

Bank of England

Discussion Papers

No 37

**Structural changes in world capital
markets and eurocommercial paper**

by

J G S Jeanneau

February 1989

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The object of this series is to give wider circulation to research being undertaken in the Bank and to invite comment upon it; and any comments should be sent to the author at the address given below.

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I Introduction

1 The issue of eurocommercial paper (ECP) is a recent development in the euromarket although the issuance of commercial paper dates from the mid-19th century in the United States.* ECP programmes are facilities for the issuance of short-term promissory notes, usually with fixed maturities ranging between 7 and 365 days, issued in bearer form and on a discount basis.** ECP allows borrowers and investors to deal directly with each other without the intermediation of banks. The ECP market has undergone substantial growth since 1986 with the announcement of over \$100 bn worth of facilities since the start of 1986. Outstanding notes issued under activated programmes have risen from \$4.5 bn at the end of the first quarter of 1986 to over \$48 bn by the end of June 1988 (see Table 1). Although this amount is still relatively modest when compared to the \$418 bn outstanding in the US CP market, growth in the ECP market has nevertheless been impressive.

Table 1 Eurocommercial paper

	<u>Amount of ECP notes outstanding (a) (end-quarter) (\$ billions)</u>	<u>Nominal value of ECP programmes announced (b) (quarterly)</u>
1986 Q1	4.5	6.5 (c)
Q2	7.2	9.6 (c)
Q3	12.4	8.4
Q4	13.9	8.5
1987 Q1	20.4	11.0
Q2	25.9	12.4
Q3	33.6	9.3
Q4	32.9	12.2
1988 Q1	43.0	14.2
Q2	48.3	11.1

(a) Source: Euro-clear.

(b) Source: ICMS Database.

(c) Estimated.

* For a description of the US CP market see Marcia Stigum, The Money Market, Dow Jones Irwin, Homewood, Illinois, 1983.

** For US issuers the maturity may not exceed the lesser of six months or 183 days because the notes would be subject to withholding tax.

2 - The ECP market is an offshoot of the underwritten euronote market which itself developed as an alternative to the syndicated credits market in the early 1980s.* Euronote facilities were initially structured as syndicated underwritten medium-term arrangements, enabling borrowers to issue a stream of short-term bearer notes on a roll-over basis, usually for maturities of 1,3 or 6 months. If issuers were not able to sell the notes at a given spread over Libor to investors in the open market, underwriting banks stood ready to purchase the notes. Euronote facilities were usually distributed by way of a tender panel, and were called on by issuers when funds were required. The first ECP programmes were arranged in the early 1970s but did not prove very popular at the time. Renewed interest emerged in late 1984. These programmes differed from previous euronote facilities in two respects; first, they were not underwritten and, second, borrowers used a small group of appointed banks and dealers as placing agents to distribute paper on a best efforts basis. The paper generally had more flexible maturities and could be issued on a continuous basis. ECP programmes have now overtaken underwritten and tender panel facilities as a primary source of short-term borrowings in the euromarkets (over 66% of announced euronote programmes in the first half of 1988, compared with 15% for underwritten and tender panel facilities, and 19% for euro-medium-term notes).

3 Although the major features of the instrument are broadly similar to US CP, there are two major differences. First, in the United States, most programmes receive credit ratings from the major rating agencies and are backed by credit lines. (The major US rating agencies require that borrowers have access to alternative sources of funds should the CP market dry up for reasons unconnected with the issuer's credit standing.) By contrast, it is estimated that only about 25% of ECP issuers are rated, although the practice is rapidly spreading. In addition, most ECP programmes are not yet backed by explicit bank backup lines although informal lines are often arranged. Second, in the US CP market, maturities are on average less than thirty days, whereas ECP maturities are thought to be about 60-90 days on average. There are several other institutional differences between the two markets which have been described by a number of authors.**

* For a more detailed treatment of the development of the euronote market see: N F E Ramsden, "The International Market for Floating-Rate Instruments" Bank of England Quarterly Bulletin, Vol. 24, September 1984, pp. 337-343, "Developments in International Banking and Capital Markets in 1985", Bank of England Quarterly Bulletin, Vol. 26, March 1986, pp. 58-70, and Lloyd Bankson and Michael Lee, Editors, Euronotes, Euromoney Publications, 1985.

