governments should be, and be seen to be, implementing energy options consistent with their overall energy objectives;
- a housekeeping role, to ensure that the array of governmental and quasi-governmental regulatory procedures is operated in as streamlined a manner as possible to reduce the burden on applicants and provide greater certainty about the nature and length of regulatory processes;
- an interventionist role through taxation, incentives, regulations or even direct government involvement, to overcome the effects of market imperfections or market power. Examples would include the provision of incentives to encourage the insulation of rental dwellings (recently done in the Netherlands); establishment of guidelines governing the terms on which industrial electricity generation can be linked to existing grids, as has been done in Austria; or the development of an overall "heat plan" for municipalities as has been implemented in Denmark.[3]

3. Other examples of areas where intervention is desirable to remove institutional constraints and actions have been taken by IEA countries are presented in Energy Conservation: The Role of Demand Management in the 1980s. *OECD, Paris, 1981.*



Canada-Alberta Energy Agreement

Canada is a key country in the International Energy Agency (IEA), because of its great energy potential. Many of the resources, however, are concentrated in a single province — Alberta — and the future of energy production there has been uncertain because of a lack of agreement on prices and taxes between that province and the federal government. Now agreement on these matters has been reached. The following description provided by the Canadian Energy Ministry sets forth the main lines of this agreement.

On 1st September, 1981, the Government of Canada and the Government of the Province of Alberta signed a five-year agreement on the pricing and taxation of energy resources. The agreement concluded several months of intensive negotiations between the two government levels and adds a new dimension to the National Energy Programme of October 1980 (See OECD Observer, July 1981, No. 110).

Under the terms of this historic agreement, the price of *conventional old oil* — previously $18.75 a barrel — went up on the 1st of October and will increase again on 1st January, 1982 and every six months thereafter; by July 1986, the wellhead price will be $57.75 a barrel. The agreement specifies however that the figure must not exceed 75 per cent of the average cost of imported crude oil imported into Montreal.

In addition, as from 1st January, 1982, a new reference price will apply to all new oil (conventional new oil in Alberta, synthetic oil and oil from Canada Lands in the north, northwest and offshore). This reference price, which is to increase twice a year, will reach $79.10 a barrel by July 1986 but here too the agreement specifies that this price must not exceed the actual international price of oil.

Throughout the period of the agreement the price of *Albertan natural gas* on domestic markets east of Alberta will be more advantageous than that of oil. It

Excavating oil-tar sands in Alberta.

will increase by 25 cents per thousand cubic feet every six months. The Canadian Government is confident that this new system for pricing natural gas will encourage Canadian consumers to use more natural gas and reduce the use of oil in the residential, commercial and industrial sectors. Lastly, the Government of Alberta is to make payments to encourage the expansion of gas markets in the provinces east of Alberta.

The Canadian Government will continue to levy a *petroleum compensation charge* on all domestic oil production in order to help finance the cost of the country's oil imports. It will also maintain a tax (called Natural Gas and Gas Liquids Tax — NGGLT) on propane and butane exports. But the Government has agreed to the provisional exemption from NGGLT of natural gas exports originating in any province with which it has a general energy agreement. The two Governments anticipate that the agreement should yields a revenue of some $212.8 billion over the next five years. The Canadian Government would receive $54.3 billion, the Albertan Government $64.3 billion and industry $94.2 billion.

The new pricing system will give the Canadian Government the revenue necessary to carry out its obligations in the field of national energy management. Industry will have sufficient finance to develop new tar sands and conventional oil projects and to push ahead with the exploration and exploitation of oil deposits in the north and offshore. Canadians will be paying fair prices which will increase gradually but remain somewhat below world prices. Lastly, the country will be strengthening its energy security because the agreement will enable Canada to pursue the objectives set out in the National Energy Programme with greater vigour.

