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THE EXTERNAL FINANCING OF INDONESIA'S IMPORTS
(SPECIAL SERIES ON MIXED CREDITS, IN COLLABORATION WITH ICEPS)

by

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PREFACE

This study examines the impact on Indonesia of the external official aid the country receives to finance its imports. Such official aid arises when lender countries provide export credits on terms more favourable than those obtained on the international capital market. Attention is focused in particular on those operations where the financing contains a component of public development aid in the form of grants or loans on very generous terms. These operations consist of mixed, associated, parallel of joint financing or credits. They have long been the subject of examination and discussion within the OECD and have given rise to protocols of agreement, such as the "consensus" on export credits and the "guidelines" of the Development Assistance Committee.

This study on Indonesia reminds us of some fundamental truths. In principle subsidies associated with the external financing of imports reduce the cost of these imports and should be favourable to the borrower country. This basic observation is subject to a number of conditions however. Such loans in fact should be used for investment projects rather than for importing consumer goods; these projects should generate a yield at least equal to the rate of interest paid; lastly, the prices paid, even in the case of tied aid, should be competitive prices, hence the importance of international calls for tender and a cost-conscious purchasing policy.

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RÉSUMÉ

L'emprunt à l'étranger constitue une ressource financière additionnelle pour une nation dont les réserves de fonds disponibles pour l'investissement à long terme sont insuffisantes au regard du montant de ses besoins d'investissements productifs. L'Indonésie est le type même de ces pays à besoins élevés d'investissements, qui ont financé nombre de leurs projets de développement à partir de ressources internationales en raison de l'étroitesse de leur marché des capitaux. Elle s'est astreinte à limiter l'emprunt de type commercial tout en utilisant au maximum sa part de fonds auprès des sources multilatérales et bilatérales dotés de clauses préférentielles.

A la fin de 1986, on estimait à 43.5 milliards de dollars la dette extérieure de l'Indonésie, dont 43 pour cent en dollars et 22 pour cent en yens. Le service de la dette publique représente 30 pour cent des exportations et celui de la dette totale s'élève à 40 pour cent.

Depuis 1984, la politique de gestion de la dette et de déréglementation des échanges se caractérise par une grande efficacité. A la suite de la baisse du prix du pétrole, la politique de déréglementation des échanges tend à renforcer les exportations non pétrolières. Et, tandis qu'il mettait en oeuvre un processus d'ajustement, le gouvernement empruntait de façon massive à l'étranger à des taux préférentiels (surtout au Japon). En 1987, pour la première fois depuis 20 ans, les exportations non pétrolières dépassaient les exportations pétrolières. Depuis lors, elles continuent à s'accroître rapidement. En 1990, l'insuffisance des échanges extérieurs des années 80, due aux exigences croissantes du service de la dette et à la stagnation des recettes pétrolières, est révolue.

Alors que l'Indonésie s'efforçait traditionnellement d'utiliser, pour ses emprunts à l'étranger, des obligations à long terme d'origine bilatérale ou multilatérale à des taux d'intérêt fixes et préférentiels, elle connaît depuis ces dernières années une expansion rapide des crédits d'exportation qui augmentent la part de sa dette commerciale à plus court terme à des taux d'intérêt variables. Cette étude évalue les bénéfices tirés par l'Indonésie de ses financements bilatéraux à des conditions préférentielles par comparaison avec les fonds obtenus aux conditions du marché pendant la période 1983-1986.

Le modèle conçu pour cette analyse prend en considération un certain nombre de variables qui affectent le bénéfice économique net global acquis par un pays qui recourt à ces financements. Il tient compte non seulement des conditions des prêts étrangers conventionnés par rapport à celles des fonds d'origine commerciale, mais également des restrictions imposées par les donateurs sur le plan du choix des projets et de la fourniture de biens et de services liés à ces prêts. Les variables du modèle sont les suivantes : les conditions des prêts conventionnés, la valeur économique de l'échange extérieur, la rentabilité relative des projets réalisés grâce au financement étranger sans lequel ils n'auraient pu être entrepris, la part des fonds affectés à des achats dans le pays donateur et la surévaluation de ces fournitures.

Avant même toute prise en considération des restrictions imposées par le donateur, on estime que le subventionnement des prêts bilatéraux de développement et du crédit à l'exportation s'élève à 42 pour cent de la valeur affichée du prêt. Les Etats-Unis, le Japon et la France accordent des subventions supérieures à 40 pour cent. Les autres pays de l'OCDE pratiquent des taux quelque peu inférieurs.

Dès qu'on intègre à cette estimation de l'aide réellement perçue dans le cadre des emprunts bilatéraux les diverses restrictions d'utilisation des fonds, leurs avantages s'amenuisent considérablement. L'utilisation de paramètres étalonnés selon des valeurs réalistes permet de montrer que les taux de subvention peuvent être, dans les faits, diminués de moitié, avec une valeur réelle inférieure à 20 pour cent du montant des prêts.

En règle générale, la répartition des prêts du secteur public a été rationnelle. Priorité a été donnée aux infrastructures de ce secteur et aux services d'utilité publique qui, à ce stade de développement, relèvent de la responsabilité du gouvernement. Ces domaines se caractérisent par une haute intensité en capitaux, le taux de rentabilité des investissements s'y avérant élevé. L'Indonésie souffre encore d'un important manque d'infrastructures et de services publics.

La rentabilité économique de ces investissements à haute intensité en capitaux se trouve cependant pénalisée du fait de décisions inadaptées d'investissements sur le plan de leur taille et de leur opportunité, ou en raison de politiques de financements rendues inefficaces par la nature "liée" des prêts. Le gouvernement doit donc davantage rationaliser l'attribution des prêts étrangers obtenus par le biais de projets et réduire la partie des dépenses qu'ils impliquent en fournitures surévaluées vendues par les pays donateurs au titre de l'aide liée imposée par les conditions de l'emprunt.

SUMMARY

Foreign borrowing as a source of additional savings can be valuable to a nation whose supply of long-term investment funds is scarce, relative to the amount of its productive investment opportunities. Indonesia is an example of such a country. It has abundant investment opportunities, but because of a limited capital market has financed many of its development projects from international sources. It has maintained a policy of restricting foreign commercial borrowing while maximizing the share of funds from multilateral and bilateral sources at preferential terms.

At the end of 1986, Indonesia's total outstanding external debt was estimated at $43.5 billion, 43 per cent of which was denominated in US dollars, and 22 per cent in Japanese yen. The current rates of public foreign debt services to exports is in the 30 per cent range and the rates of total foreign debt service to exports is in the 40 per cent range.

Since 1984, the co-ordination of debt management and trade deregulation policies has been carried out with great effectivemess. As oil prices fell, trade deregulation policies were pursued to promote non-petroleum exports. While this adjustment process was taking place, the government borrowed heavily abroad at

concessional rates (primarily from Japan). In 1987, for the first time in twenty years, non-petroleum exports surpassed petroleum exports and since that time have continued to grow at a rapid pace. By 1990, the foreign exchange scarcity of the 1980s, brought about by growing debt service requirements and sluggish oil revenues, was largely overcome.

While traditionally Indonesia has tried to concentrate its foreign borrowing on long-term obligations from bilateral and multilateral sources with preferential fixed interest rates, in recent years, there has been a fast expansion of export credits, along with a rising share of shorter-term commercial debt at variable interest rates. This study attempts to measure the benefits that Indonesia has realized from the preferential bilateral financing as compared to funds obtained from commercial sources for the period 1983-1986.

To carry out such an analysis, a model is developed that considers a number of variables that will affect the overall net economic benefit gained by a borrowing country from such financing. The model considers not only the terms of the subsidized foreign loans relative to commercially sourced funds, but also considers the restrictions donors impose on project selection and the sources of goods and services purchased with these loans. Variables included in the model are: the terms of the subsidized loan, the economic value of foreign exchange, the relative return on projects undertaken by foreign financing that otherwise would not have been implemented, the proportion of the funds that must be spent on purchases from the donor country, and the price premiums that are paid on such goods.

Before considering the donor-imposed restrictions, it is estimated that the subsidy content of the bilateral development and export credit loans was equal to 42 per cent to the face value of the loans. The United States, Japan and France tended to give rates of subsidy in excess of 40 per cent. For the rest of the OECD countries, the rates of subsidy were somewhat lower.

Where the various restrictions on the use of the funds are included in the estimation of the effective subsidies received on the bilateral foreign borrowing, the benefits from such loans fall dramatically. Using realistic values of the parameters, the rates of subsidy can easily be cut in half, reducing the final value to less than 20 per cent of the value of the loans.

Overall, the distribution of the public sector loans has been quite rational. First priority has been given to public sector infrastructure and utilities that at this stage of development are the responsibility of the government. While these sectors are capital intensive, there is substantial evidence that the economic rates of return on such investments are quite high. Indonesia is a country that still experiences a significant shortage of such public sector infrastructure and services.

It is found, however, that the economic rate of return for these capital intensive investments can be easily reduced through the incorrect choice of the timing and scale of investments, or by inefficient procurement policies arising from the "tied" nature of

the loans. As a consequence, the government should take steps to rationalize the allocation of the foreign loans across projects, and to reduce the degree to which these loans are spent on over-priced goods whose purchase the source countries try to tie as a condition to the loan.

I. INTRODUCTION*

Foreign borrowing, when used properly, can be an effective way to add resources to a domestic economy whose need for external resources is beyond the country's current export earning power. Foreign borrowing not only adds to a country's available resources, but if it is combined with new technology and technical assistance, it can be utilized to bring about structural changes to the economy. While individual loans have often been evaluated on a project-by-project basis as part of the project appraisal process, the actual benefit of foreign debt has rarely been looked at from the aggregate point of view.

Before the 1970s, most foreign loans to developing nations were provided under concessional terms which usually meant either lower loan interest rates or that part of the principal was forgiven. With the increases in commodity prices and the rise of international banking in the 1970s, more foreign loans are provided by private institutions at commercial terms. Even though the relative share of concessional loans in the total foreign debt of developing countries has been declining, the absolute amount of concessional loans has been rising as overall debt has been rising.

In addition to the benefit a borrowing country might get from the use of foreign commercial loans to finance a high return investment, the terms of concessional loans provide additional financial savings. Over the years, many industrial nations have provided many kinds of loans with different concessional terms to the developing nations. The degree of concessionality embodied in these loans or "the subsidy rate" of these loans has rarely been measured.

