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# LENDING ASPECTS FOR INDUSTRIAL PROJECTS IN DEVELOPING COUNTRIES ON THE BASIS OF IMPROVED INTERMEDIATION *

by

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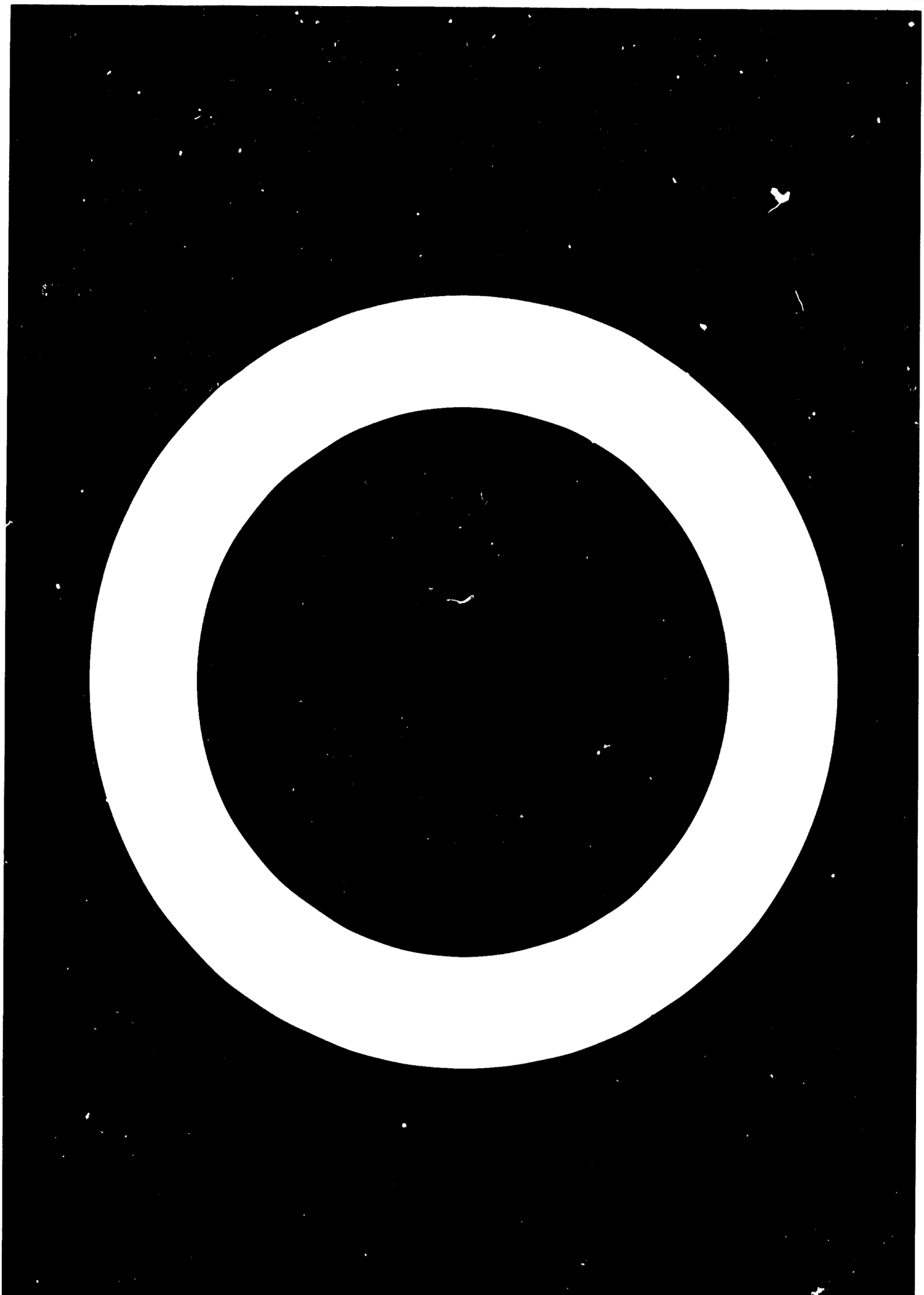

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# SUMMARY AND ISSUES

## Fund Flow to Developing Countries

- During the Expert Group Meeting on Industrial Financing in Vienna in December 1978, a change of the existing intermediation system has been identified as a major potential for improved lending for industrial projects in developing countries.

- The fund flow to developing countries has experienced substantial increases and changes in recent years. When analysing the structure of this flow, the volume of ODA funds of about 19 US$ billion has practically not changed from 1975 to 1977. On the other side, the commercial bank lending within the non-concessional flows, increased from a low level of about 8 US$ billion in 1974 to at least an estimated 25 US$ billion in 1978, thereby becoming the most important single credit source for the developing countries.

- Although ODA funds are still the predominant credit source for the lower income developing countries, a substantial deterioration of the external debt structure of most of the developing countries has taken place, as a consequence of the increased share of commercial bank lending. The explanation for this considerable structural change of lending sources appears to be based on the reservation of the developed countries to increase the volume of ODA funds on the one side and the increasing lending competition of commercial banks on the other side.

- The terms of the increased commercial bank lending have varied considerably, depending on market situations. Lending is mainly on a flexible interest basis (roll-over) and also with maturities, normally not sufficient to suit the repayment potential of industrial projects. Fixed term lending by commercial banks to developing countries is relatively unimportant. In view of the scarcity of long term funds with fixed interest rates, such funds are taken by the Government and major industrial companies in the respective national markets. Developing countries have access to these funds to a limited extent through Government guaranteed export financing and bond issues.

- With national credit markets mainly available for the traditional borrowers, the Euromarket, as a rapidly growing international market with a gross volume of more than 800 US$ billion (net volume 450 US$ billion), has been the principal source of funds of the commercial banks for lending to developing countries. In line

with the tendency of shortening commitments of the depositors and lenders, evidenced by the development and structure of the Euromarket but also in national markets, the commercial banks as intermediate institution between borrowers and lenders, are increasingly required to extend their intermediation. However, despite the substantial intermediation of commercial banks, it can be concluded that their lending terms on a large scale basis, are not adequate for financing industrial projects in developing countries.

Existing Intermediation

- Intermediation has always been a principal function of banking and the degree has been a matter of constant discussion. The intermediation of the commercial banks towards lending to developing countries is twofold: the large increase in lending volume to developing countries has led to a credit risk intermediation and exposure of the commercial banks which has already raised serious reservations and it is not likely to increase along the past growth pattern; the degree of funding intermediation (long term lending commitment on the basis of short term deposits) has also become problematic from an individual bank's point of view. When cumulating both intermediation risks for the Eurobanks, such risk considerations are even more serious.

- The intermediation risks of the international development banks have to be viewed somewhat differently in view of their lending policies and their international set-up. Credit risk intermediation is well covered through the continuous information flow on individual projects as well the developing countries' economies in addition to the international framework of member countries. The funding intermediation has so far been limited, although it has been increasing, due to the general shortening of maturities of bond issues. Substantial additional borrowing of the international development banks for the enlarged lending programs may also affect borrowing terms in view of limited availability of long term funds.

Extension of Intermediation and Risks

- The continuity problems of commercial bank lending, since it based solely on market considerations (central bank policy, competing credit demand from industrial countries), can be considerable for the developing countries in view of the large share of commercial bank lending. On the other hand, short and medium term funds will be more than in the past the basis for potential increase in lending to developing countries. Therefore, an improvement of the intermediation system is needed for a (1) continued increase in lending volume, (2) an extension of maturities and grace periods as needed by the industrial project and the debt structure of the developing country, and (3) lending at fixed interest rates.

- When increasing intermediation on the basis of the large pool of short term funds with continued availability (contrary to long term funds), solvability will be the principal aspect. Institutions with first class credit standing can obtain at all times short term funds and at the lowest available interest rates. Apart from the institutional set-up and capital base of an intermediary institution, the lending risk exposure is important for the investors judgement of the credit standing.

- Assuming such first class credit standing for an intermediary institution (to be considered in the institutional set-up and operational policies), availability of revolving short refinancing for long term lending committments does not represent a problem. Apart from the large national markets in the industrial countries, the Euromarket with the large world wide net depositing groups, central banks (including BIS), OPEC-countries, large companies and commercial banks provide sufficient potential to fund a large intermediary institution with first class standing at all times.

- Additionally to the solvability question, the resulting interest rate risk from the intermediation from short term funds on the refinancing side into long term funds on the lending side, the interest rate risk has to be considered. Short term interest rates are normally lower than long term interest rates, based on economic theories and empirical results. Over the past ten years, on an accumulated basis, long term rates on an average per annum basis were 0,6 % higher for the US$, 0,9 % for the DM and 3 % for the Swiss Franc than three months deposit rates in the Euromarket.

Institutional Set-up

- The interest differential which varies considerably over the time would have to be balanced by the intermediary institution through an interest equalization fund. In the long run, it would not only lead to the borrowing terms needed by the industrial project in the developing country (long term, fixed interest), but also to more favorable lending rates. Extremely high inflation rates, which would equally affect the existing intermediation system, would have to be considered in an adjustment system.

- An expansion of the intermediation system could also simply consider an expansion of short term refinancing along with the presently predominant longer term refinancing in case of fixed interest long term lending.

- In practical terms, increased intermediation (credit and funding risk) can probably be best handled through internationally based and large institutions, because they would provide the best framework for risk absorption. Other possibilitites would be an increased risk sharing (credit and/or funding risk) between ODA-lenders and the commercial banking system. This would enable the commercial banks to increase the lending volume and improve the terms.

- Government guaranteed export financing and cofinancing (to some extent) provide such a scheme. However, maturities agreed in the 'Berne Union' should be extended in order to encourage commercial banks to extend maturities for long term fixed interest lending.

- International development banks would have the ideal framework for increased intermediation through the setting-up of a special fund or through a considerable extension of short term refinancing. Participating in the short term market, particularly in the Euromarket, would enable them to diversify its borrowing potential away from the relatively stagnating long term funds market. Governments are also increasingly obtaining its funding from short term markets. Such international institution would partly tie in deposits from the Euromarket, thereby bringing them indirectly back into the control of the major central banks. Additionally, it could be considered, that stand-by arrangements would be provided by the central banks in order to secure the solvability of such an institution also on a theoretical basis.