Plutonium and the Environment

Transuranic elements such as plutonium, neptunium, americium and curium appear as by-products during the process of nuclear energy production; these elements present a low-level but very long-lived hazard and are, therefore, an element in the public debate on the development of nuclear energy. The potential risk associated with their introduction into the environment has been a factor in discussions on fast-breeder reactors which use plutonium as fuel and thus require separation and handling of large quantities of transuranic material.
In order to assess the importance of health problems posed to man by the possible release of plutonium and other transuranium elements into the biosphere, OECD's Nuclear Energy Agency (NEA) appointed an expert group in 1978 to discuss the environmental and biological behaviour of these elements. The opinions expressed and the facts given in their report, which is summarised below[1], are the sole responsibility of the expert group.

The health risk from exposure to plutonium and other transuranium elements is associated with their radioactive properties. Most isotopes of these elements emit alpha particles which release all their energy, and produce, in a very small volume around the alpha particles' track, intense ionisation. Because of the short range of alpha particles, the major health risk comes from the incorporation of these elements within the human body. In general they have long half-lives (the time for half of the isotope to transmute by radioactive decay to a different and ultimately non-radioactive element).

It should however be recalled that there are now, and always have been, naturally occurring and similar alpha-emitting radionuclides which expose human beings to radiation. For plutonium itself, the amount occurring naturally is very small, but significant quantities do exist in the environment due to the presence of plutonium in the fallout of nuclear weapons tests in the 1950s and 1960s and a few small accidental releases. As to the nuclear energy industry, there has been a very low level of release in effluents from reprocessing of nuclear fuel while in other operations, such as nuclear reactors and fuel fabrication,

1. *The Environmental and Biological Behaviour of Plutonium and Some Other Transuranium Elements.*

releases are negligible. The global inventory of plutonium and other artificially produced transuranium elements in the environment however is a small fraction of the total quantity of naturally occurring alpha-emitting radionuclides such as radium 226; these radionuclides emit about 200 times more alpha particles than does the manmade plutonium currently present in the environment.

A vast amount of information is available on the environmental and biological behaviour of plutonium, though somewhat less is known about the other transuranium elements. Their presence in the environment, as a result of past human activities, has provided an opportunity for studies on their hazards for man and other living organisms and for the environment.

Environmental Behaviour

The transfer of transuranium elements from soil and water to plants and animals, particularly man, is extremely low.

Plutonium which is the most abundant of the transuranium elements produced in the nuclear fuel cycle readily hydrolyses in water to form very insoluble compounds which are not very mobile in the environment. Moreover mobility is inhibited because plutonium is retained by soil and sediment particles. These insoluble compounds are not easily taken up by plants and animals. However a small proportion of the plutonium may form stable organic complexes whose solubility could increase the transfer to plants and animals.

Americium and curium have a simpler chemistry than plutonium. They are less readily hydrolysed and as soluble compounds, have a somewhat greater mobility than plutonium in environmental and biological systems. Of the four transuranium elements, neptunium has the greatest mobility in the environment, particularly in ground water.

Route of Intake

The most significant route of intake into the human body for both occupationally exposed persons and the general public is through the lungs. However only about one hundred millionth of the plutonium suspended in the atmosphere as a result of weapons tests can be absorbed by man. Nevertheless this is the main source of plutonium absorption by the general public. Intake through wounds can also be important for occupationally exposed persons if they are involved in incidents in the course of plutonium handling.

The absorption of plutonium and other transuranium elements through ingestion is thought to be very low (one part in 10,000) even when they are eaten in foods containing these elements in a biologically bound form; therefore, the ingestion pathway for the general public is negligible as compared to exposure by inhalation. Nevertheless, the long half-lives of some transuranium elements together with the possibility that, once in the soil, "weathering" may make them soluble, increasing the uptake by plants, could in the longer term, make ingestion more important. This is particularly true for americium and curium since they are characterised by a greater mobility than plutonium in food chains. The long-term potential impact of transuranium elements taken in through food and water should be considered in assessing the consequences of actual or potential release.