In this paper we shall attempt to evaluate the amount of subsidy implicit in these loans and estimate how these loans are being distributed across sectors to evaluate their economic impact. The first task requires the measurement of the reference interest rate or the best alternative interest rate the borrowing country would have to pay in order to get the same loan if the concessional loan were not available. The second task is of estimating the impact of concessional loans on the economy. This impact can take several forms.[1]

II. SOURCES OF EXTERNAL FINANCING

Foreign borrowing as a source of savings and added external resources can be very valuable to a nation whose supply of long-term investment funds is scarce relative to the amount of its productive investment opportunities. Indonesia is an outstanding example. It enjoys a good credit rating in overseas financial markets, has abundant investment opportunities and, yet, has a limited domestic capital market. As a result, the government has borrowed internationally large amounts of funds to finance many of its development projects.

Magnitude and Sources of Foreign Debt

At the end of 1986, Indonesia's total outstanding external debt was estimated to be $43.5 billion (Table 1-2) of which 43 per cent was denominated in US dollars, 22 per cent in Japanese yen. This level of debt is relatively high when compared with the total amount of Indonesian banking credit outstanding of $20.5 billion in 1986.[2] Foreign debt was equivalent to approximately 61 per cent of GNP in that year and rose to 73 per cent in 1987. The current public foreign debt service to exports ratio is in the 30 per cent range and the total foreign debt service ratio is in the 40 per cent range.

These ratios are high but not excessive in comparison to the Brazilian and Mexican foreign debt service ratios which were in the range of 70 to 80 per cent in recent years and were over 100 per cent in the early 1980s (Table 2-2).[3] Because of these rather high levels of debt and debt-service ratios, the successful debt management policy of the Indonesian government has been crucial in avoiding the kind of debt crisis which had been experienced by many developing countries.

Since 1984 the coordination of debt management and trade deregulation policies has been done with great effectiveness. As oil prices fell, trade deregulation policies were pursued to promote non-petroleum exports. While the adjustment process was taking place, the government borrowed heavily abroad at concessional rates (primarily from Japan). In 1987, non-petroleum exports for the first time in twenty years surpassed petroleum exports and since then has continued to grow at a rapid pace. By 1990, the foreign exchange scarcity of the 1980s brought about by growing debt service requirements and sluggish oil revenues had been largely overcome.

Due to the high level of public sector borrowing of yen denominated loans from Japan from 1986 to 1990, the information shown in Tables 1-2 and 1-3, understates the current position of Japan as a source of foreign financing for Indonesia. The position of the United States is further overstated in these tables because for many years Indonesia has been a heavy user of the World Bank as a source of foreign loans. These multilateral loans are reported to have originated in the United States

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even though they may only be channeled through the World Bank from their original suppliers of funds from around the world.

As can be seen in Table 1-4, most of the foreign loans have been incurred by the public sector. This is partly because regulations have forbidden commercial banks from issuing any guarantees for private sector external borrowing. The Central Bank (Bank Indonesia) also limits direct foreign borrowing that may be undertaken by domestic banks. With the liberalization of the banking sector and the rapid expansion of private enterprises, we can expect foreign borrowing by the banks to increase in the future. Indonesia's external debt management policy does not permit the Government or state enterprises to engage in short-term external borrowing and, therefore, public sector external debt consists entirely of long-term instruments.

Another reason for the relatively high share of public sector debt is that private sector debt is seriously under reported. Although foreign direct investment and external borrowing by the banking system are regulated, private non-bank capital movements are free of restrictions in Indonesia. Because the reporting requirements for private non-bank borrowing are not comprehensive, the private sector debt is only partially recorded in the external debt statistics provided in Table 1-5. While the total private sector debt may be under reported, we can assume that these loans are borrowed at competitive market rates and do not carry any concessionality from the lenders. These private sector loans will therefore not affect our calculation of the degree of concessionality implicit in the foreign debt of the public sector.

Terms and Structure of Foreign Debt

The terms for new Indonesian external borrowing by the public sector have remained relatively stable over the 1983-1987 period. The terms of loans assumed by the public sector have averaged 15 years to maturity with a grace period of five years and an interest rate of 9 per cent. During this period the average interest rates have risen, reflecting Indonesia's greater reliance on commercial sources of foreign finance. This average interest rate also understates the increase in the real cost of new borrowings due to the fact that there has been a relative shift toward Japanese and World Bank sources of financing. These loans tend to have a lower interest rate, but as they are denominated in currencies that are expected to appreciate, the overall cost of these loans may be substantially higher than previous dollar borrowings.

In the early 1970s, Indonesia's foreign debt consisted mainly of concessional loans. After the first OPEC oil price increase in 1973, the share of concessional loans in total Indonesian foreign debt has been greatly reduced from the height of nearly 80 per cent to about 35 per cent in 1985 (Table 1-6). At the same time, together with the steady improvement of Indonesia's international credit standing, the share of private credits in total Indonesian foreign debt has been rising from 11 per cent in 1970 to 45 per cent in 1986. Because of the long maturity and higher concessional elements of the outstanding loans acquired in the 1970s, the average interest rate on all outstanding external debt was 7.5 per cent in 1986.

Balance of Payments and Capital Flows

A nation's need for foreign debt is determined by its domestic demand and supply of credit and its need for foreign exchange. This need for credit and foreign exchange is inversely related to the current account position of the balance of payments. The fairly large current account deficits in the 1980s (Table 1-6) combined with a foreign debt service ratio in current years of around 40 per cent to 50 per cent[4] indicates that Indonesia's foreign exchange requirements greatly exceeded its foreign exchange earning ability. Although Indonesia has managed to keep its foreign debt service ratios within acceptable bounds, its dependence on foreign sources of funds has remained high.

Official borrowing and the private capital inflow into Indonesia has been high in the 1980s (Table 1-7). Debt service payments have also been rising. The net capital inflow has been substantially smaller than the gross capital inflow. The net capital inflow has also been used to finance imports. Depending on whether imports have been destined for consumption or for productive investment projects, the long-term impact of this net capital inflow may differ greatly.

Sources of Foreign Capital

The world capital market is competitive and integrated. For loans denominated in the major world currencies it is appropriate to assume that international interest rate arbitrage is close to perfect. Given modern communication technology, the geographical origin of a private loan probably matters very little in terms of the final cost of a loan.

Borrowing in different currencies does involve greatly different foreign exchange risks. The interest spreads between loans denominated in two different currencies, regardless of the geographical origin, can in large part be explained by foreign exchange risk and expectations. Because of the hedging facilities available for protecting against foreign exchange risk, the apparent spreads among short-term interest rates of loans denominated in different currencies reflects little difference in expected real financing costs. On the other hand, because of the imperfections in the present long-term foreign exchange forward markets, borrowers and lenders cannot be totally shielded from the risk of long-term exchange rate fluctuations. As a consequence, the long-term cost of funds may still differ across commercial loans denominated in different currencies. Interest rates on concessional loans are a different story. The amount of implicit grant provided through such a loan and the degree of concessionality of the loans will depend on the lending countries' government policy. While there is competition among governments to provide attractive financing for national exports, efforts have been made by the OECD countries to ensure that the terms of concessional loans do not get too much out of line with those of other nations. Because of the imperfect expectations of future foreign exchange rates and the political process by which such funds are made available, the cost of funds provided by different governments vary. While public loan

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rates may differ among themselves, they are generally lower than the corresponding private market interest rates. It is, therefore, useful to examine the geographical distribution of the sources of Indonesia's foreign debt and whether it comes from the public or the private sector.

As shown in Table 1-8, the share of Indonesian foreign public sector debt obtained from foreign government and multilateral sources combined declined throughout the 1970s and early 1980s, from 85 per cent in 1969 to 51 per cent in 1984. At the same time, the share of multilateral loans in total public loans has increased from 3 per cent in 1969 to 23 per cent in 1984. Loans from private sources of the DAC (OECD Development Assistance Committee) countries, especially export credits after 1975, have been rising rapidly to more than offset the gradual decrease in the amount of public bilaterally supplied loans. This trend is most evident in Table 1-9 where the share of ODA grants and loans has declined drastically from 75 per cent in 1969 to 16 per cent in 1984, while the share of export credits has increased tremendously from 7 per cent to 73 per cent during the same period. Export credits are generally provided at interest rates close to the prime rates while bilateral loans are usually provided at highly concessional interest rates. Multilateral loans and commercial loans have been provided at rates close to the Libor rates.

From the early 1980s, the importance of public sector loans has been reduced. The rapid increase in private export credits was the main cause for the rapid increase in private debt. The higher share of private debt, especially of export credits, will no doubt reduce the degree of concessionality and increase the cost of Indonesian's foreign debt.

From Table 1-10 we see that of the most important lending nations, the United States and Japan have maintained their traditional positions as major lenders to Indonesia. In 1984, Japan's share in total annual capital flows was 34 per cent; the United State's share was 26 per cent. Other major lenders have been France, Germany, the United Kingdom, the Netherlands, Italy, Australia and Canada. Most of these countries traditionally provide large amounts of concessional loans.

Over the last two decades, Japan has steadily increased its share in the annual capital flow and export credits to Indonesia (Table 1-10). At the same time, the share of the United States in annual capital flow to Indonesia has declined from 45 per cent in 1969 to 26 per cent in 1984. This decline has largely been replaced by the increasing shares from Japan, Germany, the United Kingdom and Canada.

In the last half of the 1980s it is the increased role of Japan as a source of foreign financing that dominates the financial patterns. This has included large amounts of unrestricted special assistance as well as a large increase in export credits. Given Indonesia's record of sound economic management, its strategic position as a supplier of energy and raw materials to Japan, and its potential as a huge market for finished goods, the logic is compelling for increased Japanese assistance during this period of fiscal difficulty for Indonesia.

Net Financial Resource Flows

The gross disbursement of foreign loans reflects the supplying governments' lending policies as well as the borrowing country's debt management policy. One may argue that it is the net disbursement of loans that really adds to the financial resources of the borrowing country. Year-to-year net disbursements, however, are often affected by the timing of loan repayments and the disbursement of new loans. The result is a rather erratic movement of net disbursements from year to year as evidenced by Table 1-11 and Table 1-12.