- Using increased short term refinancing would also substantially reduce or eliminate the need for substantial liquidity holdings.

## 1. Introduction

1. During the Expert Group Meeting on Industrial Financing at UNIDO in Vienna in December 1978, the main questions were, whether volume and existing lending terms, available for industrial projects in developing countries, are sufficient and how they could possibly be improved. One of the principal results of the discussions was, that the existing intermediation system could be a possible limiting factor for an improved and enlarged flow of long-term funds for industrial projects in developing countries (DC). In view of the balance of payment constraints of DC's and the long-term nature of industrial projects, increased and improved long-term financing is a necessity for an expansion of investments in the industrial sector. Apart from official transfers and development institutions, export guaranties and financing provided by the commercial banks have provided the bulk of financing in recent years. However, except for very few DC's and for extremely competitive situations in the banking sector, such financing has been provided on terms, which have not been adequate for DC's. The importance of commercial bank lending to DC's has grown enormously and represented 25 % of the total net flow of US$ 64 billion in 1977 (OECD). With an 80 % increase in gross lending (Eurocurrency Credits and Bond Issues) by the commercial banking sector to DC's in 1978 (US$ 30 billion) as well as considering the funding of government guaranteed export financing, the position of the commercial banks in lending to DC's may already be predominant, at least on a volume basis. Therefore, it is important, how the terms and the continuity of these flows could be improved through increased intermediation. Also, the middle and higher income DC's have been overproportionally represented as recipients of commercial bank lending.

2. In view of the limited availability of long-term funds, most of the refinancing provided by commercial banks on market terms to DC's, has been arranged on a roll-over basis, i.e. the basis of short-term funds. The substantial increase in lending to DC's could not have taken place without the access to the large segment of the short-term market and a substantial intermediation of these funds into longer terms. Although the commercial banks have, in general, successfully tried to satisfy the borrowers' needs with longer maturities and increased fixed interest lending, a significant expansion in volume and improvement of terms for the borrowers in the future appear unlikely. The exposure of the commercial banks towards DC's, as well as the intermediation of short-term refinancing into long-term commitments has reached certain limits, although it can be expected that the large pool of short-term funds available in the international markets will continue to increase and would provide the potential for further lending to DC's. On the other side, it exists an increasing demand for long-term financing by DC's.

3. The study attemps to analyse the present financing methods of the commercial and development banks with possible expansions of the intermediation system, including the identification of the intermediation risks and possibilities to be considered for an institutional set-up. The extension of maturities from the deposit to the loan side has always been a principal function of the commercial banking system. The discussion, to which degree a bank as an individual unit or the commercial banking system in general, can undertake such a transformation of terms is as old as the banking system itself. Whether such an intermediation system could be improved through international and official support, appears to be one of the major questions, apart from the set-up of such an institution and the risk-sharing between the borrowers, the institution and the depositors.

## 2. Industrial Project Financing

4. Industrial project financing has been one of the most attractive financing possibilities of commercial and development banks,

in view of the revenue producing projects (also in foreign exchange), established international standards as well as the projects' viability in commercial and economic terms. However, even with this high priority within the framework of lending to DC's, volume and terms have not been sufficient and adequate.

## 21. Existing Industrial Project Financing and Constraints

### 211. Sources

5. The major sources for industrial projects' financing in DC's are official transfers, international and bilateral development institutions, government guaranteed export financing and commercial bank financing. The official transfers and export guaranties are not directly constrained by the banking or intermediation system, but rather through budget and political considerations. Also the lending by bilateral and international development institutions is, to some extent, restricted through the willingness of the member countries for capital increases or fund contributions. The main target for an extension of the intermediation system would be the refinancing sources of the commercial banking sector, since it is operating on a market basis and has access to the substantial funding sources of the international markets. To which extent the commercial banking system has contributed to the lending to DC's is best shown by the increase in Eurocurrency credits within the last years. The commercial banks extended Eurocurrency credits of about US$ 4 billion in 1971 and about US$ 70 billion in 1978, of which about 50 % was for DC's. The importance and the growth potential of commercial bank lending is based, in particular on the Euromarket and on the large capital markets of the developed countries.

### 212. Volume

6. Statistics about the lending sources for industrial projects in DC's are not available. Therefore, lending for industrial projects has to be seen in the overall context of availability

of financing. The annual financing requirements for industrial projects in DC's are estimated at about US$ 25 to 30 billion at present. The share of the commercial banking system (including funding of government guaranteed export financing) is estimated at more than 50 %. In order to cope with the substantial increase in financing requirements for the industrial development of DC's, substantial lending efforts will be required. Although, industrial projects have a certain priority by lenders, funds should not be detracted from other sectors, which have less lenders' appeal.

7. The development of the total net resource receipts of developing countries from all sources has been shown in detail in Annex 1. ODA-Funds have not increased in recent years (US$ 18 to 19 billion). In relative terms, they have even decreased. The non-concessional flows have almost trippled from US$ 17.7 billion in 1974 to US$ 44.4 in 1977. The substantial increase in the non-concessional flows took mainly place through government guaranteed export financing and international bank lending. The overwhelming part of the increase in commercial bank lending has not been financed by national markets, but through the Euromarket. Taking the incremental lending volume within the past years, there is a clear indication that almost all new lending has been financed through the Euromarket.

8. The Euromarket lending volume (gross) of the international banks to the DC's has been shown in detail in Annex 2 and is summarized below (US$ billion)[1]:

| | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Non-OPEC DC's | 6.5 | 8.7 | 12.5 | 16.1 | 29.6 |
| OPEC-Countries | 1.1 | 3.0 | 4.1 | 8.2 | 11.9 |
| Total | 7.6 | 11.7 | 16.6 | 24.3 | 41.5 |

1) Source: Morgan Guaranty Trust Company

The substantial increase in lending volume in 1978 includes a large share of refinancing due to repayments as well as refinancing in view of the improved terms. From the total amounts obtained by DC's from the commercial banks, only about 10 % have been on a fixed interest basis, although the international bond market lending at fixed terms represents about half of the volume of the Eurocredit market. However, based on the nature of the bond market, only a limited number of DC's have access to this market and only with limited amounts (f.e. Mexico, Brazil, Algeria, Venezuela). Eurocurrency credits, the predominant lend ng form of the commercial bank are granted on a roll-over basi. , based on the short and medium-term nature of the refinancing sources of the Euromarket.

213. Terms

9. The terms of the non-concessional flows, which are the subject of the study, depend on the lending source. Export financing with government guaranty is normally being provided on a fixed interest basis and with long maturities, based on the market terms of the respective national capital market. Apart from the guaranty fee, the DC's have been obtaining terms for government guaranteed export financing, comparable to those of the borrowers' of industrial countries.

10. Lending terms for the predominant free money and capital market for DC's, the Euromarket, have varied considerably within the past years. Apart from the international bond issues, which are of minor importance for the DC's in general (Annex 2), Eurocurrency credits are provided through medium and long-term loans with flexible interest rates (3 or 6 months basis). Whereas final maturities for Eurocredits were typically about 5 to 7 years in recent years, maturities now typically reach 10 years and in several cases up to 15 years. This extension of maturities does not necessarily reflect improved creditworthiness of the DC's, but seems to be rather the result of an extremly competitive situation among the international banks. The limited credit demand in the major

financing alternatives are not available for DC's.

22. Existing Intermediation of Risks and Terms

14. The existing intermediation of the development and commercial banks, as a basis for the potential intermediation, has been analysed and discussed in detail in Annex 3. Particularly, the predominant lending source for the DC's in recent years, the commercial banks, are not likely to be in a position to substantially expand both, the credit and the term intermediation.

3. Extension of Intermediation System

15. An extension of the intermediation system should aim at reducing the combination of the credit risk and funding risk. Closely linked with the funding risk of long-term loans financed by shorter term funds is the interest risk.

31. Credit Risk

16. Within the context of the study, which is focusing on the funding side, the credit risk is a principal element for the commercial banks. The credit risk forms part of the constraint that the commercial banks, as the major source of long-term financing of DC's, are not providing funds with maturities and with fixed interest rates as required by DC's. The commercial banks, as well as the investors have shown that they are willing to invest long-term at fixed interest rates, if the borrower is of prime quality. In order to expand the share of DC's in this market, as well as to improve the commercial banks' willingness for increased intermediation, additional direct guaranties or similar instruments could be applied. Apart from bilateral ODA-Funds, international development banks and government guaranteed export financing have proved to be excellent financing instruments. However, in spite of increased commitments of the international development banks as well as substantial increases in government guaranteed export financing, the commercial banking sector had to carry the bulk of additional credit risks to the

DC's within the past years. This relative decline in official development assistance is probably based on the resistance of the capital rich nations to increase their commitments to DC's in general. Government guaranteed export financing, which is a more desirable form of commitment from industrial countries' point of view, since ro government funds are required, has increased substantially. According to OECD, DAC-Countries extended or guaranteed export credits on a net basis of US$ 7.3 billion in 1976 and US$ 10.3 billion in 1977, with the major exporting countries, U.S., France, Germany, Italy and Japan having a share of about 2/3. Although the commercial banking sector has been quite willing to undertake funding of this government guaranteed credits to DC's, maturities and terms have not been as favourable for the DC's as in the case of international development bank loans. One third of the new export credits reported, had maturities between one and five years, two thirds had maturities of more than 5 years. In order to encourage the commercial banking sector to extend the maturities of the government guaranteed export financing, the "Berne Union" should consider an extension of the jointly agreed terms. (Terms were agreed in order to prevent distortion of trade through competition in official support for export credits.) According to the "arrangement and guidelines for officially supported export credits", the maximum repayment period ranges from 5 to 10 years depending on the income group pf the DC. An extension of the maturities would encourage the commercial banks in this sector to try harder for longer maturities of government guaranteed export financing. Also the recommendation on interest rates appears to be too uniform in order to cover the markets' large interest differentials among the various currencies, which range at present up to 7 or 8 % between the US$ and the SF for example. An increased responsibility of the DAC-Countries for government guaranteed export financing with somewhat longer maturities would enable the commercial banking sector to take over an increased volume and an increased intermediation in the funding.