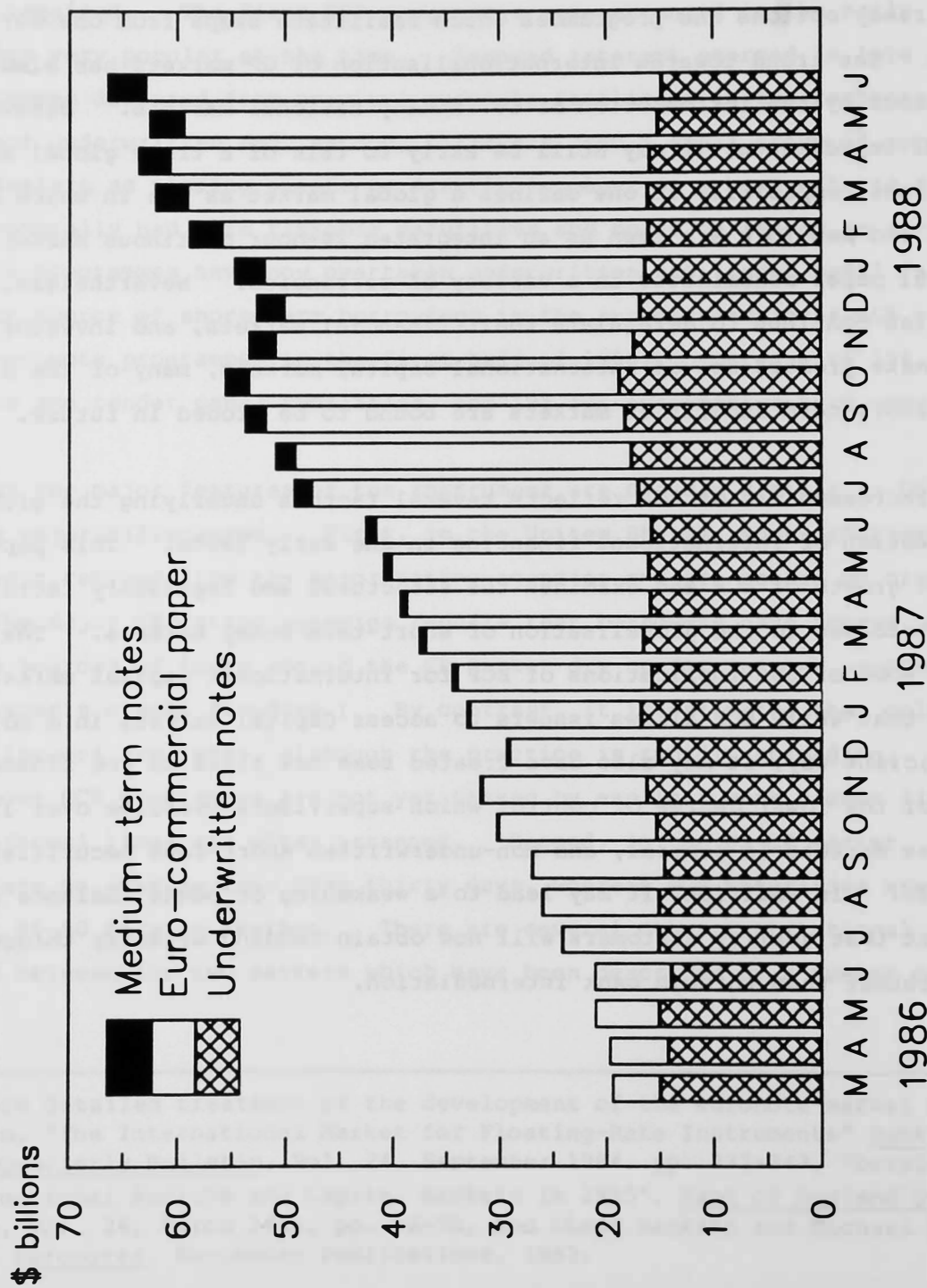
** See R N Mc Cauley and L A Hargraves, "Eurocommercial Paper and US Commercial Paper: Converging Money Markets?", FRBNY Quarterly Bulletin, Autumn 1987, pp. 24-35, and R Sridharan, "Eurocommercial Paper", Journal of Foreign Exchange and International Finance, Vol II/ No 1, pp. 63-69.