From 1969 to 1984, the total annual capital flow has increased over eight fold (Table 1-10) but annual export credits has increased one hundred fold (Table 1-13). The process of the increase in export credits can better be seen through the history of export credits growth of France, Germany, United Kingdom, Canada, the United States and Japan given in the Appendix, Tables A-1 to A-6.

During the mid 1970s France made the first move to increase its foreign loans to Indonesia in the form of export credits tied to purchases from its suppliers. By 1981, Germany, the United Kingdom and Japan had followed this lead of providing tied export financing for Indonesian imports from them. By the late 1980s, Japan completely dominated the picture in this regard. This tremendous growth of export financing raises the question of who benefits from any subsidy element that might exist in such financing. Does Indonesia benefit or do these financing subsidies primarily enable the suppliers of the exporting countries to charge prices above those that Indonesia would be able to obtain from other sources?

The fast expansion of export credits, along with the rising share of commercial debt at variable interest rates and shorter repayment periods are the dominating features of the changing composition of Indonesia's foreign debt. The structure of the stock of Indonesian debt has still remained predominantly long-term with fixed interest rates. The concessional terms that Indonesia obtained during the 1970s and early 1980s has helped Indonesia weather the worst of the debt crisis suffered by other developing countries as a consequence of rising interest rates and lower oil prices in the 1980s.

III. THE INSTITUTIONAL FRAMEWORK FOR FOREIGN DEBT MANAGEMENT

External Debt Management

Foreign debt management by the government can be characterized as structured and formally centralized. It is structured in the sense that foreign borrowing is treated as part of the country's overall macroeconomic policy. The mechanism to evaluate the nation's need for foreign debt and to decide how much foreign debt the country could afford is firmly established within the country's macroeconomic management system. Monetary policy, fiscal policy, exchange rate policy, tax policy and other macroeconomic policies are well coordinated to maintain stability and growth of the economy. Most apparent in these efforts is that the government has been able to restrain expenditures when restraint was needed.

Debt management is centralized. Decisions on all foreign borrowing by the government and state enterprises are concentrated at the Ministry of Finance. State enterprises, except for Pertamina and Garuda (Indonesian national oil company and airline), are not permitted to borrow directly. All external borrowing by state enterprises must be approved by the Ministry of Finance and the National Planning Board (Bappenas). Prior to 1975, state enterprises such as Pertamina were given free reign in their borrowing. In 1975, Pertamina was unable to service its debt due to excessive borrowing of short-term commercial debt and its indiscriminate undertaking of a wide range of non-oil related investments. Even though Pertamina's debt was not guaranteed by the government, the Ministry of Finance took over Pertamina's debt. Since then, borrowing of Pertamina and Garuda has been closely monitored by the Ministry of Finance. An annual external borrowing limit on new commitments of export credits by public enterprises is also set by the Ministry of Finance.

The allocation of this annual borrowing limit among various projects and agencies is determined by Bappenas based on a mixture of the financial and economic feasibility of the projects and on the priorities of the international and bilateral agencies providing the funding. In the past, a large proportion of the external funds have been tied to designated projects approved by the countries providing the concessional financing. In recent years, the degree of tying of funds to specific projects has been greatly relaxed as the need for general balance of payments support has increased.

The 1975 Pertamina debt crisis demonstrated powerfully to the Indonesian government the riskiness of short-term commercial debt. Since 1975, Indonesia's external debt management policy no longer allows the Government or State Enterprises to engage in short-term external borrowing. Consequently, Indonesian public sector external debt is entirely long-term. The combination of centralized control on annual borrowing limit and the long-term debt structure has provided the much needed restraint on foreign borrowing.

The Impact of External Debt Management Policy

While the benefit of foreign debt to a domestic economy can be most valuable, excessive borrowing may also lead to a debt crisis which would bring great damage to the borrowing country. Aside from how a country distributes its foreign borrowing to competing uses, the level of total debt and the structure of debt can be critical on how ultimately the country can reap the benefit of these funds. Because of its sound debt management policy, Indonesia is one of the few developing countries which avoided a debt crisis. It has been concluded from the analysis of the economic situation of the early 1980s that the absence of an Indonesian debt crisis can be attributed to three factors[5]:

"a)   a high propotion of Indonesia's external debt was borrowed at fixed concessional rates in the 1970s and only about one third of Indonesian debt was denominated in dollars compared to the 90 per cent of Mexico and Brazil. This meant that the big appreciation of the dollar during 1979 to 1982 did not overwhelmingly raise the effective interest rate paid by Indonesia.

b)   The shock of the 1975 Pertamina (Indonesian national oil company) debt crisis caused Indonesian official borrowing to be very cautious about exposure in the short-term credit market.

c)   The high degree of export orientation in Indonesia prevented its debt servicing capacity from collapsing like Mexico when the price of oil dropped in early 1982. Appropriate exchange rate policies by Indonesia, exemplified by the 1978 and 1986 devaluations, ensured a diversified export bundle as well as a high export orientation."

By being able to keep the foreign debt service within reasonable bounds, Indonesia was able to abort a debt crisis during the 1980s oil price collapse. The Indonesian debt management policy of maintaining a high proportion of fixed-rate long term debt made it less vulnerable during the high-interest period of the early 1980s. Another factor is that only 40 per cent of Indonesian debt was denominated in US dollars, and all oil and natural gas exports were quoted in US dollars. The appreciation of the dollar in this period did not raise Indonesia's debt service ratio substantially.

Yet this policy alone may not have been sufficient to avoid the debt crisis experienced by many other countries of similar economic circumstances totally. The long-established conservative macroeconomic management by the Ministry of Finance and its ability to cut public expenditures drastically was crucial in helping the economy to weather the storm of debt crisis brought about by the collapse of oil prices.

Since 1985, the appreciation of the yen and the devaluation of the US dollar has added considerable strain to the burden of debt repayment. As a significant proportion of the Indonesian debt is in yen, and most of its exports are priced in dollars, the result has been a substantial increase in the debt service ratio. This ratio rose from 25.1 per cent in 1980 to 40.2 per cent in 1987. The decline in export earnings has been coupled with a sharp rise in debt repayments due to the depreciation of the dollar and the appreciation of the yen. The currency movements from 1985 to 1987 are estimated to have added US$1.5 billion to Indonesia's annual debt service obligations.

The macroeconomic policy that devalued the Indonesian real exchange rate by as much as 32 per cent in 1986 has induced Indonesian exports to grow by an average of 30 per cent during 1987 through 1989. This has helped to reduce the debt service ratio from 50 per cent in 1985 to 38 per cent in 1989. The implementation of a tax reform which installed a new value added tax has greatly increased non-petroleum government revenue. This has reduced the government's need for foreign loans to balance its budget.

Following the hyperinflation of the pre-Suharto period, the government is not allowed by law to balance its budget through domestic borrowing, eliminating the option of engaging in an inflationary monetary policy. The long-established tight money supply policy has kept inflation in check and provided stability to the economy. The recent deregulation of industrial and trade policies also has made industries more competitive.

All these macroeconomic policies have helped to stabilize the Indonesian economy following the tremendous drop in oil export revenue since 1985. In this regard, the debt management policy is really an integral part of the macroeconomic management policy of the government. It is this integrated approach toward debt management that can be credited as the successful strategy for dealing with the foreign debt problem which has devastated many other high-debt developing countries.

Allocation of Foreign Loans

The allocation of foreign loans and the procurement policies of the government of Indonesia have not been influenced as much by the desire for economic efficiency as has been the case in many other countries. While the administration is quite concentrated in the Central Government, each of its Ministries exercises a high degree of autonomy. Adding to their freedom for independent action, foreign loans are obtained from many bilateral and multilateral sources. Frequently, a ministry becomes a client of a particular international agency. As a consequence, often a bilateral assistance agency or a multilateral organization has developed a close relationship with specific government bodies.

In such situations, efforts to ensure that foreign loans are used to purchase goods and services from the lowest cost source often take a secondary position to the objectives of the donor agency to sell goods from its national suppliers. On the other hand, the government departments are eager to cultivate bilateral and multilateral agencies because they provide a continuous stream of funds for projects that keep

them busy and prosperous. The result of this process is that the government departments become very short-run project oriented, rather than organized to achieve long-term development objectives.

Formally, foreign loans are negotiated by the Planning Agency [Bappenas] in coordination with the Ministry of Finance and the Central Bank [Bank Indonesia]. The loan is then used as grants made by Bappenas or loans made by the Ministry of Finance. Officially, the expenditure on the funds is made based on the usual criteria of appropriateness and lowest cost.

In effect, the process of decision making moves very much in the opposite direction. The decision of what the foreign funds should be spent on is usually decided very early when the loan is being formulated. This is done through the planning process of the operating Ministries in conjunction with the Planning Ministry.

As a result, the efficiency of the utilization of the concessional financing usually takes second place to the speed in which the expenditures can be made and the project implemented.

When a bilateral or multilateral agency develops a project within an operating department or ministry, it will typically use consultants from the lending country, or from the multilateral agency. In the case of the bilateral borrowing, the projects are often conceived and designed by the agents of the ultimate suppliers of the goods to be purchased with the foreign loans. Although there are bureaucratic rules to promote competitive bidding, these rules generally do not apply in full force because much of the procurement decision is controlled by the donor agency.

At times, Indonesia has attempted to centralize all of its procurement through one agency. This was done with the objective of increasing efficiency. The net result was massive delays and substantial evidence that the objective of efficiency was not being achieved. As a result the procurement decisions were again decentralized in 1987. Of course, in all of these decisions approval has to be received from BAPPENAS [The Planning Ministry] and an office controlled by EQUIN (The Minister for Economic Coordination).

There is substantial evidence that Indonesia obtained the imported goods and services financed by subsidized bilateral credit at prices substantially above the competitive international prices for these items. In selected cases, the prices obtained from the donor country has been in the order of 30 per cent above international competitive prices for the same items.[6]

There is considerable room for Indonesia to improve its efficiency in the use of its concessional loans. Given the incentives for the donor country to use suppliers from its country and the government's desire to implement the projects quickly, the objective of cost minimization in its procurement policies may be difficult to achieve.

In the following estimation of the rate of subsidy provided through concessional financing, it would not be correct to assume that all of the subsidy gets allocated as additional resources to Indonesia. It is more likely that a substantial portion of the grant element is reflected in higher prices paid to the producers of goods from the donor countries.