17. The international development banks, which have substantially increased their own lending commitments, could also play an even larger catalyst role for the commercial banks. Such catalyst role would also be in line with the DAC-Countries resistance to substantially increase their commitment towards DC's. Apart from formal guaranties of the international development institutions for individual credits or bond issues, which has been discussed, quasi-guaranties for joint undertaking of lending operations is certainly an area, where an increased and an improved cooperation among the DC's, the international development banks and the commercial banking sector could show substantial improvements in lending volume and terms from the commercial banks towards the DC's. Further development of co-financing of individual projects as well as improved coordination on a country basis would facilitate the commercial banks involvement in an improved intermediation. Commercial bank lending to DC's has anyhow reached dimensions, which in critical situations could only be solved through joint debt management consultations and solutions. Therefore, the major international commercial banks should be formally included in the information process, in view of the commercial banks' importance of funding the DC's. Such involvement of the commercial banks would improve the information flow for all parties, thereby improving the judgement possibilities about the creditworthiness of DC's.

32. Life of Loans

18. Providing that the credit risk is attractive enough, commercial banks have demonstrated an increasing willingness to maximaze the funding effort. From a DC's point of view, the maturities and terms of the two major financing sources in recent years, the government guaranteed export financing and the Eurocurrency credit sector, have both not been fully adequate. This is partly based on the commercial banks' judgement of the credit standing of DC's; however, to a large extent it appears to be based on the limited availability of long term funds in general.

321. Extension of Life of Loans

19. The final maturity of Eurocurrency loans to DC's amounted between 6.5 and 7.5 years in 1977. In 1978 it increased to beyond 10 years. In several cases, the final maturities reached up to 15 years, although final maturities sometimes had to be taken up by the lead-manager and not by the syndicating banks. Taking the maturity pattern of former years, it is unlikely that present maturities for Eurocurrency loans to DC's will be maintained in the long run. On the other hand, present maturities are just about the minimum requirement for the financing of projects in DC's. Depending on the type of industrial project, the final maturities of 12 to 15 years with grace periods of 3 to 5 years are normally sufficient for the financing of industrial projects in developing countries, however, on a fixed rate basis.

20. In case of government guaranteed export financing, lending is on a fixed interest basis; however, final maturities should be extended by at least 2 to 5 years. If proper incentives are given to the commercial banking sector, this improvement should be possible.

21. At present and considered on a long term basis, the international development banks are the only lenders, which provide industrial project financing on adequate terms, since the maturities are tailored to the individual project's needs. Also in case of co-financing with commercial banks, the international development banks are in a position to make up for any maturity deficiency of the commercial bank. This aspect together with the advantage that the commercial banks extend in the case of co-financing their loans with longer maturities to DC's, is another reason for an improvement of financing cooperation.

322. Increased Short-Term Funding

22. In view of the limited availability of long term funds, an

improved intermediation system will be required in order to provide the necessary lending volume at adequate terms to DC's. The commercial banks have coped with the task of the long term needs of the DC's on the one side, and the large volume of short-term deposits on the other side, in an unexpectedly brillant form within the past years. However, there seem to be evident strains in the system to cope with substantial additional volume as well as with improved terms. In view of the already substantial intermediation function of the commercial banks, it appears that substantial additional intermediation would have to take place not on an individual company basis but rather need the framework of more global and international assistance. Sustained or additional intermediation of the commercial banking sector would have to cope with the even longer maturities required as well as with the accelerating tendency of shortening terms on the funding side. On a more global basis, such intermediation can be balanced more easily, since the short-term liquidity could only be shifted among the various partners or economies, but would always remain within the system.

33. Interest Rate

23. In the case of Eurocurrency credits, the predominant source for financing industrial projects in DC's, the question of interest rate intermediation is even more important than the extension of maturities. DC's would ideally require fixed term interest rates for the whole credit period in order to have firm calculations for the individual project as well as for the debt service requirements for the country. Based on the present system of the Euromarket, the international commercial banks are, however, not in a position to extent such fixed term loans in view of the short-term refinancing basis, with interest rates, which fully depend on short-term fluctuations.

24. For government guaranteed credits, the international commercial banks are using different refinancing sources, which are quite limited, compared with the volume of the Euromarket and

are normally based on the respective national markets. To the extent, maturity and interest rate intermediation is undertaken by the commercial banks, such intermediation risks are limited in relation to the overall activities of the commercial banks and have to be seen in the context of the liquidity policy and interest rate structure on the borrowing and lending side. In the case of the international development banks and major national development banks of the industrial countries, intermediation of maturities and interest rates also take place, but are limited as well, since refinancing is predominantly on a long-term basis.

## 4. Intermediation Risks

25. Within this chapter, the risks of the existing intermediation and in particular, the potential for additional intermediation will be discussed and evaluated in detail, in order to arrive at viable possibilities for an extension of the existing intermediation system.

### 41. Solvability

26. The solvability of a banking institution is given, if investors or depositors consider such an institution as a suitable name and acceptable risk as well as an overall availability of funds in the market are given. If these two preconditions are met, refinancing of such an institution is a matter of agreeing on the terms with the providor of funds.

#### 411. Credit Standing

27. The credit standing of an institution consists of the tangible and intangible aspects. As a precondition for having continued access to refinancing, the management of the asset side must be solid. Losses on outstanding lending amounts as well as delayed interest payments on loans are aspects, which can seriously affect the credit standing of a credit institution.

If these losses and delayed payments can not be maintained within a limited amount in relation to the annual profits, capital replacements, stand-by facilities of shareholders, refinancing possibilities of such institution can be seriously affected and endanger solvability as well as term of access to the refinancing market. Institutions having a substantial exposure towards DC's, therefore, have to be particularly aware of the investors' and depositors' reservations. For an increased intermediation of short-term funds for lending to DC's, it may, therefore, be recommendable, that the credit risk intermediation is separated from the funding intermediation risk in order not to accumulate risks and to maximize the funding intermediation.

28. Apart from a sound management of the asset side (particularly the loan side), liquidity policy as well as the borrowing policy of such an institution have to be in line with accepted banking standards, depending on the set-up of such an institution (shareholders, capital potential, size, standing) as well as the risk exposure on the loan side. Based on these principal management and risk aspects, resulting in profitable operations, the refinancing possibilities of such an institution would be supported by its credit standing.

412. Availability of Refinancing

29. The Euromarket represents the most important source of large sized short and medium-term funds. The total volume of the Euromarket is estimated at more than 800 billion US$; eliminating the inter-bank deposits, the net volume amounts to more than US$ 450 billion. In 1972, the corresponding volumes were US$ 200 and 110 billion respectively. Large depositor groups in the Euromarket are the commercial banks from the industrial nations, the central banks, the OPEC-Countries and the large industrial companies. The central banks from the Common Market countries are normally not depositors in the Euromarket, except through the BIS (Bank for International Settlements).

30. On a gross basis, 50 % of the deposits of the Euromarket are from countries of the Group of Ten, followed by the OPEC-Countries. Considering the lending to these countries, net deposits from the countries of the Group of Ten amount to about US$ 65 billion and the deposits of the OPEC-Countries to about US$ 40 billion (1977). Considering the large volume of inter-bank deposits, which are partly the result of money exports from commercial banks in industrial countries, inter-bank deposits have been the predominant source of deposits (on a gross basis) and individual depositor groups can not be analysed. The reason that the investors prefer the Euromarket versus the national market of the respective currency, to that extent, is the flexibility and competitiveness of the Euromarket, partly due to more liberal legislation.

31. The maturity structure of the deposits in the Euromarket is predominantly short-term. The typical time deposits are for 3 or 6 months; maturities of above 12 months up to 2 or 3 years are the exception. Depending on the maturity of the deposit, the interest rate is based on prevailing market rates (inter-bank offered rate). The commercial banks are the takers of funds because they have use for their own deposits as well as Eurocurrency credits. The large net depositors of the market, central banks and OPEC-Countries normally deposit only with the largest international banks. As an indication of the security consciousness of some of the largest depositors, they normally deposit only with 4 or 5 large banks in each of the major industrial countries, where they deposit their short-term funds. Amounts of these depositors are therefore sizeable and intermediation of these funds into higher yield assets remains with the commercial bank, which either provides Eurocurrency loans (credit risk) or redeposits such amounts with other smaller or medium sized banks, which do not have the same access to the large primary investors. In view of the wholesale nature of the Euromarket, individual deposit amounts normally are in the one or two digit US$ million range.

32. The US$ represents about 75 % of all Euromarket transactions, followed by the DM with about 15 % and the SF with about 5 %. The 3 months deposit rates for these 3 currencies are presented in Annex 4. Depending on the respective national markets, interest rates have varied considerably. Whereas in 1975 and 1976 the difference between 3 months deposits in US$ and DM was 2 % and less, this gap has increased to 8 % and more in 1978, reflecting different exchange rate, inflation and long-term interest rate expectations for the respective currencies.

33. Even without assuming any substantial further growth of the Euromarket, for which there are at present no indications, no refinancing difficulties with short-term funds can be projected for large commercial banks or similar institutions with good standing. The Euromarket has shown a steady and encouraging development, although this was not at all times necessarily in line with the policy of some of the European central banks; their reservations about the Euromarket may also be one of the reasons, that deposit maturities on the Euromarket have not lengthened and that longer term fixed interest rate commitments have not been undertaken. With about half of the gross volume of the Euromarket consisting of Eurocurrency credits with mostly long-term maturities and at flexible interest basis, the Euromarket and the commercial banks have proven, that it can be expected, that at all times, sizeable amount of short-term funds have been available in the market. This is not only underlined through the absolute size of the Euromarket, but also through the active participation of the central banks, directly or indirectly on the lending as well as on the borrowing side. With such worldwide participation in the Euromarket, it can not be foreseen substantial liquidity could be withdrawn from the Euromarket or the major national markets on a global basis. Although individual depositors or depositor groups may need their short-term funds from the Euromarket to make payments and cover balance of payment deficits, other Euromarket participants will receive such liquidity and deposit it in the national market or in the

Euromarket. Regarding the various currencies in the Euromarket, major participants are basically restricted to the US$ and DM. In view of the limited amounts transacted and the restrictions of the respective central banks, markets for other currencies have shown only a limited continuity.