Plutonium and uranium are separated out from spent nuclear reactor fuel at this reprocessing plant in La Hague, France.

The Effects on Man

The metabolic behaviour of plutonium and other transuranium elements has been extensively studied in several species of laboratory animals (rodents, dogs, baboons). Limited data are also available for man. Major sites of deposition after their entry into the blood are the liver and bone, the distribution between the two organs depending on the species.

For calculation of acceptable intake, it has been assumed that 45 per cent of the plutonium in the blood deposits in the liver and 45 per cent in the skeleton, the remaining 10 per cent being either divided among the other organs or excreted; a similar distribution has been assumed for the other transuranium elements, although the assumption may not be entirely justified since data collected from human studies, supplemented by data from animal experiments, show significant deviations from these values.

The biological effects of many compounds of plutonium and other transuranium elements have been extensively investigated in laboratory animals. In all animal species, the main health risk is associated with tumour induction in the lungs, bone and, to a lesser extent, in the liver, where the plutonium is mainly deposited.

As the histological types of cancer that occur in experimental animals may differ from those commonly seen in man, and as there are differences between species as to their radiosensitivity, animal data alone cannot be used with any degree of confidence to estimate risks for man. Risk estimates for cancer induced by transuranic elements are also based on epidemiological studies of humans who have absorbed alpha-emitting radionuclides other than plutonium or have been exposed to other types of external radiation. No cancers attributable to plutonium have been observed in the small number of men who have ingested significant amounts.

It is considered that current estimates of risk are reliable enough to permit the establishment of protection standards for both workers and members of the general public, and the International Commission on Radiological Protection (ICRP) has made recommendations to serve as guidelines for national regulation.

Recall of Unsafe Products

by Lars Øftedal Broch[1]

Consumer policy in matters of product safety is all too often a follow-up to critical problems: serious damage to health or even fatal accidents have to occur in order to mobilize the public support necessary to change attitudes towards product safety. Moreover it is not positive measures that make headlines in matters of consumer policy but policy failures. Promoting a systematic approach to product safety is one of the main concerns of OECD's Committee on Consumer Policy. This specialised body keeps governments informed of both new safety regulations in all 24 Member countries and hitherto unsuspected hazards in consumer products. It aims at providing the basis for policy options in this area. A new report, entitled "Recall Procedures for Unsafe Products Sold to the Public", is a further step in this direction[2]*, and OECD's Council has recommended specific action on the matter to Member governments.*

There will always be some chance of unsafe products reaching the market place, however sophisticated manufacturers' quality controls. Not because existing standards or regulations are ignored but because of faulty production techniques or inherent design defects which may be discovered only after the product has been in use for some time. Another factor is the increasing variety and complexity of consumer products. The consumer movement, moreover, has given rise to a growing awareness on the part of consumers, suppliers and governments of the need for recall of hazardous products from the market. Even if no statutory powers are available to governments in this area – as is the case in the majority of Member countries – many firms have realized that failing to recall defective or hazardous products may create greater complications and more expense later on, especially if there is proof that they were aware of the defect when the product was put on the market.

The rationale for product recall is simple. Consumers have a right to expect that products they have purchased are safe under conditions of normal use. If unsafe products have reached the market place or are already in the hands of consumers, the latter should be warned and offered adequate compensation for any losses incurred. In practice, the application of this principle poses a number of complex problems: since it basically entails a reversal of the distribution process, the operation is relatively expensive and cumbersome; publicity is inevitable and can be supposed to damage the good will associated with the brand name; and it may be difficult to draw the fine line between safe and unsafe products.

What the OECD report and Council Recommendation advocate is not necessarily more regulation or more recalls but development of systematic procedures which come into force when a recall is required.