IV. THE RATE OF SUBSIDY ON FOREIGN LOANS

Grants and concessional loans are often provided to a country with an agreement to purchase goods and services from the lending nation. Sometimes, subsidized loans may be provided as part of an export financing package to compete for projects in developing countries. In many cases, concessional financing, including grants, is really part of the donor country's export promotion program. On the other hand, a lending country might use concessional export financing as a way to reduce the overall financial burden of an expenditure programme to the borrowing country. In this case concessional export financing is part of the lending country's overall aid programme. There is little to distinguish between a loan that is official assistance and one that is export financing.

Foreign loans have become part of the numerous financial packages used to finance and promote a nation's exports. As international debt instruments and the financial management expertise of the developing nations have become more sophisticated, such financial packages have become custom-tailored to suit the needs of both the lending and the borrowing country. These loan and commodity purchase agreements have been categorized with such different names as associated financing, mixed credit, joint and parallel financing. Each category may have many variations. It would be a futile exercise to try to classify all the different kinds of financial packages. Our approach is to evaluate each loan as a series of cash flows - loan receipts at the front, followed by repayments of interest and principal. In this way, all loans will be reduced to a uniform format - a cash flow, regardless of their original structure.

The Rate of Subsidy

In our present effort to measure the degree of concessionality or the subsidy rate on foreign borrowings, we shall treat each loan as a separate cash flow. Because each loan is repaid over time with a stream of repayments, the total cost of a loan to the borrowing country can be measured by the present value of these repayments. These future repayments are based on the interest rate of the loan (i) and other terms of repayment such as grace period and the repayment schedule which will decide the size and timing of the repayments, denoted by I_t, where $t = 1 \ldots N$. If a loan is repaid at commercial interest rates without any part of the principal or interest being forgiven, the present value $PV(I_t, i)$ of all repayments (I_t) is just equal to the value of the loan

$L(I_t, i)$, i.e.,

$$L(I_t, i) = PV(I_t, i) = SUM\ (I_t/(1+i)^t), \quad t = 1 \ldots N, \tag{1}$$

$$= I_1/(1+i)^1 + I_2/(1+i)^2 + I_t/(1+i)^t$$

$$+ \ldots + I_N/(1+i)^N$$

where N is the repayment period of the loan; $L(l_t,i)$ indicates that the loan value L is a function of the interest rate i and the repayments l_t. Should any part of the principal or interest be forgiven, then the present value of the loan will be less than the disbursed amount of the loan.

In order to measure the rate of subsidy implicit in a loan is to find out the alternative interest rate or the reference interest rate (r) of the loan. This reference interest rate is the interest rate the borrowing nation would have had to pay if it had borrowed the same amount with similar repayments from the private sector. Given this reference interest rate (r), the present value of the loan with identical repayments is given by equation (2):

$$L(l_t,r) = PV(l_t,r) = SUM\ (l_t/(1+r)^t), \quad t = 1 \dots N \tag{2}$$

If the alternative interest rate r is higher than i, $PV(l_t,r)$ will be less than $PV(l_t,i)$. This means, at the higher interest rate r, the same payment scheme $(l_{t, t-1 \dots N})$ can only buy a loan with a value $L(l_t,r)$ which is less than the disbursed value of the existing loan $L(l_t,i)$ that carries an interest rate of only i per cent. The difference between the two loan values will provide a measurement of the subsidy rate (SR) of the loan which is a function of l_t, i , r and N, or

$$SR(l_t,i,r) = \{\ [L(l_t,i)-L(l_t,r)]\ /\ L(l_t,i)\ \}, \quad t = 1 \dots N \tag{3}$$

When the loan principal is reimbursed in equal installments and with zero grace period, equation (3) is equivalent to the formula used by Raynauld[7]:

$$SR(i,r,N) = [\ (r-i)/r\ ] \times [\ 1 - [\ (\ 1 - (1+r)\ )/rN\ ]^{-N}\ ] \tag{4}$$

Before we can proceed to calculate the subsidy rates on loans using equation (3) we need to estimate the reference interest rates for Indonesia.

The Reference Interest Rate

Since the reference rate r is defined as the alternative interest rate, which the borrowing country would have to pay if it were to obtain the same loan from an alternative source, we need to identify this alternative source. The cost of debt from alternative sources will depend on the borrowing country's financial condition and its international credit ratings.

For some developing countries, the major source of foreign loans may be concessional loans or grants provided by foreign governments and international lending agencies. Once their total debt exceeds a certain amount, the private market may charge such a high rate that they do not have potential investments to justify the

payment of such high interest rates. For countries belonging to this group, a measurement of the rate of subsidy is not meaningful because they would not borrow at the marginal cost of private funds. Any concessional loans provided by the lending governments must be based on non-market considerations. That is to say, political or some other criteria will be used to decide whether the loan will be provided or not provided at whatever the concessional interest rate or forgiveness that the borrowing nations can bear. In such cases, the interest rate of the loan is not the critical variable determining the lending decision.

The second group of countries are countries which could have borrowed from the private market at higher interest rates. In this case, the foreign lender governments act as intermediaries, obtaining the necessary funds from domestic or international markets and lending these funds to the developing countries. The United States is a typical example. It has been borrowing heavily in domestic and international markets and at the same time providing concessional loans and export credits to other countries. In this situation, the lender government's bond rate plus the borrowing country's risk premium is a fair proxy of the interest rate the borrowing government would have to pay if it were to borrow the funds directly from the same market where the lending government obtains its own funds.

Put differently, if a government were to borrow directly from private lenders, these private lenders would charge an interest rate which is equal to the risk-free rate plus a risk premium appropriate for the borrowing country. The risk-free rate for a very stable industrial nation such as the United States and Japan can be approximated by the government bond yields.

To estimate the reference rate for this group of countries, we have to estimate the risk-free interest rate and the risk premium appropriate for the borrowing nation. Data on government bond yields, which are a good approximation of the risk-free rate, are readily available. Estimates of the country risk premium are more difficult to obtain.

Because the governments in this group of borrowers tend to obtain concessional loans from foreign public institutions and also tend to borrow little or none from the private market, there is little private market information available for the estimation of the country's risk premium. One way to obtain such information would be to conduct a survey asking private lenders what kind of risk premium they would have charged. The other alternative would be to use the private borrowing rates of another country with similar risk.

The third group of borrowing nations are those which have substantial borrowing from private creditors. Indonesia is such a country with more than 45 per cent of its outstanding and disbursed debt provided by private creditors in 1986. In this case, the private loan rate provides the best estimate of the reference rate. This high private content is partially due to the fact that the government has been supplementing its concessional loans with private loans. The ability and willingness of the government to get loans from private lenders, whenever its foreign loan need exceeds what would be provided by the public and concessional sources, makes the private market the effective marginal source of supply of foreign debt. The interest rates from this

marginal supply of private loans to the government will provide a good measure of the reference rate.[8]

Based on the rates applying to the commercial loans obtained by the government, we calculated a weighted-average risk premium (Table 3-1). This risk premium was calculated based on the government's commercial loans from different private sources in 1986. The risk premium for each loan is defined as the differential between the rate charged on its commercial borrowing and the long-term government bond yield at the same time for each country. The amount of each commercial loan expressed in US dollars is used as its weight in the calculation. The reference rates for the lending countries are calculated for different years by adding the risk premium to the long-term government bond yields of these lending countries. These reference rates are based on our calculation of the subsidy rates using equation (3) above.

Estimated Subsidy Rates

Using equation (3) we have computed the subsidy rates for the new bilateral ODA loans provided each year from 1983 to 1986. These calculations take into consideration the grace period of each loan and principal repayment schedule based on the disbursement schedule of the loan. These rates of subsidy are presented in Table 3-3. The subsidy rates for new export credits by year are given in Table 3-4. The weighted average subsidy rates for all countries and for both types of loans are given in Table 3-5.

We have also added 0.5 percentage points to the reference rates and deducted 0.5 percentage points from the reference rates. The corresponding results are presented in the Appendix in Tables A-7a, A-7b, A-8a and A-8b. The subsidy rates calculated from the upper bound and lower bound of the reference rates do not appear to show substantial deviations from the middle reference rates. This also indicates that errors of this magnitude in the calculation of reference rates or country risk premiums will not significantly alter the picture.

The loans from the World Bank and other multinational organizations (primarily the Asian Development Bank) are not included in the calculations of the subsidy rates presented in this study. During the period covered in this analysis, Indonesia did not receive any loans of a concessional nature from these organizations. The interest rates paid on these loans represent a weighted average of the cost of the multilateral institution's borrowing for the period in which the loan was made plus the spread charged by the institution. Such loans must be repaid across currencies in the same proportion the principal of the loan had been disbursed. The interest rate is a weighted average of the interest rates charged on loans in these currencies.

The only potential financial benefit gained by Indonesia from these loans would arise if the difference between the risk premium Indonesia would pay on commercial borrowing and that of the multilateral institution was larger than the spread charged

by the institution. In the 1980s the interest rates charged by the World Bank have tended to be relatively high compared to commercial rates.

The great attraction of the World Bank is the high level of professional expertise they provide in the project selection process. Its policy advice with respect to certain sectors, and the economy in general, has been highly valued by the government. It has been argued persuasively by many that the value of the policy advice that the World Bank "ties" to its loans has added more to the economic performance of countries than has the additional financial resources it has loaned. Comparing tables 3-3 and 3-4 we find that in almost all cases the rate of subsidy on ODA loans has been much higher than for the loans provided through export credits. ODA loans generally have had a subsidy content in excess of 50 per cent, while export credits averaged about 20 per cent. For both ODA and export credit loans the rate of subsidy had been falling quite rapidly since 1983. Combining both types of loans, the average rate of subsidy has fallen from about 50 to about 30 per cent of the face value of the loans (see Table 3-5). Over this period, the average rate of subsidy from all countries for the mix of ODA loans and the export credits equaled 42 per cent of the face value of the loans.

In Table 3-5, the weighted average rates of subsidy for the mix of ODA loans and export credits are calculated by country. Over this period, the average subsidy provided by France was 42 per cent, but it fell dramatically from 89 per cent in 1983 to 18 per cent in 1986. For West Germany, the rate of subsidy averaged 35 per cent and has remained relatively stable. The highest rate of subsidy was provided by the United States at 46 per cent, followed by Japan and the Netherlands at 44 and 39 per cent respectively. The loans from the United Kingdom provided by far the lowest average rate of subsidy at 28 per cent of their face value.