## 42. Interest Rate

34. The desired expansion of long-term lending with fixed interest rates to DC's, based on increased short-term refinancing, can result in considerable interest risks for the intermediary institution. Since interest rates for the short-term funds are fixed every 3 or 6 months, depending on market conditions, the intermediary institution has the benefits and the risks of lower or higher interest rates for the refinancing than those committed for the long-term lending.

### 421. Interest Differential

#### 4211. General

35. Based on economic theories and actual market results, short-term interest rates are, in the long run, lower than long-term interest rates. This is based on the theory, that from an investor's point of view, rewards for savings with longer term commitment have to be greater than for those on a short-term basis. There have always been temporary situations, when short-term rates have been higher than long-term rates. Apart from currencies with double digit inflation without functioning long-term market, such situations normally occur, when it is expected that long-term interest rates are going to decrease. In such market situations, borrowers are normally not willing to borrow at high interest rates on a long-term basis and rather prefer short-term indebtedness in order to wait for more favourable long-term interest rates. Together with a normally restrictive monetary policy of the central banks in the short-term sector,

such an additional demand of short-term funds results in higher short-term rates than long-term rates. At present, this is the situation for the US$ for example. The respective development of short and long-term interest rates in the case of the Euromarket is closely linked with the national markets of the respective currency. This is due to the almost free flow of funds among the markets of the major Eurocurrencies. In order to have the practical results of the interest differential between long and short-term interest rates, actual interest rates of long-term international bond issues have been compared with 3 months deposits in the Euromarket of the respective currency. Details are shown in Annex 4. Although to a varying degree, long-term interest rates of the US$, DM and SF have been higher than short-term rates within the last ten-year-period. Over this period on an accumulated basis, long-term rates of the US$ were 5.84 % higher, DM rates 9 % higher and SF rates 30.52 % higher. These margins are likely to be higher before 1969, when inflation rates were much lower and restrictive monetary periods were less frequent (mostly affecting short and medium interest rates). Although it should be mentioned, that these rates are only approximative because of many classifications, but are most likely to be understated. In periods of restrictive monetary policy, when margins have been particularly small or negative, long-term interest rates normally do not adequately represent the market situation, because the market has either been closed or only been with limited access.

4212. US$

36. Within the past ten-year-period, interest rates for long-term bonds have varied little, particularly when considering the substantially increased inflation rate. The lowest interest rates were seen in 1971, 1972 and 1976 and 1977 in the range of 7.6 to 7.8 %, and the highest points of interest rates were seen in 1969, 1974 and again 1979 with interest rates at about 9 % and close to 10 % in 1978/79. Considering the inflation rates,

which before 1973 have always been at 5 % and below, having reached 8 % and more in 1974 and again in 1978/79, the interest rate level for long-term bonds has relatively declined. Therefore, the investors' increasing resistance related to long term bond investments is understandable.

37. Short-term interest rates during this period have varied considerably. With the lowest level of 3 months Eurodollar deposits in 1972 and 1976 with about 5.5 %, 10 % and higher interest rates were reached in 1969, 1974 and in 1978/79. The interest differential of long-term bonds as compared to 3 months and 6 months Eurodeposits within the past ten-year-period was on an accumulated basis 5.84 % and 4.0 % respectively. With less inflation, this margin would have been much higher; although it should be considered that the past ten-year-period included 3 restrictive monetary policy periods, one at the beginning, one in the middle and one at the end. Even under these adverse circumstances, an intermediary institution, having given the long-term interest and maturity commitment, would have come out with a positive margin, thereby providing the decided terms for long-term funds to the DC's as well as increasing its profitability.

4213. DM

38. In the DM sector, where inflation has been less, interest rates on long-term bonds have been lower, although not to the full extent of the inflation differential. The peak of the interest rates was also in 1973/74 due to the quite restrictive monetary policy of the central bank in order to successfully cut down inflation after the OPEC price increase in 1973. Short-term market rates are mostly domestic market rates for 3 months interbank deposits, which generally have been about 1/4 % higher than Eurocurrency rates; in 1973 the difference might have even been larger due to temporary regulations, limiting the flow of funds

between the Euromarket and the domestic market. The accumulated interest differential for the past ten-year-period amounts to 9 %, leaving a substantial higher margin for an intermediary institution. The reasons for the higher margin have already been discussed and have to be analysed in particular, when considering the application of increased intermediary functions through longer terms and fixed interest commitments. An important element in these considerations is also the timing of the long-term interest rate commitment.

4214. SF

39. With the SF market being much more closed and regulated than the US$ and the DM market, long-term interest rates have always kept a relatively high and steady level, when considering inflation rate and short-term interest rates, particularly in recent periods. Therefore, the interest differential between long-term bond yields and short-term funds reaches about 30% within the past ten-year-period. Since up to 1975 day-to-day inter-bank money rates have been used, this figure may somehow be overstated. However, even considering this, the interest differential remains substantially more than 2 % per annum.

422. Interest Differential Equalization Fund

40. In order that intermediary institutions, providing long-term funds at fixed interest rates, can absorb interest fluctuations, an interest equalization fund has to be established. Positive interest differentials should be allocated to these funds until it reaches a sufficient level to absorb negative interest differentials during the life of the loans. In case, that the interest differential is negative during the initial stage of such lending policy, adequate provision or stand-by facilities have to be arranged for.

41. In the case of commercial banks, such allocation to an interest differential equalization fund would normally not be tax deductable. This would mean that the major portion of the positive interest differentials would be subject to taxes and would

not be available to the full extent as a provision for eventual future losses. This has also been the major phenomen for the famous Münemann case in Germany. Münemann was an insurance broker who started long-term lending at fixed interest rates to first class German industrial companies, based on revolving short-term deposits of large insurance companies. Under heavy attacks by the established banking sector, he could successfully develop these financing transactions in the 1950's and 1960's (several billion DM). Thereafter, in view of extremely high short-term interest rates, partly due to inflation, he collapsed because he did not have sufficient reserves in order to make up for the negative interest differential existing for an extended period. However, even without the backing of a large commercial bank, the Münemann system could have survived easily, if the major part of the positive interest differentials of the past years would have been retained as reserve. (Utilization of profits for other activities as well as taxation of positive interest margin in the Münemann case.)

423. Fixing of Interest Rate and Inflation

42. The fixing of the long-term interest rates should be in line with the prevailing long-term interest rates for corresponding maturities and currencies. It can be assumed, that in the long run, an intermediary institution with first class standing, can fully absorb the interest differential risk between long and short-terms and even have substantial profits resulting from the intermediation. Therefore, under these circumstances, borrowers as well as the intermediary institution would benefit from the intermediation. However, these considerations are not likely to be valid in the case of major inflation in the domestic markets of dominant Eurocurrencies. With substantial inflation rates, it can be expected that short-term money market rates will increase too. Although, this could be covered to some extent by the intermediary institution through the differential between long and short-term funds, double digit inflation rates could certainly not be covered in the long run.

With such substantial inflation rates, leading to major distortions of all economic activities, some mechanism for adaption of the interest rates on the outstanding loans would be necessary. The intermediary institution could probably absorb the first 5 years of the lending commitment, thereby not affecting the viability of an industrial project. In case of major inflation, such industrial project would also benefit from inflation through the investment (revaluation) as well as higher product revenues. Therefore, such affects of major inflation rates could be passed on to the industrial project in the DC, at least with a certain time lag. As long as inflation rates remain within the level of the past years, adjustments would, however, not be necessary.

424. Liquidity and Mixed Refinancing

43. The liquidity situation of such an intermediary institution is somewhat more complex than for normal commercial or development banks. Based on the predominant dependance of the development banks on long-term funds through the issuance of bonds in capital markets, substantial liquidity is required in order to bridge eventual periods of limited access to the capital markets. Since the availability of the short and medium-term funds is not subject to these limitations, an intermediary institution would not need liquidity for this reason to the same extent. On the other hand, an intermediary institution (always based on the assumption of a first class institution), would be at all times much more dependent on refinancing activities in view of the revolving practice (however, in an extremely large market). For an intermediary institution, the liquidity position could be supplemented through stand-by facilities in addition to the normal and ample access to the major short-term funds suppliers in the world's money markets. Such stand-by facilities would normally be less costly than in the case of short-term liquidity assets (relatively low interest rates) based on long-term refinancing, unless such investment portfolio is extremely well managed.

44. So far, the conventional long-term financing method has been compared with the other extreme of intermediation with only short-term funds. However, an intermediary institution could as well utilize medium and long-term funds in periods, when such funds are sufficiently and at reasonable terms available, and reduce short-term funding to the same extent. This would somewhat reduce the dependance on the short-term market and at the same time take advantage of the obvious interest cycles of long-term funds. Additionally, an intermediary institution has the access to the large pool of short-term funds at favourable interest rates.

## 5. Institutional Set-up

45. For an institutional set-up of such an intermediary institution there are 3 possibilities:

a) existing international development banks,
b) commercial banks or
c) a special fund or institution.

## 51. Development versus Commercial Banks

46. Although the commercial banks have carried most of the intermediation in recent years through substantial increases in lending to DC's (credit risk) as well as funding intermediation through roll-over credits with long-term maturities, this intermediation system is clearly showing its limits , particularly on the credit risk side. Some help has been given to the commercial banks through the substantial increase in government guaranties for export financing. One possibility would be to share even more the credit and funding intermediation function, i.e. governments and international development banks would cover through guaranties or quasi guaranties (improved co-financing) an increasing financing share to DC's, with the funding being provided by the commercial banks on a long-term, fixed interest basis. Under these circumstances, it appears likely, that the commercial banks could substantially increase lending to DC's and at the same

time improve the lending terms. Since these possibilities have already been discussed frequently and since it is not certain, (1) whether the commercial banks would be willing to improve the lending terms to DC's to the full extent required and (2) international development banks have been reluctant to take over the credit risk of DC's without funding, the emphasis in the context of this study will be given to an intermediation of both risks within international development institutions. Development banks would also be in a position to exercise some quality control about the lending to DC's.