4 The market's deepening has allowed some US credits, well-known European corporates, and top-rated sovereigns to obtain ECP funding at a lower all-in cost than would have been available in the US CP market. The emergence of the ECP market has given borrowers the opportunity to develop a global approach to funding strategy. Although the majority of ECP programmes announced so far have been denominated in US dollars, an increasing number of programmes have been announced in other eurocurrencies following authorisation by national authorities. A substantial number of borrowers have decided to introduce programmes with multicurrency options and programmes which facilitate swaps from one currency to another. The trend towards internationalisation of CP markets has also been strengthened by the introduction of CP in many national markets. Because of fiscal and legal impediments, it may still be early to talk of a truly global short-term paper market, especially if one defines a global market as one in which Europe, the Far East and New York are seen as an integrated 24-hour continuous market trading in commercial paper denominated in a variety of currencies. Nevertheless, as national authorities continue to deregulate their financial markets, and investors and issuers make greater use of international capital markets, many of the distinctions between short-term securities markets are bound to be eroded in future.

5 The increased use of ECP reflects several factors underlying the growing securitisation of international financing in the early 1980s. This paper describes the rapid growth of ECP and examines the structural and regulatory factors which have contributed to the globalisation of short-term money markets. The paper also assesses some of the implications of ECP for international capital markets. It stresses that while ECP allows issuers to access capital markets in a more cost-efficient way, it may also have created some new risks to the financial system because of the lower degree of control which supervisors exercise over international securities markets in general, and non-underwritten short-term securities markets in particular. In addition, it may lead to a weakening of banks' balance sheets to the extent that quality customers will now obtain funding directly through capital markets rather than through bank intermediation.

CHART A

Euronote Facilities : Issues Outstanding 1986-88 *



Source : Euroclear

* Data includes small amount of domestic currency paper issued in domestic commercial paper markets in Europe as well as CDs issued under Euronote facilities by banks in the United Kingdom .

II Micro and Macroeconomic Forces Leading to the Development of the ECP Market

6 Broad micro and macroeconomic forces as well as financial deregulation have led to the development of the eurocommercial paper market. These forces were described in a paper by Paul W Feeney and are summarised below.*

(i) Microeconomic forces

7 In the early 1970s the US commercial paper market provided a more competitive source of funds for US corporates than either syndicated loans or short-term euromarket financing. Commissions were lower on commercial paper than on syndicated loans and companies diversified their sources of funding by selling paper to a growing investment base in the United States. There were at that time few economic incentives to seek short-term financing in the euromarket. The securities based euromoney market mainly consisted of London dollar certificates of deposits (CDs), and to a much lesser extent, dollar acceptances, short-term eurobonds and a few euronotes. The brief emergence of ECP in 1970-72 period was based upon the restrictive regulatory structure imposed by the US Office of Foreign Direct Investment (OFDI).** The OFDI was established in 1968 to restrict the amount of US overseas direct investment as part of the continuous effort by the US government to reduce the country's large balance of payments deficits. It was introduced to administer a set of quotas and regulations which affected the way in which US corporations could finance their overseas subsidiaries and affiliates. Corporations were prohibited from making investments above quotas which varied according to the type of country in which the investment was to be made (LDCs had the highest) and according to their previous investment records. Any US company with a 10 per cent or more investment in a foreign company was designated as a direct investor, and subject to capital export restrictions. The OFDI did, however, permit US companies to raise long-term finance which could be used to offset direct investment. A US company could use the proceeds of a long-term foreign borrowing to invest funds in a foreign subsidiary because this did not result in any net transfer of capital. To count as long-term borrowing, the debt could not be repaid within twelve months of its origination. Commercial banks were, however, not subject to these mandatory restrictions; their limitations were voluntary.

* Paul W Feeney, "Credit Ratings in the Eurocommercial Paper Market", National Westminster Quarterly Bank Review, May 1988, pp.49-59.

** For a comprehensive analysis of the development of the euromarkets see Frederick G Fisher III, Eurobonds, Euromoney Publications, 1988, pp.5-29.