Recall Procedures: The Four Steps

There are four main elements in product recall:

1. *Identification of product hazards*

Since recall can be justified only when the defect poses a potentially substantial risk of injury to the public, the hazard must first be identified and isolated and the risk assessed. The hazard may be identified by any one of a number of parties:

- the manufacturer in the course of quality control, as a result of consumer complaints, liability suits or information from distributors, dealers or retailers
- a regulatory agency, possibly through an injury-reporting system
- a consumer association as a result of complaints from consumers or product testing
- approval or certification bodies having surveillance systems to ensure continuing compliance with standards
- importers
- testing laboratories or insurance companies.

Normally criteria for what is safe and what is not include such factors as:

- the probability of accident
- the number of unsafe products distributed and persons exposed to risk
- the principal users of the product, e.g. children or the elderly
- whether recall can be limited to a single batch or must be extended to the entire output
- nature and severity of potential injury
- cost of redress weighed against product cost
- percentage of products in which the defect is likely to be present.

2. *Notification of consumers*

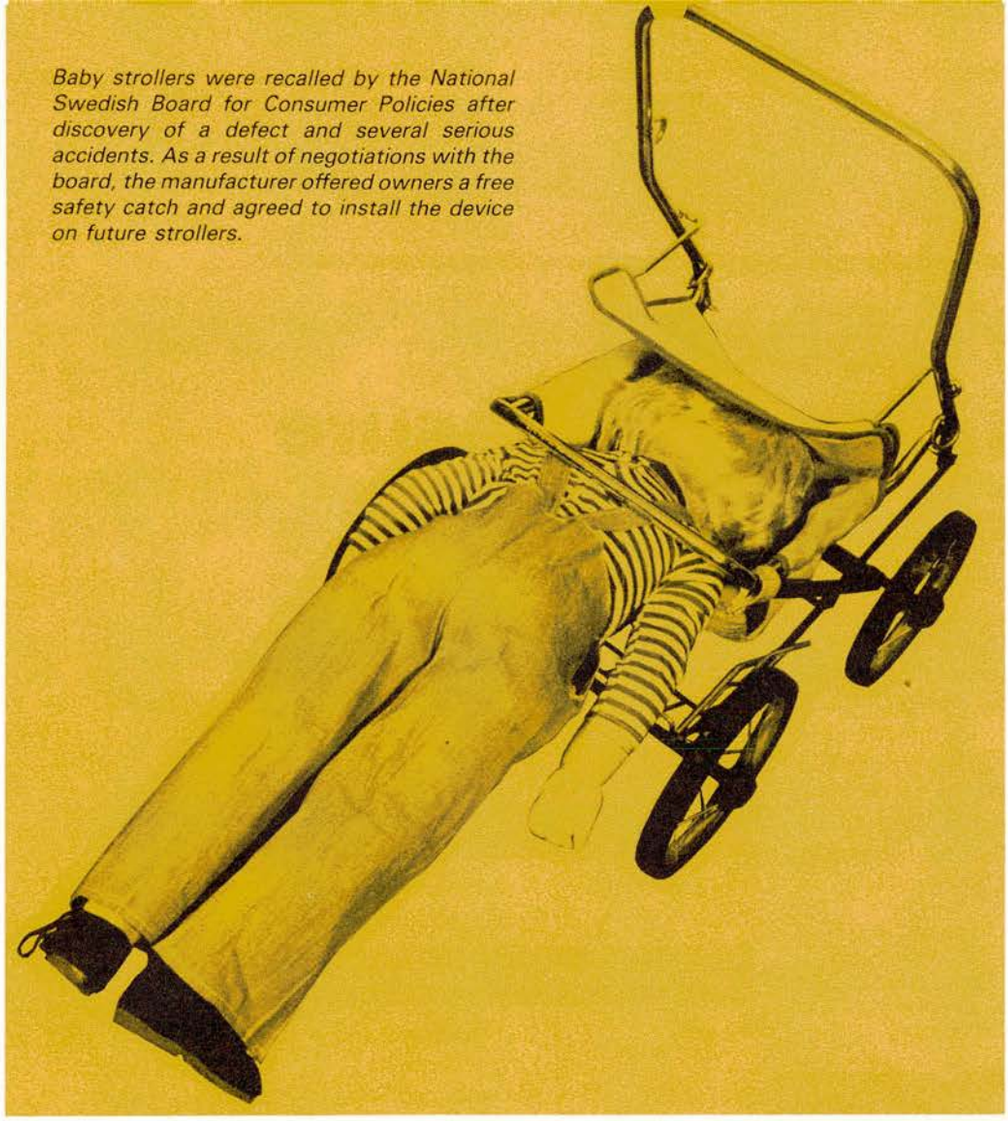
If there is legislation, the regulatory agency sets the recall in motion, but if there is no law, the manufacturer or supplier must take the initiative. When, as often happens, the users of the product cannot be identified, the manufacturer's only course is to notify consumers through the media.