## 52. International Development Banks

47. In view of the well established and proven capability and framework of the international development banks, the best possibility for an increased intermediary function would be within these organizations or attached as special fund or institution.

### 521. Set-up and Participants of Intermediary Institution

48. An increased intermediary function ideally needs a similar set-up as the international development banks. Optimum coverage of the credit risk is given through member countries, which have borrowing and lending functions themselves. For the funding intermediation, such membership structure would practically eliminate the funding risks as well.

### 522. Credit Risk

49. Taking additional credit risks to DC's, would not pose any constraint on the international development banks. In view of their detailed analysis (project and country basis) as well as their institutional set-up, lending policies and credit risks, additional lending to industrial projects in DC's would be on the same basis as the traditional lending. However, depending on the set-up of the intermediary institution, such lending would be extended through a special fund or institution, due to

the different refinancing policies.

50. From such an increased intermediation of credit risks, lending for industrial projects in DC's would benefit in general; however, in particular the low income DC's would benefit from such additional intermediation, since commercial banks have only extended Eurocurrency loans to this country group to a limited extent. Although, undertaking the credit risk intermediation by the international development banks with the funding undertaken by the commercial banks, would show improved results as well, there are reasons for a combined intermediation of the credit risk and the funding within or attached to the international development banks. Such a combination may take partly away the reservations of the international development institutions, since they would still be in the same strong lending quality control position, which might be affected if the funding is undertaken by different institutions, i.e. the commercial banks. Additional participation of the international development banks would increase the relative lending share to DC's, thereby leading to an improved coordination of the debt management of the DC's. In several cases, granting of Eurocurrency credits by commercial banks has not sufficiently taken into account debt situations of individual DC'S, thereby having enabled continuation of poor economic management in some DC's and having delayed corrective mesures.

523. Lending Terms

51. The present system of lending terms for the bulk of lending to DC's, in the form of government guaranteed export financing and Eurocurrency credits is not based on borrower's needs but mainly on market considerations and competition among the commercial banks. The suggested additional intermediation of the international development banks would principally change this situation and would result in an improved debt service structure of the DC's, in spite of an additional lending volume. Lending terms for the additional intermediation would be fully based on

the needs of the individual industrial projects in the DC's, taking into account the projected cash flow of the project as well as the DC's debt service situation.

52. The life of the loans would be at least 12 to 15 years with grace periods of 3 to 5 years. Interest rates would, partly contrary to the present system of the international development banks, based on prevailing long-term interest rates of the respective currency. The mechanism of establishing the lending rate could be similar to the present system, in which the lending rate is adjusted periodically, based on actual long-term borrowing costs of the international development bank. Under the suggested system, such borrowing costs would be separated into the borrowing costs for the different currencies.

53. Although the present borrowing and lending mechanism of the international development banks is completely based on matching refinancing, it provides sufficient flexibility in order to accomodate additional intermediation. However, with increasing intermediation (voluntarily or forced through market constraints), more specifical arrangements regarding terms and interest differential equalization fund may have to be made. The major question is, to what extent the risks and benefits of short-term refinancing should be covered by the intermediate institution or passed on to the borrowers. Since the DC's would be members of the intermediary institution and have an on-going borrowing program, risks and benefits could be shared more or less equally without establishing a complicated mechanism for individual loans.

53. Funding Intermediation

54. The funding intermediation required for additional lending could take advantage of the increasing pool of short-term funds either through an expansion of short-term refinancing or through a special fund tapping predominantly the short and medium-term market. Taking the large pool of short-term funds of the Euromarket with a net volume of US$ 450 billion alone (apart from the large national money markets), increased intermediation could be

undertaken in sizeable amounts and is practically only restricted through prudent lending policy. Lending volume of US$ 1 billion and more per annum for industrial projects in DC's would not pose any problems from a funding point of view.

531. Expansion of Short-Term Refinancing

55. So far, international development banks have almost completely relied on long-term funds from the world's capital markets. They have practically not tapped at all the Euromarket. In view of the relatively declining availability of long-term funds, the substantial increases in borrowing needs of the international development banks as well as the tremendous growth and diversification of short and medium-term funds, increased intermediation has already been taking place in the past, although probably to a large extent not intended. Apart from the increasing necessity, additional intermediation should have a favourable impact on the lending terms to DC's. Without introducing major changes in the present lending and borrowing policy of the international development banks, it appears possible to increase the intermediation through an expansion of short-term refinancing. Considering the framework of the international development banks, the resulting refinancing risks should be tolerable, even for a sizeable portion of short-term funds.

5311. Deposits and Short-Term Paper Market

56. Although the international development banks are active in these markets as investors through the management of their liquid assets, they are not takers of deposits and have only rarely issued short-term papers.

53111. Euromarket

57. The predominant availability of funds in the Euromarket is in the form of deposits. Like any large international commercial bank, central bank or company, the international development banks can participate in this market through an active partici-

pation as a taker of deposits for the refinancing of loans or as an investor for liquid assets. In view of their standing, international development banks have access to the Euromarket at top rates and with primary depositors (central banks, countries, commercial banks and industrial companies). So far, international development banks tap these sources only to a limited extent through special bond issues (OPEC-Countries) and through special arrangements (central banks). Certificate of deposit issues might not be appropriate in the Euromarket, because of competing alternatives at better terms in the respective national markets.

53112. National Markets

58. Mainly in the U.S., the short and medium-term paper market is well developed and diversified. Certificates of deposits and notes with varying short and medium-term maturities could be issued at favourable terms. Due to their refinancing policy, the international development banks have only seldom used these instruments. In the other national markets, short and medium-term papers are mainly issued through governments and commercial banks. Therefore, the international development banks would become somewhat like a competitor to the respective government. Otherwise, this market sector would be highly attractive for the international development banks in view of the favourable interest rates, the high volume and the type of investors. Through such a practice, the international development banks could have continual access to an important market segment, which in most of the major national markets has been the most reliable source of funds and has not been subject to the fluctuations of the capital markets.

5312. Governments and Central Banks

59. Apart from the issuance of notes, the limited short-term borrowing of the international development banks has normally been arranged with governments and central banks. For example, from the US$ 1.2 billion IBRD obtained from government and central banks in the fiscal year 1978, US$ 449 million were two-year

US$ bonds and DM 500 million five-year notes. The Inter-American Development Bank, which has borrowed US$ 302 million in 1977, obtained US$ 74 million through short-term borrowings in its Latin-American member countries. An increasing involvement in the short and medium-term market might meet certain resistance not only from a political point of view, but in particular in view of the competitive situation for such funds. Because of the increasing borrowing dependance of governments, governments might not be interested in having competitors in a market segment, where due to its nature, they have been so far without major competition.

60. In the case of the Euromarket, such bilateral considerations would not be necessary in view of the market structure, although governments and central banks are likely to be the largest end-users and suppliers of the market. It is estimated (Morgan Guaranty), that the Eurocurrency deposits of central banks and other official monetary institutions amount to approximately US$ 100 billion (1978). The total foreign exchange reserves of all countries, reporting to BIS, amounted to about US$ 243 billion (Dec. 1977). In view of the nature of these funds to serve as liquidity buffer in case of foreign exchange needs, from the central banks' point of view, such funds can not or only to a limited extent be comitted on a medium or long-term basis. However, when considering a group of member countries, substantial fund intermediation would be possible. Foreign exchange losses of one member country, in principal, would result in foreign exchange gains of another member country, thereby leaving the total amount of short-term funds of the system unchanged. Therefore, central banks will always be major suppliers of short-term funds on the Euromarket and the major national markets.

61. The funding volume and set-up for the envisaged additional intermediation with a lending volume of at least US$ 1 billion or more p.a. would be well in line with the total market volume and with the reserve character and liquidity requirements of

foreign exchange reserves. An extended short-term refinancing or special intermediation fund within the international development banks, would be in an excellent position to attract central bank deposits, since in addition to the credit standing, a mutual purpose and agreement of such an undertaking would be given in addition to competitive market rates.

532. Solvability and Refinancing

62. From a solvability and refinancing point of view, a mixture of short-term and long-term refinancing of long-term lending appears to be particularly attractive and viable for the suggested framework of the intermediary institution.

5321. Sources and Refinancing Terms

63. Short-term refinancing would be mainly based on short-term deposits from the Euromarket and the major national markets. With the primary and secondary volume of this market of several hundred billion US$, an intermediary institution with prime standing and international backing would not have any difficulties, to attract short-term funds for the refinancing of long-term lending activities with an annual lending volume of US$ 1 billion and more. The intermediary institution would participate in the deposit market, similar to the large international commercial banks and the central banks. The refinancing terms would be based on interest rates for the respective currencies and maturities for prime banking institutions. In addition to the short-term refinancing, it could be considered, whether a mixture of refinancing of varying terms, would be advantageous. In periods of sufficiently available long-term funds at reasonable terms (interest rates and maturities), medium and long-term borrowing of the intermediary institution could be envisaged. The suppliers of the short-term funds would be all market participants in the Euromarket. Some of the major depositors in the Euromarket (BIS, OPEC-Countries, large central banks outside the Common Market area) might even welcome a certain diversification of their deposits

with such an intermediary institution.

64. Although, central banks and similar institutions have to invest the major part of their reserves on a short-term basis, deposit withdrawals from individual major depositors could be easily made up by the other market participants.

65. In view of the policy and the membership countries of such an intermediary institution, central banks might even be willing to enter in a certain closer corporation with this institution. Apart from the lending purpose of such an institution, which would indirectly promote the equipment exports from the industrial countries, market rates would be paid and at the same time central bank funds would not be channeled to the Euromarket, thereby, giving some monetary control for the floating short-term funds back to the central banks. This channeling of additional short-term funds to such an intermediary institution would therefore ideally support the efforts of the major central banks to regain more control over the international short-term money flows.