8 It was in response to these difficulties that in the early 1970s a number of US corporates set up ECP programmes which were modelled on US CP programmes. The advantage of setting up such programmes was that they could be classified as long-term borrowing under the OFDI regulations so long as paper was "rolled-over" on maturity. The first recorded ECP programme was introduced on behalf of Alcoa in June 1970 by the predecessor company to Credit Suisse First Boston. A total of 15-20 blue chip companies tapped the market during this period. However, the issuance of paper was small. It is doubtful whether outstandings in this period exceeded more than \$200 mn-\$300 mn.*

9 In February 1974, the OFDI regulations were repealed and US companies were once again entitled to use their own domestic markets to fund their overseas operations. At the same time, the interest equalisation tax, which had been imposed in July 1963 on American purchases of new or outstanding foreign stocks and bonds, was also repealed. These changes meant that US firms could henceforth channel domestic funds abroad without restrictions while foreign borrowers could again tap funds in the US domestic market at competitive rates. Existing ECP programmes soon disappeared. The next ECP programme appeared in 1980, established by Merrill Lynch, for Associates Corporation of North America. However, it was not until the mid-1980s that interest in eurocommercial paper was rekindled, spurred this time by the macroeconomic forces underlying securitisation and disintermediation.

(ii) Macroeconomic Forces

10 The microeconomic factors such as regulation were the main stimuli to the development of the eurocommercial paper market in the 1970s. In the 1980s, the macroeconomic forces of securitisation and disintermediation were the main contributing factors to the growth of ECP. These included the reduction in the credit rating of commercial banks following the Third World debt crisis, and the change in the geographical source of capital from the Middle East to Europe and Japan.**

11 Securitisation can be divided analytically into two forms. The first form involves the repackaging of already existing loan portfolios into securities. These securities are then sold to market investors, thereby removing the assets from the originator's, or holder's, balance sheet and replacing them by new cash. Good examples are provided by the securitisation of mortgages and credit card receivables

* For a description of the early development of the market see Jamie B Clark, "The Investor's Perspective" in Bankson and Lee, op cit, pp.37-42.

** The decline in inflation and interest rates during the 1980s was also another factor supporting issue activity at the longer end of the maturity spectrum.

in the US, and the development of the sterling mortgage-backed FRN market in Europe. This type of securitisation has been encouraged by the supply of new technology to financial institutions which has increased the speed of access to information and reduced the costs of these transactions. This new technology has also allowed large non-bank financial institutions such as insurance companies and pension funds to become increasingly sophisticated in the assessment of credit risk, thereby leading to a displacement of banks as investors.

12 The second form of securitisation involves borrowers raising funds directly from market investors through the issue of securities in the capital markets as opposed to seeking finance from the banking system in the form of bank loans.

13 Although the means for borrowers to raise debt in the form of securities, especially domestic corporate bonds and eurobonds, have been available for a long time, the emergence of the Third World debt crisis in 1982 was the turning point for the increase in securitised debt. The growth of spontaneous sovereign syndicated lending by banks to a number of less developed countries was sharply reduced. The financial position of many international banks was weakened, and these began to experience a higher cost of funds which they had to pass on to borrowers. At the same time, those sovereign borrowers whose credit standing remained good, shifted their liabilities away from bank loans and into relatively cheaper marketable securities. Moreover, because of the rescheduling of Third World loans, banks found themselves holding long-term illiquid floating-rate assets for which they had to find longer-term funding. To reduce the mismatch between liabilities and assets, they began to rely less on short-term funds available in the domestic and international interbank markets for their funding requirements and stepped up issuance of medium and long-term floating-rate notes (FRNs) in the capital markets.

14 The process of securitisation was also stimulated by other developments such as the disappearance of the trade surpluses of the Organisation of Petroleum Exporting Countries (OPEC) and the emergence of large financial surpluses in Europe and Japan. Japan, with its high personal savings rate, is now the largest capital exporter in the world. However, in contrast to OPEC producers who placed their surpluses in bank deposits, Japanese savers have invested much more heavily in life assurance companies and pension funds. Inflows into these funds have in turn created a large demand for domestic and international securities.

15 The upshot is that since the early 1980s, financial markets have witnessed changes in investor and borrower preferences, away from bank assets and liabilities (that is loans and deposits) towards the issue and purchase of securities. The

second type of securitisation which, as mentioned above, has been fuelled by a major change in the credit standing of banks vis-a-vis non-bank corporations, has left many banks with no or a lesser comparative advantage in the cost of funds. Because banks have experienced disintermediation on both sides of their balance sheets they have begun to look for new ways of increasing or at least maintaining their income without placing further pressure on their capital bases. They have relied increasingly on off-balance sheet instruments to accomplish this, moving from an intermediary role (the raising and lending of funds) to an agency role (the placing of securities in the market).