The level of generosity of the lending countries has tended to fluctuate greatly from year to year. This provides some evidence that the degree of concessionality has been tied to the purpose for which the loan is being made, rather than a reflection of the lender's overall assistance policy toward Indonesia.

To determine the sensitivity of the estimated subsidy rates, the risk premium for Indonesia's ODA borrowings has been varied. We carried out the analysis two more times, once with the risk premium increased by 0.5 of a percentage point and once with it decreased by 0.5 of a percentage point. The results of this same experiment are reported in the Appendix for ODA borrowings on Tables A-7a and A-7b, and for export credits on Tables A-8a and A-8b. In all cases we find that a change of the risk premium of a percentage point only affects the estimated subsidy rate by about 3 to 7 percentage points.

From these results it is clear that the Indonesian authorities have been correct in trying to obtain as much funds as possible on concessional terms from bilateral sources. It is also clear that the financing through export credits has provided a much lower rate of subsidy than has the traditional ODA loans that dominated Indonesia's foreign borrowing in the past.

The substantial difference between the subsidy rates implicit in the ODA loans and those of the export credits substantiates the correctness of the policy of the government to maintain the best possible relations with the donor countries and the Inter-governmental Group on Indonesia in order to maximize its access to ODA finance. The Minister of Finance's instruction in 1985, which stipulated the maximum interest rate and minimum grace period acceptable for borrowing through supplier credits, was the right policy to ensure that the subsidy element on these loans remain substantial, although less than the ODA loans.

Because of the tied nature of the supplier credits, the potential for transferring the potential benefits of low cost finance to the foreign suppliers of imports is very great. In order to avoid being placed in a net loss position, the government should take steps, which it has, to increase the element of subsidy in the supplier credits and also evaluate the prices they pay for the imports to reduce any price premium they are paying to foreign suppliers. There is still considerable room for progress with regard to this element of foreign financing.

V. THE EFFECTS OF SUBSIDIZED LOANS ON RESOURCE ALLOCATION

The flow of foreign loans into a country has two types of effects. One is the aggregate value of the benefits created by the projects these loans have helped create. The other is the impact of these funds on the industrial structure of the economy. We shall examine the aggregate benefit of concessional loans first and discuss the structural impact later.

The Aggregate Economic Benefits Of Concessional Loans

Foreign loans will simply expand the domestic capital market pool if the domestic capital market is efficient, if concessional loans are not tied to specific projects and if increased foreign loans are not a substitute for raising domestic tax revenues or domestic savings. The final distribution of foreign loans then is the same as the distribution of domestic funds -- decided solely by market forces. In this situation, the additional benefit of foreign loans to the society over domestic funds is fully captured by the difference between the economic price of foreign exchange and the market exchange rate $(P_f\text{-}P_{fm})$.[9]

Whenever there are trade taxes or subsidies on either imports or exports, the foreign exchange value of the tradeable goods at the market exchange rate will be different from what people are willing to pay (in the case of imports) or the domestic resource cost of production (in the case of exports). If there are tariffs, people are willing to pay more for the goods in domestic currency than the domestic cost of the foreign exchange used to pay for the item. This arises because some additional domestic currency is used to pay the tariffs. Likewise, if there are export subsidies, the domestic resource cost of producing an exportable commodity will be greater than the domestic currency value of the foreign exchange earned from the sale of the good. In such a situation, an additional infusion of foreign exchange from foreign loans will allow an increase in imports (whose domestic value is greater than this foreign exchange cost) or a reduction of exports (where the savings in domestic resources will be greater than the loss in foreign exchange earnings). The economic price of foreign exchange captures the effects of all trade distortions on the value of foreign exchange. Hence, the difference between the market value of foreign exchange and its economic value measures the premium (+) or net cost (-) received by the economy for each additional unit of foreign exchange obtained from the subsidized foreign loans.

In many cases, foreign concessional loans are tied to designated projects that would not have been undertaken otherwise. As a result, additional funds are not made available for other projects or purposes. The net benefits from these loans cannot be measured by the foreign exchange premium and the subsidy component.

In this case, it will depend on the benefits from the specific projects for which the loans were used.

Let us denote the value of a loan by $L(I_t,i)$ as we did before, the share of the loan tied to incremental projects by k, the economic price of foreign exchange by P_f, the market price of foreign exchange by P_{fm}, and the present value of the economic benefit per dollar of investment on the incremental foreign financed projects by b.

The economic benefits from the concessionality of foreign loans as a percentage of the total value of the loans, denoted by $V(I_t,P_f,k,b)$, can be measured by equation (5) below.

$$V(I_t,i,P_f,k,b) = (1-k)^*SR(I_t,i,r)$$
$$+ (1-k)^*SR(I_t,i,r)^*\{(P_f-P_{fm})/P_{fm}\}$$
$$+ k^*(b-1)$$
$$t = 1 \dots N. \tag{5}$$

The first term measures the benefit from the portion of the loans used for untied projects and expenditure which does not have to be repaid -- the subsidy value. The second term measures the foreign exchange premium derived from the first term. In other words, the subsidy component is worth more because it is paid in foreign exchange. The third term measures the net benefit from the projects financed by the incremental portion of the loans.

In Table 4-1, the economic benefit of subsidized foreign debt (equation 5) is estimated under five sets of values for the parameters. The subsidy rates for 1983 through 1986 are reported in column one. In case A, we assume that twenty per cent of the projects are "donor-forced", i.e. K = 0.2, but on average the present value of benefits of these projects are just equal to the present value of costs i.e. b = 1, we also assume for now that there is no foreign exchange premium.

Comparing the results for Case A with the base subsidy rates, we find that the impact of forcing such projects will be to reduce the economic benefits from the loan subsidy by a proportional amount from 0.42 to 0.34. In case B we drop the assumption that the present value of the benefits are equal to the costs, i.e. b = 1. To illustrate, we assume that the benefits are 20 per cent less than the costs, i.e. b = 0.8. This reduces the economic value of the subsidy further to 0.30.

Case C estimates the economic value of the loan subsidy if 40 per cent of the money is spent on donor-forced projects that have a ratio of the present value of benefits to cost of only 0.8. This dramatically reduces the average economic value of the loan subsidy to 0.17 of the loan. To illustrate the impact of the foreign exchange premium, we assume in case D that the proportion of donor-forced projects use 20 per cent of the funds. These projects also have a ratio of benefits to costs of 0.8 and the premium on foreign exchange is 15 per cent of the market exchange rate. The values of the parameters in this case are the closest to what we believe to be the actual Indonesian situation. In this case, the average economic value of the loan subsidy becomes 0.35 of the loan, or about a sixth less than its average base value

of 0.42 per cent. If the premium on foreign exchange is 30 per cent (case E) we find that the economic value of the subsidy is increased to 40 per cent.

From this analysis, it is clear that the critical variables are the proportion of the loans that are used to finance projects that would not otherwise have been undertaken (the donor-forced ones) and the present value of the net benefits of these projects. If the proportion is larger and the projects are uneconomic, any potential subsidy on the loans is quickly eroded.

World Price Differential

A final adjustment has to be made to equation (5) to reflect the concern about tied procurement. It has often been argued that when the loans are tied to the exports of the lending country, the price of the goods sold to the borrowing country will be higher than the world market price for similar products. In other words, the borrowing country would have been able to purchase similar products from the world market at a lower price if the loan had been untied. Let S_m be the tied import share of the loans and P_m and P_w be the prices of imports and the world price of similar products. The negative benefits due to higher import prices can be measured by $-s_m*\{(P_m-P_w)/P_m\}$. The rate of economic benefit from the subsidy part of the foreign loans can thus be expressed as

$$V(I_t,i,P_f,k,b) = (1-k)*SR(I_t,i,r)$$
$$+ (1-k)*SR(I_t,i,r)*\{(P_f-P_{fm})/P_{fm}\}$$
$$+ k*(b-1)$$

$$-s_m*\{(P_m-P_w)/P_m\},$$

or

$$V(I_t,i,P_f,k,b) = SR(I_t,i,r)*\{ (1-k) + (1-k)*\{(P_f-P_{fm})/P_{fm}\}\}$$
$$+ k*(b-1) -s_m*\{(P_m-P_w)/P_m\} ,$$

$$t = 1 ... N. \tag{6}$$

In the estimations of the aggregate economic benefits from the subsidy on foreign source loans we have chosen values for the parameters in equation 6 that illustrate the impact of the degree of the tied nature of the loans and the relationship between the price of the imported goods and their normal world prices. All cases use values of 0.2 for k, 0.8 for b and 0.15 as the premium on foreign exchange. These values are fairly realistic for Indonesia during the 1980s.

In Table 4-2, case F, the economic benefit from the subsidized finance is estimated under the assumption that S_m=0.8 i.e., 80 per cent of the loan is tied to imports of a specific type from the lending country. Furthermore, we assume that on average the price of these imports are 10 per cent above the international price for these items. The outcome is that the economic benefit is reduced to 0.27 or 15 percentage points below the initial subsidy level of the loans.

For case G, the same assumptions are made about the price paid for imports, but the degree of tying is reduced to 50 per cent. This increases the value of the

economic benefit to 30 per cent, but it is still 12 percentage points below the initial subsidy level. This lower level of tying is representative of the experience over the past three or four years as all ODA lenders have tended to reduce the restrictions they place on how the funds should be spent.

In cases H and I, the same assumptions are made concerning the degree of tied imports as cases F and G, respectively. In these cases the price premium paid on tied imports is increased from 10 to 30 per cent.

This has a dramatic effect on the economic benefit received from subsidized loans. When 80 per cent of the loans are tied (case H), the rate of benefit on average falls to 11 per cent and for 1986 the rate of benefit was only one per cent. When 50 per cent of the funds are tied (case I), the degree of benefit falls on average to 20 per cent.

These examples clearly point out the importance of the proportion and productivity of the loans used to pay for projects that are undertaken because of donor preferences and the size of the price premium paid on tied imports. These two variables are critical determinants of the economic benefit ultimately realized from subsidized foreign loans.

Over this period, there are many cases where little or no premium has been extracted by the foreign suppliers of goods and services. At the same time, significant premiums in the order of 30 to 40 per cent have been observed in other situations where foreign financing has been tied to the export of goods and services of the lending country. It is virtually impossible to generalize on the size of this price premium across projects and foreign lenders. It is clear, however, that in particular circumstances such price premiums have been paid and they have had a significant impact on the overall economic cost of such public sector investments.