5322. Stand-by Arrangements

66. Such cooperation with the central banks could also be in the form of stand-by arrangements. In this case, the intermediary institution would normally not rely on central bank deposits. Stand-by arrangements with the central banks would have the advantage, that, apart from the outstanding creditworthiness of the intermediary institution, the new financing method could be accepted also by conservative investors without any reservation. The volume of such stand-by arrangements would be small and not restrictive for the individual central bank as well as in terms of the overall reserves. On the other hand, it would also on a theoretical basis, fully secure the solvability of the intermediary institution.

533. Interest Differential

67. The interest differential between the long-term lending rate and the variable short-term refinancing costs, has been analysed in detail under 42. Between the intermediary institution and the lenders, a framework has to be developed, how the risks and benefits of the interest differentials are absorbed. In the long run, refinancing costs through short-term funds should result in lower refinancing costs for the intermediary institutions, resulting in long-term lending rates, which could be lower than the present ones. However, it would be prudent for the intermediary institution, to set the long-term lending rates at least at the beginning, according to the prevailing long-term refinancing costs. The normally encountered positive interest differential should not be distributed, but should be allocated to a special interest differential equalization fund in order to compensate temporary negative interest differentials without recourse to the shareholders or to the borrowers. For the start of the lending activities of the intermediary institution, such fund should already have been established in relation to the intended lending volume. Unless the timing of the start of such activities is unfavourable (relatively low long-term rates combined with relatively high short-term rates), reserves of the interest differential equalization fund of at least 15 to 20 % of the outstanding long-term loans should be sufficient. If in the long run, too many reserves would be accumulated in the interest differential equalization fund as a result of the intermediation, such reserves could then be allocated to the regular reserves for the benefit of the shareholders. Since the shareholders are at the same time the borrowers, such allocation could be justified.

534. Inflation

68. The considerations on the funding intermediation can be seriously disturbed by major inflation rates. The positive interest differential, which theoretically and in practise is

recognized, can probably absorbe inflation rates up to 5 to 10 % per annum. However, if persisting double digit inflation rates are encountered, during the long-term lending commitment at fixed interest rates, short-term refinancing costs are likely to be higher than the lending rates.

69. When considering this aspect and comparing it to the long-term refinancing, there is likely not to much difference. Major inflation rates are disruptive for all economic processes and in particular, for the ones with longer term ccnsiderations. Therefore, in case of major inflation rates, long-term capital markets are likely to be more affected through lower volumes, reduced maturities and high capital demand. Dissatisfied bond-holders, increasing the selling presure on the secondary market and discussions about indexation of interest rates on the borrowing and lending side have periodically occured.

70. Long-term refinancing at fixed interest rates is securing existing lending commitments to a large extent, however, this is a rather static point of view, when continued relationship between lenders and borrowers is concerned. On the one side, the borrowers have large inflation gains and on the other side the bondholders on which the international development banks rely heavily, have corresponding losses. It can be argued, whether on a longer term basis, an intermediary institution with long-term refinancing would do much better than one with short-term refinancing. In times of major inflation rates, an intermediary institution with long-term refinancing policy would have to decrease its lending activities considerably because of a likely lack of long-term funds. The short-term refinancing institution would continue to obtain the same volume out of the market but with higher interest rates, basically in line with the inflation rate. Therefore, it is not sure whether this critical point of the short-term refinancing scheme can be solved much better with the existing long-term refinancing scheme.

71. In case of major inflation rates, the industrial projects

in DC's as borrowers have the respective benefits, since it can be assumed that investment costs (replacement), revenues and operating costs increase at least according to general inflation. Therefore, a viable mechanism has to be established whereby such negative interest differentials, due to inflation, can be passed on to the borrowers, who benefit on the other side from the inflation. Normally, after 2 years of operations of the project, such additional interest charges should not cause any problem to the project entity, since revenues and profits should increase accordingly. Although, it should be expected, that such mechanism will not be required, actual inflation of the US$ within the past 5 or 6 years has shown, that it would be prudent at least, to provide such mechanism in order to maintain the intermediation system viable. In order not to affect any of the outstanding loans through adjustment of interest rates, it could also be envisaged that the interest equalization fund is allocated with higher amounts and that the required margin is added to the new lending activities.

72. Another possibility would also be the currency mix with one lending rate as it is the case in the present long-term refinancing, which has still optically low lending rates due to substantial utilization of low interest currency funds. In real terms, even assistance with possible inflationary adjustments at the expense of the borrower might be more advantageous as compared to the present system. With the clear distinction of interest rates for the currency borrowed and disbursed, real interest rates are not expected to change substantially during the term of the loans. When considering the total borrowing costs for the DC's, higher interest rates correspond to higher inflation rates with the corresponding result of much less foreign exchange risks.

Annex 1

## TOTAL NET RESOURCE RECEIPTS OF DEVELOPING COUNTRIES FROM ALL SOURCES *)

- in US$ billion -

| | 1973 | 1974 | 1975 | 1976 | 1977 |
|---|---|---|---|---|---|
| 1. ODA | 11.6 | 15.2 | 19.5 | 18.7 | 19.5 |
| a) DAC Bilateral | 7.1 | 8.3 | 9.8 | 9.5 | 10.0 |
| b) Multilateral Agencies | 2.0 | 2.8 | 3.8 | 3.9 | 5.0 |
| c) OPEC Bilateral | 1.2 | 3.0 | 5.0 | 4.5 | 3.8 |
| d) Centraly Planned Economies | 1.3 | 1.1 | 0.9 | 0.8 | 0.7 |
| 2. Non-Concessional Flows | 18.4 | 17.7 | 31.7 | 34.2 | 44.4 |
| a) DAC Bilateral - non-monetary sector - | 8.4 | 7.0 | 18.1 | 16.1 | 22.6 |
| b) Multilateral Agencies | 1.3 | 1.8 | 2.6 | 2.7 | 3.1 |
| c) OPEC Bilateral | 0.1 | 0.9 | 1.5 | 1.6 | 0.9 |
| d) International Bank Lending | 8.5 | 7.9 | 9.4 | 13.7 | 17.8 |
| e) Centraly Planned Economies | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| Total Receipts | 30.0 | 32.9 | 51.2 | 52.9 | 63.9 |

*) Source: OECD

Annex 2

## EUROCURRENCY BANK CREDITS [1]

## AND INTERNATIONAL BOND ISSUES

- in US$ billion -

| | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Industrial Countries | 26.1 | 22.4 | 35.4 | 40.7 | 54.0 |
| Credits | 20.7 | 7.2 | 11.3 | 16.8 | 29.0 |
| Bond Issues | 5.4 | 15.2 | 24.1 | 23.9 | 25.0 |
| Non-OPEC Developing Countries | 6.5 | 8.7 | 12.5 | 16.1 | 29.6 |
| Credits | 6.3 | 8.2 | 11.0 | 13.4 | 26.9 |
| Bond Issues | 0.2 | 0.5 | 1.5 | 2.7 | 2.7 |
| OPEC-Countries | 1.1 | 3.0 | 4.1 | 8.2 | 11.9 |
| Credits | 1.1 | 2.9 | 4.0 | 7.5 | 10.3 |
| Bond Issues | - | 0.1 | 0.1 | 0.7 | 1.6 |
| Communist Countries | 1.3 | 2.8 | 2.6 | 3.6 | 3.8 |
| Credits | 1.2 | 2.6 | 2.5 | 3.4 | 3.8 |
| Bond Issues | 0.1 | 0.2 | 0.1 | 0.2 | - |
| International Institutions | 1.2 | 3.9 | 6.7 | 6.7 | 5.1 |
| Credits | - | - | - | 0.2 | 0.1 |
| Bons Issues | 1.2 | 3.9 | 6.7 | 6.5 | 5.0 |
| Total | 36.1 | 40.9 | 61.4 | 75.3 | 104.4 |
| Credits | 29.3 | 21.0 | 28.8 | 41.3 | 70.1 |
| Bond Issues | 6.8 | 19.9 | 32.6 | 34.0 | 34.3 |

1) Morgan Guaranty Trust Company

## EUROCURRENCY BANK CREDITS AND INTERNATIONAL BOND ISSUES TO NON-OPEC DEVELOPING COUNTRIES [1]

- in US$ million -

| | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Argentina | 499 | 88 | 957 | 892 | 1714 |
| Brazil | 1697 | 2187 | 3500 | 3546 | 6467 |
| Chile | 0 | 53 | 208 | 591 | 1045 |
| Hong Kong | 117 | 558 | 85 | 537 | - |
| Ivory Coast | 63 | 50 | 165 | 265 | - |
| Korea | 133 | 347 | 797 | 1334 | 2716 |
| Malaysia | 140 | 425 | 217 | 255 | 999 |
| Mexico | 998 | 2604 | 2441 | 4009 | 7718 |
| Morocco | 0 | 228 | 685 | 825 | 666 |
| Peru | 442 | 334 | 395 | 189 | - |
| Philippines | 861 | 393 | 1337 | 827 | 2243 |
| Singapore | 24 | 12 | 204 | 314 | - |
| Taiwan | 317 | 135 | 219 | 524 | 255 |
| Other | 1161 | 1301 | 1263 | 2025 | 5733 |
| | 6453 | 8716 | 12474 | 16133 | 29556 |

1) Source: Morgan Guaranty Trust Company

## INTERNATIONAL BOND ISSUES TO DEVELOPING COUNTRIES [1]

- in US$ million -

| | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Brazil | 25 | 35 | 268 | 732 | 843 |
| Mexico | 50 | 293 | 448 | 1282 | 568 |
| Philippines | 17 | 30 | 367 | 129 | 170 |
| Algeria | 60 | 35 | 109 | 166 | 721 |
| Venezuela | - | - | - | 438 | 588 |
| Other | 111 | 192 | 403 | 674 | 1337 |
| | 263 | 585 | 1595 | 3421 | 4227 |

1) Source: Morgan Guaranty Trust Company

## EXISTING INTERMEDIATION OF RISKS AND TERMS

### 1. Development Banks

Development banks have normally been set-up on the basis of international agreements or by local and regional governments; their task is to provide financing on suitable terms for projects in developing countries, member countries and governments provide sufficient capital and/or stand-by facilities in order to obtain a standing for the development banks, which either permits access to the money and capital markets at terms, which match the lending requirements for industrial projects or allow sufficient intermediation of short and medium term funds into longer terms as required by the lending side.