III Structural Changes in US and International Money Markets since 1980

16 The emergence of ECP can also be attributed to a number of other structural changes in the US and international capital markets which, since the early 1980s, have caused a dramatic lowering of the spread between US CP and similar maturity eurodollar interbank rates (against which ECP rates are anchored).*

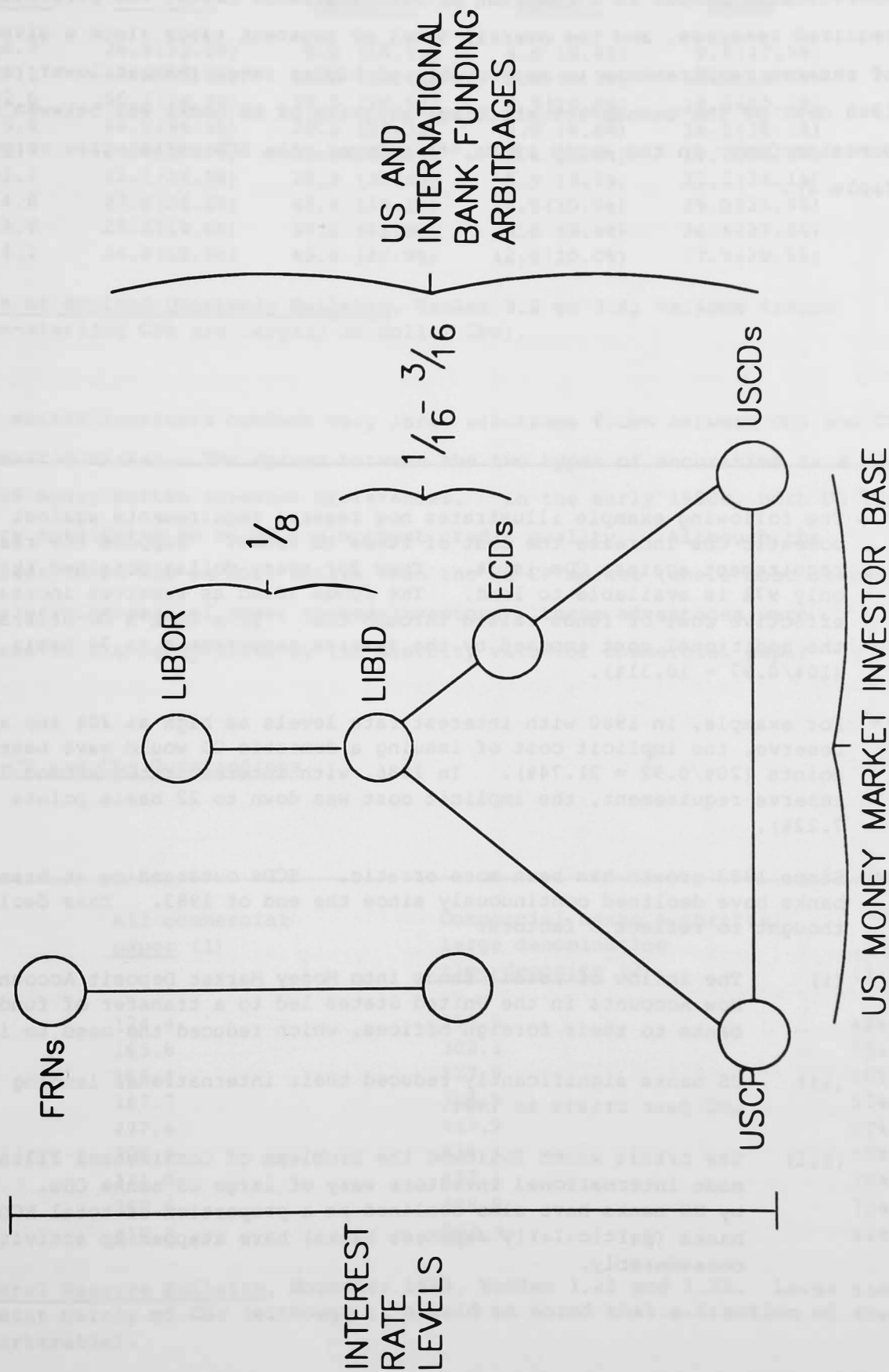
17 The relationship between the US CP and Libor rates has traditionally been a function of two arbitrages; US commercial bank funding preferences and US money market investor lending preferences. In the early 1980s, US bank liability managers had three principal options for funding their US dollar assets: domestic certificates of deposits (CDs), eurodollar certificates of deposits (ECDs) and euroterm deposits (ETDs). The structural relationship which exists between short-term US and euromarket rates is shown in Chart B.