If most of the users can be identified (e.g. if the product is bulky or expensive) direct notification is preferable. In any case it is important that every possible effort be made to contact the users. Laws may require approval of the public notification by the regulatory authority. If the manufacturer's efforts are deemed inadequate, this body can notify consumers itself.

Notification to consumers, whether the procedure is mandatory or voluntary, should describe the product as precisely as possible, state clearly the nature of the defect, the specific hazard involved, and the circumstances under which injury may occur. Under mandatory recall prodecures, precise instructions (e.g. where the product should be returned for refund or how the user can dispose of the product) must be given. If the regulatory authority thinks the notification is likely to be ignored, it can hold the manufacturer responsible. In some countries, the authorities are prepared to

1. *Director General, Ministry for Consumer Affairs and Government Administration, Norway, Chairman of OECD's Committee on Consumer Policy.*

2. *Other recent reports in this field include:* Data Collection Systems Related to Injuries Involving Consumer Products, *1978;* Severity Weighting of Data on Accidents Involving Consumer Products, *1979;* Safety of Consumer Products – Policy and Legislation in OECD Member Countries, *1981.*



Baby strollers were recalled by the National Swedish Board for Consumer Policies after discovery of a defect and several serious accidents. As a result of negotiations with the board, the manufacturer offered owners a free safety catch and agreed to install the device on future strollers.

issue a public warning themselves – even if they do not have mandatory recall powers.

3. *Corrective action*

The main forms of corrective action are:

- *Repurchase of the product.* The manufacturer or supplier will refund the full purchase price of the product (or a discounted price if the product has been in use for some time) if the defective product can be easily transported or cannot be repaired or can be disposed of by consumers without causing problems. In the latter case proof of purchase is necessary, and this may cause difficulties for both the users and the manufacturers, especially if the product has been in the hands of consumers for some time.
- *Replacement of the product.* A simple exchange of the defective product for a later model or at least one that has been shown not to have the defect.
- *Repair or modification of the product.* If the difficulty can be corrected at the user's home, the manufacturer may provide detailed instructions and the components required or send a company representative; otherwise the user has to bring the product to some designated spot for repair.
- *Disposal of product.* If repair is too costly or impossible and disposal of the product is risky, it must be burned or buried and measures taken to avoid pollution of the atmosphere or contamination of the land.

4. *Monitoring the recall process*

The role of the regulatory authority depends on whether or not there is consumer safety legislation and on the powers given to that body. Among them are the power to:

- determine whether or not a recall operation is warranted
- evaluate and approve the product-recall plan submitted by the manufacturer or supplier
- require the submission of progress reports by the manufacturer or supplier, and if the hazard exposure has not been adequately reduced, to ask for a follow-up.