### 11. International Development Banks

International development banks are normally set-up through international agreements and capital consists of a large portion of uncalled capital, which serves as guaranty, in particular for the lenders to the development banks (bondholders). Apart from prudent lending policies of these institutions through careful project evaluation, country reviews and securities, the basis of obtaining long-term funds is provided through the member countries in the form of the paid-in or the callable capital. In view of the top rating of these institutions (IDRD, IDB, ADB), these institutions have access to the world's capital markets with the longest matutities and the most favourable interest rates available. However, even with this unique access to all major capital markets in the world, these institutions have not been in the position, at all times, to obtain long-term financing with maturities as long as it was required on the lending side. The only capital market in the world, which has provided long-term maturities, exceeding 10 to 15 years in sizeable amounts and on a continued basis is the United States. Other major capital markets, such as in the F.R. of Germany, Switzerland and the Euromarket did provide maturi-

ties of up to 15 years, but not in large amounts and only temporarely. Therefore, in order to provide financing as required by industrial projects, even international development banks, have to rely to some extent at least, on the intermediation of terms. This has accelerated in recent years. Formerly it was possible, particularly through an increased borrowing program in the U.S. to compensate for the shorter maturities in other markets. At present, major intermediation terms of the international development banks is not intended but dictated by the capital markets. However, it has been increasing in recent years because of the shortening maturities of bond issues. Some of the international development banks have also taken short and medium-term funds from the capital markets as well as from central banks and commercial banks. In view of the lower interest rates of these funds, this has somewhat reduced the borrowing cost of these institutions.

The borrowing costs of the international banks, at the same time, are the basis for the interest charges on loans. Depending on the average borrowing costs, the lending rate for loans is periodically adjusted. In view of the large differences in interest rates between the various currencies, separate interest rates for the different currencies or a currency mix have been discussed. Therefore, no intermediation on interest rates or currency risks is undertaken by the international development banks. The providers of funds to the international development banks have not only the prudent lending policy, but also sufficient capital and stand-by facilities as security. Additionally, lending risks of these institutions are covered through the international set-up as well as the special know-how in lending to DC's. Therefore, the creditworthiness and solvability of these institutions is well covered, thereby providing an ideal framework for assisting in the required intermediation.

12. Local Development Banks

Local development banks from industrialized countries have normally access to the local capital markets at the same conditions as the government.

In addition to the excellent standing of these institutions, in many cases, they also administer government funds for bilateral lending as well as the possibility of mixing such funds with capital market funds. Therefore, in the context of the study, such institutions can only be considered to the extent that an improved or enlarged access to money and capital markets would enlarge the lending program and improve the lending terms to these institutions.

Local development banks in DC's normally have only limited access to the long-term funds in foreign exchange. Apart from a small group of development banks such as in Brazil, Mexico and a small number of other middle or higher income DC's, the only long-term foreign exchange resource for development banks in DC's are ODA-Funds through the respective government or long-term funds from the international development banks. An increased role of the local development banks through increased intermediation of terms can not be seen, particularly in view of the close linkage of such institutions with the respective government policy and the foreign exchange limitations of the DC itself.

Local development banks provide suitable channeling for the quality control of the project during the planning implementation and operational period. But they are normally not necessarely an instrument to provide the access to the capital market of the respective country. In case of international development banks and commercial banks, involvement of these institutions is important also from a point of view of providing funds as competitive as possible. Solvability and creditworthiness of the local development banks is important for the foreign lenders, which consider the local development banks as a suitable on-lending channel as well as for the local investors, who often provide medium and long-term funds to the local development banks. In many cases, the local development banks are one of the few issuers of local bonds, the maturities of which normally do not reach the requirements for the lending purpose. Also the interest rates in many cases have to be subsidized through tax exemptions for the bondholders in order to attract the funds as long as possible

and at favourable interest rates. Therefore, the local development banks have a similar function for the intermediation of risks and terms for the local currency lending. Through sound credit management as well as a large capital base or government stand-by facility, the local development banks in many cases have to perform a substantial intermediation of risks and terms, in order to make the necessary funds for investments available.

13. Limitations

An increased intermediation of risks and terms for local development banks in DC's would not substantially contribute to an improved and enlarged flow of funds for industrial projects in DC's. Such an increased intermediation would only increase the exposure of the respective government, thereby limiting the possibilities for other lending purposes. To some extent, an increased exposure could even be counterproductive for the local development banks, because its standing could be affected. In the case of local development banks in industrialized nations, such an increased intermediation would be a policy matter. The international development banks have so far used the possibility of an intermediation of terms only to a limited extent. Such borrowing policy is prudent; however, particularly in difficult market situations, refinancing has already constrained the lending program. In normal market situations, such a policy does not take advantage of the cheaper short and medium-term funds. In view of the high standing of these institutions through their member countries, their credit policy and their liquidity policy, an increased utilization of short and medium-term funds, to some extent, should be discussed.

Continuation of the present borrowing policy of the international development institutions depends to a large extent of the development of the capital markets, which have experienced a constant decline in maturities, and related to other borrowing instruments a relative decline in importance. With increasing inflation investors are not prepared to purchase long-term bonds, to the same extent as they were. Additionally, it should be considered that the international development banks need a

substantial increase in borrowing activities due to the increase in the respective lending programs as well as from the refinancing of previous bond issues. This may probably not lead to problems with the borrowing volume; however, it may have implications on the borrowing terms as well as maturities.

Along with the development of the relatively decreasing long-term commitments of investors, quite a substantial market segment has developed on the short and medium-term end of the market. To take advantage of this more important part of the market as well as in order to decrease the dependence on the bond markets, the possibility of an increased utilization of short and medium-term funds for long-term lending by the international development banks should be carefully considered.

2. Commercial Banks

The commercial banks have not only substantially increased the lending volume to DC's but have also partially made up for relatively declining volume of ODA-Funds. This is not so much the case for the low income DC's, where ODA-Funds have increased and commercial banks have traditionally played a limited role. For the DC's, the increasing share of commercial bank lending, particularly in the predominant form of Eurocurrency credits, has lead to a deterioration of their debt structure. For the commercial banks, the increasing exposure to DC's has had its implications as well. Country limits for many DC's have been reached and lending amounts have led to critics from inside and outside the banking sector. It appears doubtful, whether and to which extent the commercial banks can substantially increase their exposure towards DC's. In addition to the question of the credit risk, which is of paramount importance for the commercial banks in view of the implications of their earnings as well as their solvability, the funding intermediation question for the predominant credit form, the Eurocurrency credit needs considerations as well.

## 21. Credit Risks

It is needless to say, that a sound credit portfolio of a bank is the best guaranty for the solvability and, therefore, for the existence of a bank. With the increasing trade with the DC's, the commercial banks have experienced an unexpected increase in lending to DC's. From low lending limits and short-term maturities to DC's a decade ago, commercial banks have now extended loans to DC's at maturities and in amounts, which would have serious implications for many individual banks and for the banking system as a whole if major DC's can not meet its debt service payments. From an earning and loan portfolio point of view, lending of many international banks to DC's has reached one third of total loans and more. The increasing involvement of the commercial banks in lending to DC's is not only due to the increased requirements by DC's and the reduced ODA-Funds but appear also to be a consequence of the reduced credit demand in many industrialized countries. The latter one may not just be a temporarely phenomen but the result of a structural change and a certain saturation in the development process of the industrialized countries. Additionally, international liquidity has put pressure on the banks to do more intermediation of risks and terms in order to maintain profitability in line with competitors and on previous levels. When considering the credit risk, which has been the major intermediation of the commercial banks, so far, commercial banks have clearly to distinguish between DC risks and first class domestic risks, such as government guaranties in the case of export financing or supplier guaranties.

### 211. Government Guaranteed Financing

In order to facilitate export financing, most governments of industrialized countries provide export financing either through specialized government institutions or through government guaranties. Government guaranteed export financing is usually carried out by the commercial banks. In periods with normal or high liquidity, as it has been the case in recent years, such financing

is quite attractive for the commercial banks, particularly for those having access to long-term funds. Deposit banks normally have the policy to provide long-term financing, as in the case of export financing, only to a limited extent and dependent on the structure of their deposits. With the credit risk covered through the government, the commercial banks' function is basically reduced to the provision of long-term financing. An intermediation of terms by the commercial banks takes place in the case of deposit banks, which based on their experience and the structure of their deposits, provide a certain percentage of their loans in the form of long-term loans. Other commercial banks, which have the privilige of issuing long-term bonds will normally not have to intermediate maturities because they have access to the capital market at the same terms they are providing on the lending side (f.e. Landesbanken in the F.R. of Germany).

The interest rates on the government guaranteed export financing are closely related to alternative long-term investments, i.e. long-term loans to companies or purchases of bonds. The intermediation risk of the commercial banks between the short-term maturities of their deposits and the long-term commitments for the government guaranteed export financing, is normally being limited by liquidity and solvability regulations of the banking supervisory boards as well as management considerations. The intermediation risk is rewarded through the normally considerable interest margin between short and long-term funds. The financing function of the commercial banking sector in the case of government guaranteed export financing could probably be expanded in the case of the capital rich industrialized nations, which do not have balance of payment problems. The major competitors for these long-term funds would be the governments of the respective industrialized country, companies as well as foreign bond issuers on domestic markets.

212. Direct Financing

In the case of direct financing, the commercial banks have the

full credit risk of the respective entity or the government of the DC. The overwhelming aspect of any lending activity is the judgement of the credit risk. There is an on-going discussion whether the commercial banks have already over-extended themselves towards DC's or to what extent it could be justified that the commercial banks increase further their lending to DC's. Apart from the government guaranteed export financing, other guaranty proposals have also been discussed, in particular that the international development banks take over guaranties either for commercial bank lending or for bond issues of DC's (Mexican proposal).