This analysis points out the critical role that the procurement process must play in order to turn what is a potential resource transfer from a concessional loan into a realized resource transfer. Given the reduced levels of concessionality being obtained in recent years, it is quite possible that the cost of tied procurement can be greater than the potential subsidy that is implied by the terms of the foreign loans.

Structural Impact of Foreign Loans

Different stages in the economic development of a country are usually accompanied by changes in its industry structure. From this perspective, it would be of interest to see whether the foreign loans have induced structural changes in a desirable direction. In addition, high rates of savings and capital formation are also essential for the rapid development of an economy. The structural impact of foreign financing would be desirable if it expanded the productive base of the economy, increased the saving rate of the economy and increased the pace of capital formation.[10]

The available data on the sectoral distribution of Indonesian foreign loans provides only limited information on the final destinations and uses of these loans. Based on this limited information, it is not very meaningful to classify the destination and use of a loan according to SITC (Standard International Trade Classification) groups. Instead, the sectoral classification shown in Table 4-3 is based on the industry using the foreign loans. Given our information constraints, we find this kind of classification to be the most convenient and meaningful. For instance, a loan for an irrigation project will be classified as "Agriculture," as it is going to the agricultural sector. If we were to use a SITC classification, we would need to know how the loan was expended - what kinds of goods and services the project actually purchased. Because information on project spending is not available, we have little choice but to classify loans according to their uses.

The foreign loans obtained by the public sector have been used primarily in the electricity, infrastructure, petroleum, telecommunication and transportation equipment sectors. Infrastructure expenditures have been concentrated on such things as water supply, roads, ports and airports. Except for some of the infrastructure investments, a large proportion of the loans were used to purchase equipment that is not being made in Indonesia from abroad.

In the case of petroleum and mining investments, a substantial amount of these expenditures were channelled to public enterprises. In the case of the petroleum sector these investments have been heavily concentrated in the development of liquified natural gas facilities for export purposes. These investments have been highly productive and major suppliers of foreign exchange for the country. There is a very clear pattern in the use of foreign funds by the public sector. First priority has been given to public sector infrastructure and public utilities that at this stage of development are the responsibility of the government. While these sectors are capital intensive, there is substantial evidence that the economic rate of return on such investments is quite high. Indonesia is still a country that experiences a significant shortage of such public sector infrastructure and services. It is very easy, however, to reduce the economic rate of return of these capital intensive investments through the incorrect choice of investment timing, scale, or procurement policies.

Very little of the foreign borrowing by the public sector has been used by the manufacturing sector. Capital for the manufacturing sector has been largely provided by the private sector from both domestic and foreign sources. The government has instead concentrated on providing the infrastructure and the services, such as electricity, water, and communications, that are necessary complements to private sector manufacturing investments. These investments in public sector services and the deregulation of trade and industrial policies have played a major role in facilitating the rapid growth of non-petroleum exports enjoyed over the past four years.

VI. SUMMARY AND CONCLUSION

The picture of Indonesia's foreign debt for the past two decades resembles that of many developing countries. Over time there has been an increase in the share of commercial debt with higher interest rates. However, its debt management and macroeconomic policies have been superior to those of most other developing countries.

The net benefit of foreign funds to a country depends on the productivity of the investments financed by the debt and the debt management policy of the country. In the 1980s foreign borrowing allowed the Government of Indonesia to continue to finance its debt service obligations through a period when it was making major changes in the direction of its industrial structure. Within a time span of only five years, they were able to transform an import substitution industrialization policy into one of export promotion.

An important empirical finding of the study is the high subsidy rate historically enjoyed by Indonesia on its foreign public debt. The subsidy rate on foreign borrowing by the public sector in 1983 was as high as 50 per cent. This subsidy rate declines sharply to 30 per cent by 1986. This decline is not surprising in view of the equally phenomenal expansion of export credits which have carried interest rates much closer to the market rates. This switch from ODA loans to export credits has reduced the allowable margin of error for the borrower. If the loans do not generate a return greater than the market interest rate, the debt service obligations quickly become a severe drain on the economy. Ultimately, the primary question of debt management is not the size of the debt but rather the productivity of the uses of the funds. A key determinant of this productivity is the degree that tied foreign loans can be used to purchase goods and services at competitive world prices. Any price premiums paid to foreign suppliers directly reduces the net return from the investment accruing to the country.

During the 1980s it appears that Indonesia has not used its foreign loans excessively to purchase imports of consumer goods. Such funds have been channelled primarily into investments that are expected to generate critical public sector services. This strategy, in combination with a policy of borrowing long term debt at fixed interest rates, has improved the productivity of the economy while minimizing the level of shocks inflicted on it by changing external interest and exchange rates.

In recent years this rate of subsidy on foreign borrowing has probably gone in large measure to finance price premiums charged by foreign suppliers and the inefficiencies of some of the "forced" projects promoted by the lending countries.

Regardless of the subsidy rate on foreign bilateral loans, the borrowing nation's use of its foreign funds is central to determining the net benefits derived from the foreign borrowing. The Indonesian debt management policy has been quite successful in this sense and its non-reliance on short-term private commercial credits has helped the nation avoid a debt crisis in the aftermath of the collapse of oil prices after 1984. As a result, the government was able to use its foreign financing to bring about a

longer term economic restructuring of the economy. This has provided a fundamental solution to the loss of public sector revenues and foreign exchange from the fall in petroleum revenues during the 1980s.

The experience of Indonesia with subsidized foreign finance is quite different from most other developing countries. It has relied on foreign financing to pay for the import content of its ambitious investment programme, while at the same time maintaining conservative macroeconomic management policies. The preferential interest rates and long maturities of its foreign loans has enabled Indonesia to reduce the degree of instability that such foreign borrowing could potentially inflict on the economy. Rather than using foreign borrowing to delay economic adjustment, it has used such financing to bring about a fundamental transformation of its economy.

PREFACE

The OECD Development Centre and the Institute for International Economic Cooperation and Development (ICEPS), with financial support from the Italian Government, have carried out a series of country case studies on "mixed credits", following a methodology developed and tested on Tunisia by Professor André Raynauld.

Some Development Assistance Committee (DAC) Member countries, and Italy in particular, were of the opinion that it was only through detailed analytical work that some of the misgivings about the use of mixed credits in development assistance could be clarified.

Following the completion of the pilot study on Tunisia, a methodological seminar was organised by ICEPS in Rome in November 1988, where it was decided to undertake four country case studies on Turkey, Indonesia, Thailand and Brazil. Each of these studies was carried out in close collaboration between the three partners: ICEPS, a national research institute in the country concerned, and the OECD Development Centre.

The present study examines the impact on Indonesia of the external official aid the country receives to finance its imports. Such official aid arises when lender countries provide export credits on terms more favourable than those obtaining on the international capital market. Attention is focused in particular on those operations where the financing contains a component of public development aid in the form of grants or loans on very generous terms. These operations consist of mixed, associated, parallel or joint financing, or credits. They have long been the subject of examination and discussion within the OECD and have given rise to protocols of agreement, such as the "consensus" on export credits and the DAC "guidelines".

This study on Indonesia includes a thorough and detailed examination of the subsidies received in the form of external financing. These loans have been used essentially to implement big public sector infrastructure projects. These projects have been characterised by very considerable delays, by high capital intensity and by a product that does not generate foreign currency earnings. The amount of the subsidy varies significantly according to the sector of activity, and this too has favoured infrastructure projects at the expense, for example, of the manufacturing sector. These financing subsidies have thus had a marked effect on the allocation of resources. Lastly, on the macroeconomic level, the study shows that the import of capital seems to contribute to a reduction of domestic saving and increased indebtedness of the public sector.

After directing this series of country case studies, Professor André Raynauld has undertaken a comparative analysis of the results in a synthesis study, with a view to drawing some more general conclusions and policy recommendations for the future.

Jean Bonvin   Giuseppe Bonanno di Linguaglossa
Director   Secretary-General
OECD Development Centre   ICEPS

Table 1-1

DEBT AND DEBT SERVICE RATIOS
(per cent)

	Debt/ GNP	Total Debt Service/ Exports	Public Debt Service/ Exports	Interest Payment/ Exports
1982	0.308	0.163	0.200	0.099
1983	0.396	0.168	0.228	0.094
1984	0.395	0.199	0.237	0.114
1985	0.457	0.325	0.217	0.139
1986	0.606	0.353	0.295	0.162
1987	0.734	0.402	0.317	0.160

Source: OECD, *Financing and External Debt of Developing Countries,* (Paris: OECD, 1989). IMF, *International Financial Statistics,* 1988.

Table 1-2

INDONESIA'S FOREIGN DEBT BY CURRENCY
December 31, 1986

	$US million	Percentage
US dollar	18 376	42.2
Japanese yen	9 321	21.4
German Mark	2 630	6.0
French franc	1 788	4.1
British pound	869	2.0
Dutch Guilder	1 441	3.3
Swiss franc	173	0.4
Other	8 921	20.5
TOTAL	43 519	100.0

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*,
and OECD computer files.

Table 1-3

INDONESIA'S FOREIGN DEBT BY COUNTRY
December 31, 1986

	$US million	Percentage
Austria	163.9	0.4
Belgium	168.8	0.4
Canada	244.8	0.6
France	1 161.1	2.7
Germany	2 948.6	6.8
IMF SDR	102.6	0.2
Japan	14 180.5	32.6
Kuwait	188.6	0.4
Netherlands	1 033.8	2.4
Saudi Arabia	148.4	0.3
Spain	196	0.5
Sweden	144	0.3
Switzerland	142.4	0.3
United Kingdom	1 024.9	2.4
United States	21 474.6	49.3
Others	196.4	0.5
TOTAL	43 519.4	100.0

Source: OECD, *Geographical Distribution Of Financial Flows to Developing Countries*, and OECD computer files.