Two recent examples of recall in the United States:

- the recall of hair dryers containing asbestos. Some 20 million hair dryers, produced and distributed by 39 firms were involved in *the largest multi-producer corrective action* ever undertaken by the U.S. Consumer Product Safety Commission.
- the recall of coffee percolators which slipped out of the handle attachment band and scalded the users. Some 18 million items were involved, *the largest recall concerning a single manufacturer.*

The International Dimension

Since 1979, OECD's Committee on Consumer Policy has had an informal procedure under which governments notify each other of new national product-safety measures – new safety standards, product bans and recalls, and research projects on product safety. The rationale for notification is clear: recalls account for an increasing proportion of the measures reported by governments; if the goods involved are internationally traded, consumers abroad should be accorded the same right to safety as is enjoyed by domestic customers. Often when products traded mainly on domestic markets are banned or recalled, the manufacturers or suppliers concerned try to dispose of the merchandise by exporting it to countries whose consumers are unaware of the risk. The informal notification procedure can be a useful tool, operating not only as an early warning system but also as a basis for further discussion among Member countries on specific cases and more general issues of common interest in the field of product safety.

The more Member countries equip themselves with similar powers to cope with recall situations, the more effective international cooperation will be. In view of the widely differing regulatory situations in Member countries – only a few have statutory recall powers in the strict sense – the Council Recommendation covers a wide range of measures: maintenance of adequate production and quality-control records, the obligation of manufacturers to inform the relevant authorities of potential hazards detected in connection with their products, the obligation to issue warnings to consumers and administrative powers to require suppliers to mount recall operations. Trade associations should be encouraged to set guideline procedures for their members so that manufacturers will be incited to develop their own internal procedures for handling recalls. With regard to internationally traded goods, the Recommendation urges Member countries to use the OECD informal notification procedure and to seek legal powers to prevent exports of hazardous products.

In the past, product safety legislation has to a large extent been enacted piecemeal. At present a number of countries are reviewing legislation in this field with a view to introducing broader framework laws on product safety. This opens up the possibility that all or some of the suggestions of OECD's Council will be incorporated into the emerging legal patterns and thus help Member countries to provide additional protection for their consumers.

OECD's Social Indicators : A Measure of Well-Being

The list of social indicators which the OECD has just adopted is the first international inventory of its kind. It is designed to measure individual well-being and can be used forthwith by Member countries interested in building a common core of international data to serve as a gauge of the quality of life. The OECD Secretariat will now collect from Member countries whatever data are available on the indicators.

Social Concerns	*Indicators*
Health	
Length of life	Life expectancy
	Perinatal mortality rate
Healthfulness of life	Short-term disability
	Long-term disability
Education and learning	
Use of educational facilities	Regular education experience
	Adult education
Learning	Literacy rate
Employment and quality of working life	
Availability of employment	Unemployment rate
	Involuntary part-time work
	Discouraged workers
Quality of working life	Average working hours
	Travel time to work
	Paid annual leave
	A typical work schedule
	Distribution of earnings
	Fatal occupational injuries
	Work environment nuisances
Time and leisure	
The use of time	Free time
	Free time activities
Command over goods and services	
Income	Distribution of income
	Low income
	Material deprivation
Wealth	Distribution of wealth
Physical environment	
Housing conditions	Indoor dwelling space
	Access to outdoor space
	Basic amenities
Accessibility to services	Proximity of selected services
Environmental nuisances	Exposure to air pollutants
	Exposure to noise
Social environment	
Social attachment	Suicide rate
Personal safety	
Exposure to risk	Fatal injuries
	Serious injuries
Perceived threat	Fear for personal safety

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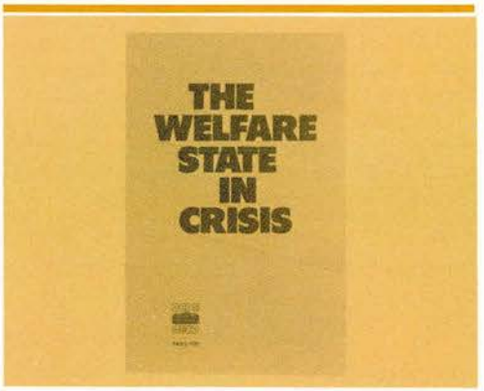

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