In times of extreme competition in the international banking sector, as in recent years, some concessions on the creditworthiness of the DC's may have taken place. A large portion of lending to DC's is based and justified on export financing, normally presented to the commercial banks by major domestic customers, which are well sought after by the commercial banks. It remains to be seen, whether the largely increased lending activity by the commercial banks to DC's can be maintained in future years, assuming an increased credit demand in the industrial countries as well as a tightening of credit policies in several countries due to inflationary pressure. Additionally, the rewards of carrying the credit risk have narrowed to an extent, that incentives for additional lending are marginal or non-existant.

213. Limits

Reliable statistics about the lending volume of commercial banks to DC's exist of the Euromarket, which has been the predominant market. The volume of Eurocurrency credits by the commercial banks to DC's increased from US$ 11 billion in 1975 to US$ 37 billion in 1978. Although, a substantial portion of the 1978 volume increase has been due to refinancing, growth in commercial bank lending to DC's has been too substantial in order to be maintained at a similar growth rate in the future. Most of the DC's indebtedness has reached limits, which allow only a moderate expansion, in line with the economic performance of the DC's, in

particular the improvement in the trade balance, leading to an improved debt service coverage. Additionally, the large absolute and relative increase in commercial bank lending versus ODA-Funds has led to a substantial deterioration of the debt structure of the DC's. Therefore, it should not be expected that the commercial banking sector is prepared to take over credit risks of the DC's at similar growth rates as in the past years.

22. Fixed Term Financing

Fixed term financing on a long-term basis, as it is required for industrial projects, can either be provided by the commercial banks through loans or by private investors through purchases of bonds. Apart from specialized banks, partly set-up by governments and banks with bond issuing privileges, commercial banks do not have sufficiently access to long-term funds. When they provide long-term lending from their own financing resources, it is normally done through an intermediation of terms. With the typical financing structure of the commercial banks, sight deposits, time deposits and in some countries saving accounts and certificate of deposits, commercial banks have not access to long-term funds to the extent they are extending long-term lending. However, based on the experience of the individual commercial bank as well as the banking system in general, commercial banks provide long-term loans to the extent that the management as well as the banking supervisory board considers it prudent. The limited availability of long-term funds with fixed interest rates implies in practice, that such long-term funds are extended to prime industrial companies or other first class risks. Within this category, the government guaranteed export financing is also accomodated. However, the direct financing of DC's with long-term bank loans is negligable within this category as well as in relation to other lending forms to DC's.

In the Euromarket, long-term lending at fixed interest rates with maturities of above 4 years is practically not known, based on the short and medium-term nature of this market. Long-term

funds with fixed interest rates in the Euromarket are only known in the form of bond issues. The total volume of new international bond issues was about US$ 34 billion p.a. from 1976 to 1978. From this volume less than 10 % (US$ 2.7 billion) were issued by non-OPEC developing countries (Brasil, Mexico and Philippines). From the OPEC-Countries only Algeria and Venezuela were significant issuers of bonds from 1976 to 1978. With such a limited market share, this market has practically no importance for the DC's from a volume point of view. The reason, that not more DC's have touched this market, is on one side the limited volume of this market and the competition with borrowers from industrial countries, as well as on the other side the acceptability as such for most of the DC's. Therefore, the only major sources for DC's to obtain financing at fixed interest rates, principally remain the international development banks and ODA-Funds. The commercial banks, as the largest lenders within the past years, basically can not provide in significant amounts long-term funds at fixed interest rates as required by industrial projects.

## 23. Variable Term Financing

The predominant lending form of the commercial banks to DC's is in the form of long-term loans with flexible interest rates. The tremendous growth of Eurocurrency credits (see 212 and Annex 2) forms part of the growth of the Eurodeposit market. It is estimated, that the total outstanding amount of Eurocurrency bank credits amount to over US$ 400 billion, mostly in the form of roll-over credits, based on typically 3, 6 or 12 months' deposits. The commercial banks grant bank loans with long-term maturities and with interest adjustments, thereby eliminating the interest risk. The margin, which is added to the deposit rate, should be the equivalent not only for the credit but also for the funding intermediation. Although the interest rate risk is adequately covered in the case of roll-over loans, there exists a substantial intermediation between the terms on the deposit side and the commitments on the lending side. In the

case of roll-over loans, the lending bank assumes that it can always obtain 3, 6 or 12 months' deposits during the life of the long-term loan and at interest rates corresponding to the inter-bank rate. The latter risk appears to be a risk, which is closely related to the individual banks. As long as the respective commercial bank is considered by the market (depositors) as a bank with prime standing, this bank can obtain deposits at inter-bank rates. However, in the case a lending bank is affected through its size (small bank) or through its performance, it is possible that interest rates above the inter-bank rates have to be paid by the respective bank, which can lead to an accelerated decrease of standing of this bank, resulting in the potential failure.

The other imminent risk of not obtaining sufficient funds to refinance the long-term lending commitments due to a general lack of funds, have been a matter of constant discussions between the optimists and pessimists about the Euromarket. It appears to be theoretical to talk about a substantial drying-up of resources of the Euromarket. However, it is prudent to assume in the case of an individual bank, as well as in terms of the overall market volume, that such roll-over commitments should be in relation to the deposit market in general and other banking activities. Total estimated roll-over commitments between US$ 300 to US$ 400 billion appear to be sizeable, although no significant difficulties have been encountered in the past in refinancing roll-over loans in view of the steadily growing market. In this context, it should also be considered, that roll-over commitments from former years were practically not beyond 7 years and such commitments have reached a certain maturity, resulting in substantial amounts of self-liquidation. On the other hand, such self-liquidation in the case of DC's is quite theoretical, since alternative financing at the maturity of the loan will be required.

A general decrease of deposits in the Euromarket is theoretically possible through restrictive monetary policies in the major industrial nations, diverting part of the deposits now maintained

in the Euromarket to the respective domestic market. Eurobanks, having not sufficiently access to the respective national markets could be affected, leading to a certain instability of the Euromarket in general. In addition to the risk of intermediation of terms as such, the Eurobanks are operating with substantial volumes in currencies, which are not their domestic currencies. Therefore, it has to be assumed in these cases that full convertibility of the major Eurocurrencies is being maintained. In order to cover this risk, the Eurobanks have partly concluded swap arrangements among each other or they have issued short and medium-term papers in foreign currencies in order to cover lending activities.

In case of major difficulties in the Euromarket in general, it can be expected, that the major central banks would at all times be in a position to act separately or jointly in order to correct major and general deficiencies of the Euromarket, because such problems would be closely related to the national money and capital markets and would normally have also serious implications for these markets. In general terms, it appears, that the international commercial banks will not be in a position to expand their Eurocurrency lending in the form of roll-over credits to the extent it has happened in the past. In addition to credit risk considerations for many DC's and the question of term intermediation for the roll-over commitments, the lending conditions (long-term maturities, commissions and margins) are not attractive enough to increase the lending volume substantially beyond the present level. Regarding the length of the loans it can even be expected, that in case of decreasing competition among the international banks, the loan maturities will be reduced again. Based on the nature of the Euromarket with its typical short and medium-term deposit structure, a further substantial increase of roll-over loans appears only possible within the overall market growth; other long-term lending possibilities in the Euromarket are not likely to reach a meaningful volume for DC's.

The question of guaranties for bond issues of DC's in the international capital markets certainly would improve the access of DC's to long-term funds at fixed interest rates. However, it should be considered, that the likely guarantors of such bond issues are frequently issuing their own bonds in the market. Considering this and the overall limit of the bond market, terms of issues of international development banks might be affected and the additional volume probably would not be important enough as compared to the volume of Eurocurrency credits.

## INTEREST RATE COMPARISON

Annex 4

### LONG TERM INTERNATIONAL BONDS - THREE MONTHS EUROCURRENCY DEPOSITS [1]

- in % -

| US$ | 12/1969 | 12/1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | Accumulated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bonds [2] | 8.95[3] | 7.90[3] | 7.77 | 7.78 | 8.19 | 9.26 | 8.70 | 7.87 | 7.68 | 8.14 | |
| 3 Months | 10.13 | 6.44 | 6.33 | 5.41 | 9.35 | 11.22 | 6.90 | 5.55 | 6.10 | 8.97 | |
| 6 Months | - | 6.75 | 6.59 | 5.86 | 9.32 | 11.20 | 7.62 | 6.12 | 6.42 | 9.36 | |
| Differential (3 Months) | (1.18) | 1.46 | 1.44 | 2.37 | (1.16) | (1.96) | 1.80 | 2.32 | 1.58 | (0.83) | 5.84 |
| Differential (6 Months) | - | 1.15 | 1.18 | 1.92 | (1.13) | (1.94) | 1.08 | 1.75 | 1.26 | (1.22) | 4.05 |
| **DM** | | | | | | | | | | | |
| Bonds [2] | 7.60 | 7.77 | 7.51 | 7.03 | 7.53 | 9.47 | 8.32 | 7.23 | 6.70 | 6.59 | |
| 3 Months [6] | 8.13[3] | 8.25[3] | 5.50[3] | 5.69 | 12.33 | 9.70 | 4.88 | 4.54 | 4.27 | 3.46 | |
| Differential (3 Months) | (0.53) | (0.48) | 2.01 | 1.34 | (4.80) | (0.23) | 3.44 | 2.69 | 2.43 | 3.13 | 9.00 |
| **SF** | | | | | | | | | | | |
| Bonds [2] | 5.58 | 6.09 | 5.72 | 5.61 | 5.96 | 7.69 | 7.03 | 5.59 | 5.40 | 5.58 | |
| 3 Months [5] [6] | 4.75[3] | 5.50[3] | 0.00[4] | 1.44[3] | 2.63 | 5.75 | 3.93 | 1.65 | 2.64 | 1.44 | |
| Differential (3 Months) | 0.83 | 0.59 | 5.72 | 4.17 | 3.33 | 1.94 | 3.10 | 3.94 | 2.76 | 4.14 | 30.52 |

1) Source: Morgan Guaranty; 1971 to 1978 are average interest rates on a quarterly or monthly basis
2) Bond Yields of US Companies
3) Domestic Rates; as far as they are December short term rates up to 1971, these rates are normally overstated because of year-end window dressing
4) 12/1971
5) until 1975 Day-to-Day Rates, which generally are lower than 3 Months rates
6) Domestic Market Rates, which generally have been higher than Euromarket Rates

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

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