Table 1-4

EXTERNAL DEBT BY SECTOR
$US billion, 1981-1987

	Central Govern. sector	Public Enter- prises	Total Public Sector	Total Private Sector
1981/82d	14.5	2.4	16.9	3 720.6
1982/83	17.7	3.3	21.1	5 626.7
1983/84	21.1	3.5	24.6	5 730.7
1984/85	21.1	3.1	24.2	6 630.8
1985/86	27.3	2.8	30.2	6 837.0
1986/87	34.1	2.5	36.6	6 843.4

Source: Wing Thye Woo and Anwar Nausution, *The Conduct of Economic Policies in Indonesia and Its Impact on External Debt*, National Bureau of Economic Research, Inc., Cambridge, 1988, Table 7-4.

Table 1-5

INDONESIAN DEBT TO PRIVATE FOREIGN FINANCIAL INSTITUTIONS
$US billion, 1981-1987

| | Public Sector | | Private sector | | |
	Loans	Bonds	Banks	Nonbanks	Total
1981	3.55	0.17	0.59	3.16	7.47
1982	4.37	0.24	0.80	4.87	10.28
1983	5.79	0.27	0.84	4.90	11.80
1984	5.94	0.30	0.56	6.11	12.91
1985	6.98	0.33	0.65	6.18	14.14
1986	7.93	0.35	0.70	6.13	15.11

Source: Bank for International Settlements; IBRD, Debtor Reporting System (DRS); Bank Indonesia.

Table 1-6

CONCESSIONAL AND PRIVATE DEBT
$US billion, 1970-1986

	Debt Outst. and Undisb.	Debt Outst. and Disbursed	Percentage of DOD which is	
			Concessional	Private credit
1970	2.9	2.4	78.0	11.6
1973	6.6	5.2	75.3	23.2
1974	9.0	6.3	71.3	27.4
1975	11.7	7.9	60.8	37.4
1976	14.5	10.0	53.4	40.9
1977	16.1	11.6	52.2	39.9
1978	19.0	13.1	53.2	36.2
1979	21.1	13.2	51.5	35.9
1980	24.4	14.9	50.2	36.5
1981	27.2	15.8	48.5	36.6
1982	32.2	18.5	42.7	40.0
1983	35.4	21.6	37.3	44.5
1984	36.9	22.8	34.9	43.9
1985	41.8	26.6	35.1	43.6
1986	48.7	32.1	NA	45.3

Source: Wing Thye Woo and Anwar Nausution, *The Conduct of Economic Policies in Indonesia and Its Impact on External Debt*, National Bureau of Economic Research, Inc., Cambridge, 1988.

Table 1-7

CAPITAL FLOWS TO AND FROM INDONESIA
$US million, 1974-1987

	Current account	Official capital disburse-[1] ment	Amortization debt flow	Investment and other	Direct Errors and omissions and monetary movement
1974/75	-138	660	-89	-131	-302
1975/76	-834	1995	-77	-1075	-9
1976/77	-802	1823	-166	38	-893
1977/78	-690	2106	-761	176	-831
1978/79	-1155	2101	-632	542	-856
1979/80	2198	2690	-692	-1312	-2884
1980/81	2131	2684	-615	-361	3839
1981/82	-2790	3521	-809	1140	-1062
1982/83	-7039	5011	-926	1795	1159
1983/84	-4151	5793	-1010	1191	-1823
1984/85	1968	3519	-1292	499	-758
1985/86	-1832	3432	-1644	572	-528
1986/87	-4051	5472	-2129	1232	-524
1987/88	-1685	4060	-2692	1179	-862

1. An accumulation of assets is reflected as a negative amount.

Source: 1988. World Bank, *Indonesia: Adjustment, Growth and Sustainable Development*, May, 1988, Table 3.1.

Table 1-8

TOTAL FINANCIAL FLOWS TO INDONESIA FROM ALL SOURCES
Main source as percentage of total, 1969-1984

	DAC %	OPEC %	MULTI %	TOTAL %	PUB %	PRI %	TOTAL %	TOTAL $ million
1969	96	0	3	100	85	15	100	427
1970	98	0	2	100	78	22	100	696
1971	96	0	4	100	68	32	100	1 173
1972	94	0	6	100	67	33	100	934
1973	93	0	7	100	46	54	100	1 552
1974	87	0	13	100	66	34	100	1 179
1975	92	0	8	100	32	68	100	2 735
1976	89	0	11	100	38	62	100	3 025
1977	71	8	21	100	75	25	100	1 424
1978	83	4	12	100	58	42	100	2 024
1979	66	3	30	100	106	-6	100	1 091
1980	80	1	19	100	62	38	100	2 522
1981	89	0	11	100	30	70	100	5 399
1982	77	2	21	100	51	49	100	3 933
1983	81	0	19	100	47	53	100	4 267
1984	76	1	23	100	51	49	100	4 560

Source: OECD, *Geographical Distribution of Financial Flows To Developing Countries*, and computer files.

Table 1-9

DAC COUNTRIES FINANCIAL FLOWS TO INDONESIA
By category and as percentage of the annual total, 1969-1984

YEAR	1969	1972	1976	1980	1984
ODA grants	16	18	6	14	9
ODA loans	75	61	23	43	16
ODA total	91	79	29	58	25
Export credit	7	9	55	39	73
Other financial flows	2	12	16	4	2
Total	100	100	100	100	100
Total, $ million	347	620	1 944	1 724	3 045

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table 1-10

TOTAL FINANCIAL FLOWS FROM DAC COUNTRIES TO INDONESIA
MAIN SOURCE COUNTRIES
As percentage of DAC total, 1969-1984

YEAR	1969	1972	1976	1980	1984
France	2	8	8	10	10
Germany	3	9	10	9	10
Italy	9	1	2	1	1
Netherlands	5	7	2	6	4
United Kingdom	1	2	2	7	6
Canada	0	1	2	3	3
United States	45	40	12	16	26
Japan	28	33	45	35	34
Australia	3	3	3	3	2
Other	1	1	15	12	6
Total	100	100	100	100	100
DAC, $ million	412	874	2 692	2 024	3 468

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table 1-11

AGGREGATE NET DISBURSEMENTS TO INDONESIA BY SOURCE
As percentage of total, 1969-1984

YEAR	1969	1972	1976	1980	1984
France	5	1	7	4	7
Germany	-3	6	8	1	8
Italy	6	-1	1	1	0
Netherlands	6	7	2	3	3
United Kingdom	1	2	0	3	4
Canada	1	2	2	2	2
United States	50	43	10	15	23
Japan	27	30	41	31	17
Australia	4	3	2	3	2
Other countries	1	1	14	11	4
DAC	96	93	88	76	72
OPEC	0	0	1	-1	0
Multinational	4	7	12	25	28
Total	100	100	100	100	100
Total, $ million	351	821	2 694	1 758	3 250

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table 1-12

**DAC COUNTRIES NET DISBURSEMENTS OF FINANCIAL FLOWS
TO INDONESIA BY CATEGORY 1969-1984**

	1969 %	1972 %	1976 %	1980 %	1984 %
ODA grants	23	23	7	20	12
ODA loans	92	66	27	45	12
ODA total	115	88	34	65	24
Export credits	-18	-3	42	7	45
Other Off. Tran.	2	3	8	24	29
Other pri. Tran.	1	12	16	4	2
Total	100	100	100	100	100
Total, $ million	336	763	2 370	1 336	2 340

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries, and computer files.*

Table 1-13

DAC COUNTRY EXPORT CREDITS TO INDONESIA
MAIN SOURCE COUNTRIES AS PERCENTAGE OF DAC TOTAL
Selected years 1969-1984

	1969 %	1972 %	1976 %	1980 %	1984 %
France	4	5	9	19	13
Germany	4	2	3	12	9
United Kingdom	0	0	4	14	7
Canada	0	0	3	7	3
United States	61	20	22	1	11
Japan	30	73	20	21	48
Other countries	0	0	40	26	9
DAC	100	100	100	100	100
DAC, $ million	23	55	1 064	667	2 212

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table 2-1

DEBT SERVICE RATIOS OF INDONESIA, BRAZIL AND MEXICO
1978-1986, Percent

	Indonesia	Brazil	Mexico
A) all short-term and long-term debt service as ratio of exports			
1978	40.8	106.5	105.8
1980	25.1	114.5	103.6
1981	26.1	113.6	117.1
1982	16.3	146.0	138.9
1983	16.8	104.5	80.8
1984	19.9	72.1	69.0
1985	32.5	72.6	66.5
1986	35.3	50.4	77.2
1987	40.2	33.2	57.3
B) proportion of publicly-guaranteed debt which has variable rate			
1978	15.0	56.8	59.5
1980	16.2	61.0	71.5
1981	17.8	67.1	75.4
1982	20.0	69.3	76.7
1983	22.8	70.1	82.7
1984	23.7	73.1	83.6

1.   In the cases of Brazil and Mexico the debt service ratios fall after 1983/84 because they are not able to pay all the interest that they owe.

Source: Wing Thye Woo and Anwar Nausution, *The Conduct of Economic Policies in Indonesia and its Impact on External Debt*, National Bureau of Economic Research, Inc., Cambridge, 1988. OECD, *Financing and External Debt of Developing Countries - 1988 Survey*, Paris, 1989.

Table 3-1

GOVERNMENT LONG-TERM BOND YIELDS AND RISK PREMIUM

1973-1987

	France	Germany	Japan	Netherlands	United Kingdom	United States	Risk Premium
1973	8.2	9.3	7.2	7.9	10.7	6.8	0.8
1974	10.4	10.4	9.2	9.8	14.7	7.5	0.8
1975	9.4	8.5	9.2	8.7	14.3	7.9	0.8
1976	9.1	7.8	8.7	8.9	14.4	7.6	0.8
1977	9.6	6.2	7.3	8.1	12.7	7.4	0.8
1978	8.9	5.8	6.0	7.7	12.4	8.4	0.8
1979	9.4	7.4	7.6	8.7	12.9	9.4	0.8
1980	13.0	8.5	9.2	10.2	13.7	11.4	0.8
1981	15.7	10.3	8.6	11.5	14.7	13.9	0.8
1982	15.6	8.9	8.0	10.1	12.8	13.0	0.8
1983	13.6	7.8	7.4	8.6	10.8	11.1	0.8
1984	12.5	7.7	6.8	8.3	10.6	12.5	0.8
1985	10.9	6.8	6.3	7.3	10.6	10.6	0.8
1986	8.4	5.9	4.9	6.3	9.8	7.6	0.8

1.   The risk premium estimated for 1986 was used for all years. It was a year in which substantial commercial borrowing was undertaken. The commercial borrowing for this year contained the fewest number of anomalies that we could not explain.

Source: IMF, *International Financial Statistics*, 1988.

Table 3-2

INDONESIAN REFERENCE INTEREST RATES

1973-1987

	France	Germany	Japan	Nether-lands	United Kingdom	United States
1973	9.0	10.1	8.0	8.7	11.5	7.6
1974	11.2	11.2	10.0	10.6	15.5	8.3
1975	10.2	9.3	10.0	9.5	15.1	8.7
1976	9.9	8.6	9.5	9.7	15.2	8.4
1977	10.4	7.0	8.1	8.9	13.5	8.2
1978	9.7	6.6	6.8	8.5	13.2	9.2
1979	10.2	8.2	8.4	9.5	13.7	10.2
1980	13.8	9.3	10.0	11.0	14.5	12.2
1981	16.5	11.1	9.4	12.3	15.5	14.7
1982	16.4	9.7	8.8	10.9	13.6	13.8
1983	14.4	8.6	8.2	9.4	11.6	11.9
1984	13.3	8.5	7.6	9.1	11.4	13.3
1985	11.7	7.6	7.1	8.1	11.4	11.4
1986	9.2	6.7	5.7	7.1	10.6	8.4

Source: IMF, *International Financial Statistics*, 1988.

Table 3-3

ODA LOANS SUBSIDY RATES

1983-1986

	France	Germany	Japan	Nether- lands	United States
1983	91	70	66	65	77
1984	34	59	57	62	85
1985	35	66	53	60	59
1986	*	59	35	53	60

* No loans or data.

Table 3-4

EXPORT CREDITS SUBSIDY RATES

1983-1986

	France	Germany	Japan	Nether- lands	United Kingdom	United States
1983	46	26	29	35	39	45
1984	43	19	15	17	30	38
1985	22	23	*	15	25	27
1986	18	13	19	12	17	26

* No loans or data.

Table 3-5

AVERAGE FOREIGN DEBT SUBSIDY RATES

1983-1986

	France %	Germany %	Japan %	Nether lands %	United Kingdom %	United States %	ALL %
1983	89	40	42	38	39	54	50
1984	34	37	50	55	30	45	46
1985	28	29	53	23	25	45	41
1986	18	32	30	38	17	40	31
Average	42	35	44	39	28	46	42

Table 4-1

ECONOMIC BENEFIT FROM SUBSIDIZED FOREIGN DEBT[2]

	Base Subsidy[1]	A	B	C	D	E
1983	.50	.40	.36	.22	.42	.48
1984	.46	.37	.33	.20	.38	.44
1985	.41	.33	.29	.17	.34	.39
1986	.31	.25	.21	.11	.25	.28
Average	.42	.34	.30	.17	.35	.40

1. Values are from Table 3-5

2. Estimated using equations (5)

Assumptions:

	k	b	$(P_f - P_{fm})/P_m$
CASE A	0.2	1.0	0.00
CASE B	0.2	0.8	0.00
CASE C	0.4	0.8	0.00
CASE D	0.2	0.8	0.15
CASE E	0.2	0.8	0.30

Table 4-2

ECONOMIC BENEFIT FROM SUBSIDIZED FOREIGN DEBT[2]

	Base Subsidy[1]	F	G	H	I
1983	.50	.34	.37	.18	.27
1984	.46	.30	.33	.14	.23
1985	.41	.26	.29	.10	.19
1986	.31	.17	.20	.01	.10
Average	.42	.27	.30	.11	.20

1. Values from Table 3-5.

2. Estimated using equation (6),

Assumptions:

	k	b	$(P_f - Pfm)/P_m$	S_m	$(P_m - P_w)/P_m$
CASE F	0.2	0.8	.15	0.8	0.1
CASE G	0.2	0.8	.15	0.5	0.1
CASE H	0.2	0.8	.15	0.8	0.3
CASE I	0.2	0.8	.15	0.5	0.3

Table 4-3

FINANCIAL FLOWS TO THE PUBLIC SECTOR BY INDUSTRY

1983-1987

Industry	Share %
Agriculture	3.6
Electric Utilities	12.5
General Equipment	10.4
Infrastructure	33.1
Manufacturing	2.2
Mining	4.6
Petroleum and Refinery	7.7
Science and Research	1.3
Services - Domestic	0.2
Service - Foreign Technical Assistance	4.1
Telecommunication	8.2
Transport Equipment	12.1
TOTAL	100.0

APPENDIX

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY AND BY COUNTRY

Table A-1

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY, **FRANCE**, 1969-1987
($US million)

Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows	Total Flows
1969		17	17	10	18	45
1970		15	15	3	0	18
1971	4	28	32	1	0	33
1972	3	12	15	3	0	18
1973		27	27	92	18	137
1974	2	31	33	20	33	86
1975	2	37	39	33	29	101
1976	1	26	27	93	108	228
1977	1	16	17	189	-38	168
1978	1	34	35	137	124	296
1979	2	28	30	142	115	287
1980	5	44	49	130	-22	157
1981	7	42	49	107	0	156
1982	6	26	32	173	90	295
1983	5	65	70	323	31	424
1984	6	31	37	292	9	338

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table A-2

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
GERMANY, BY CATEGORY, 1969-1984
($US million)

Total Flows	Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows
	1969	6	3	9	1	111
	1970	7	18	25	2	1845
	1971	10	41	51	28	23102
	1972	10	56	66	1	1077
	1973	14	40	54	8	870
	1974	19	48	67	14	889
	1975	14	42	56	49	-1104
	1976	14	37	51	27	192270
	1977	16	23	39	39	54132
	1978	18	26	44	94	25163
	1979	26	24	50	68	-5365
	1980	27	60	87	79	7173
	1981	25	155	180	197	213590
	1982	33	124	157	128	152437
	1983	31	76	107	149	71327
	1984	28	90	118	189	45352

Source: OECD, *Geographical Distribution of Financial Flows to Developing Countries*, and computer files.

Table A-3

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY, **CANADA**, 1969-1984
($US million)

Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows Total Flows
1969	2	0	2	0	02
1970	3	0	3	0	03
1971	2	0	2	0	02
1972	7	6	13	0	013
1973	7	10	17	0	017
1974	3	23	26	2	028
1975	2	32	34	8	042
1976	11	11	22	37	059
1977	6	6	12	0	012
1978	4	10	14	44	058
1979	3	6	9	10	019
1980	3	11	14	45	059
1981	4	17	21	15	036
1982	6	21	27	1	1528
1983	7	4	11	0	026
1984	12	15	27	67	094

Source: OECD, *Geographical Distribution Of Financial Flows to Developing Countries*, and computer files.

Table A-4

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY, **UNITED KINGDOM**, 1969-1984
(US$ million)

Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows	Total Flows
1969	6	6	0	0	6	
1970		6	6	0	06	
1971	4	10	14	1	318	
1972	2	15	17	0	219	
1973	2	18	20	5	429	
1974	2	14	16	5	1334	
1975	4	9	13	145	0158	
1976	4	4	8	42	252	
1977	5	4	9	31	1050	
1978	12	0	12	17	-623	
1979	20	2	22	80	8110	
1980	22	0	22	94	24140	
1981	16	0	16	121	39176	
1982	20	0	20	247	18285	
1983	14	0	14	358	4376	
1984	16	1	17	163	21201	

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table A-5

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY, **UNITED STATES**, 1969-1984
($US million)

Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows	Total Flows
1969	16	136	152	14	20	186
1970	18	177	195	18	106	319
1971	13	306	319	0	197	516
1972	18	143	161	11	179	351
1973	12	150	162	6	235	403
1974	19	67	86	90	-98	78
1975	11	87	98	99	980	1177
1976	9	128	137	229	-423	-57
1977	11	104	115	115	-356	-126
1978	15	149	164	48	159	371
1979	22	181	203	14	-258	-41
1980	35	111	146	7	170	323
1981	35	106	141	10	569	720
1982	32	82	114	7	497	618
1983	39	87	126	11	988	1125
1984	35	79	114	240	532	886

Source: OECD, *Geographical Distribution Of Financial Flows To Developing Countries*, and computer files.

Table A-6

TOTAL DISBURSEMENTS OF FINANCIAL FLOWS TO INDONESIA
BY CATEGORY, **JAPAN**, 1969-1984
($US million)

Year	ODA Grants	ODA Loans	ODA Total	Export Credits	Other Flows	Total Flows
1969	9	57	66	7	41	114
1970	27	102	129	3	45	177
1971	15	110	125	38	161	324
1972	12	109	121	40	125	286
1973	11	141	152	140	348	640
1974	16	217	233	98	231	562
1975	11	199	210	196	333	739
1976	13	205	218	210	785	1213
1977	24	153	177	78	243	498
1978	39	238	277	72	476	825
1979	44	242	286	62	- 75	273
1980	59	367	426	140	140	706

1981	52	330	382	160	2087	2629
1982	57	332	389	423	231	1043
1983	60	293	353	404	74	831
1984	74	212	286	1070	- 190	1166

Source: OECD, *Geographical Distribution of Financial Flows To Developing Countries*, and computer files.

Table A-7a

INDONESIAN ODA LOANS SUBSIDY RATES (+.5%)
1983-1986

	France	Germany	Japan	NetherlandsUnited States
1983	92	72	69	6778
1984	36	61	60	6486
1985	38	68	56	6260
1986	*	62	39	5662

*   No loans or data.

Table A-7b

INDONESIAN ODA LOANS SUBSIDY RATES (-.5%)
1983-1986

	France	Germany	Japan	NetherlandsUnited States
1983	91	67	64	6375
1984	33	56	54	5984
1985	34	63	49	5557
1986	*	56	31	4957

*   No loans or data.

Table A-8a

INDONESIAN EXPORT CREDITS SUBSIDY RATES (+.5%)
1983-1986

United Kingdom	France United States	Germany	Japan	Netherlands
1983	47	29	32	374147
1984	44	21	18	203240
1985	24	26	*	182829
1986	20	15	24	141829

* No loans or data.

Table A-8b

INDONESIAN EXPORT CREDITS SUBSIDY RATES (-.5%)
1983-1986

United Kingdom	France United States	Germany	Japan	Netherlands
1983	44	24	25	333644
1984	43	16	13	152936
1985	20	21	*	122425
1986	15	12	16	91524

* No loans or data.

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