18 The spread between ECDs and Libid is a function of investors' liquidity preference and the degree to which banks at any point in time prefer to minimise their outstandings of negotiable instruments. The yield offered by banks on ETDs - Libid - is higher than on ECDs to compensate for the lack of liquidity of deposits. The relationship between ECDs and Libid (1/16-3/16%), and between Libid and Libor (1/8%) has been fairly consistent over time. The spread between US CDs and ECDs has been driven by liability managers who are arbitraging the flows between the two types of securities. Major US money centre banks are largely indifferent to whether they issue CDs domestically or out of their offshore branches, except for

* For a more detailed treatment of these structural changes see W Pike Talbert "Note Issuance Facilities and the Eurocommercial Paper Market" in Commercial Paper, Richard Felix, Editor, Euromoney Publications, 1987, p 97-117.

CHART B

US AND INTERNATIONAL SHORT-TERM YIELD STRUCTURE *



* Not Drawn to Scale .

cost. The indifference point is where the cost of the ECD equals the cost of the domestic US CD adjusted for reserve requirements*, and FDIC insurance.

19 Thus, the spread between ECDs (and indirectly Libid) and primary CDs domestically issued is a function of FDIC insurance costs, the percentage of required reserves, and the overall level of interest rates since a given percentage of reserve requirements is more costly at higher rates than at lower rates.** Until 1980 most of the euromarket arbitrage activity of US banks was between ETDs and domestic CDs; in the early 1980s,*** however, the ECD market grew very rapidly (see Table 2).

* The following example illustrates how reserve requirements against dollar domestic CDs increase the cost of funds to banks. Suppose the reserve requirement against CDs is 3%. Then for every dollar obtained through a CD, only 97% is available to lend. The funds idled as reserves increase the effective cost of funds raised through CDs. If a bank's CD offers a 10% yield, the additional cost imposed by the reserve requirement is 31 basis points ($10\%/0.97 = 10.31\%$).

** For example, in 1980 with interest rate levels as high as 20% and an 8% required reserve, the implicit cost of issuing a domestic CD would have been 174 basis points ($20\%/0.92 = 21.74\%$). In 1986, with interest rates around 7% and a 3% reserve requirement, the implicit cost was down to 22 basis points ($7\%/0.97 = 7.22\%$).

*** Since 1983 growth has been more erratic. ECDs outstanding at branches of US banks have declined continuously since the end of 1983. This decline is thought to reflect 3 factors:

- (i) The inflow of retail funds into Money Market Deposit Accounts and Super Now Accounts in the United States led to a transfer of funds from US banks to their foreign offices, which reduced the need to issue ECDs.
- (ii) US banks significantly reduced their international lending following the LDC debt crisis in 1982.
- (iii) The crisis which followed the problems of Continental Illinois in 1984 made international investors wary of large US banks CDs. ECDs issued by US banks have also declined as a proportion of total ECDs as non-US banks (particularly Japanese banks) have stepped up activity considerably.

Table 2 London Non-Sterling CDs Outstanding

(US\$ bn, % of total in parentheses)

<u>Year-end</u>	<u>Total</u>	<u>US Banks</u>	<u>Japanese Banks</u>	<u>British Banks</u>	<u>Other Banks</u>
1980	48.7	26.8(55.0%)	8.8 (18.1%)	4.6 (9.4%)	8.5(17.5%)
1981	76.1	43.8(57.6%)	11.9 (15.6%)	6.6 (8.7%)	13.8(18.1%)
1982	92.6	50.3(54.3%)	19.0 (20.5%)	9.3(10.0%)	14.0(15.1%)
1983	99.8	46.0(46.1%)	29.2 (29.3%)	8.6 (8.6%)	16.1(16.1%)
1984	94.7	34.0(35.9%)	33.54(35.4%)	7.6 (8.0%)	19.7(20.8%)
1985	92.1	32.1(34.8%)	28.9 (31.4%)	8.9 (9.7%)	22.2(24.1%)
1986	114.8	27.8(24.2%)	45.4 (39.5%)	12.5(10.9%)	29.0(25.3%)
1987	134.9	26.5(19.6%)	59.2 (43.9%)	12.8 (9.4%)	36.4(27.0%)
1988H1	124.1	24.2(19.5%)	49.6 (40.0%)	12.4(10.0%)	37.9(30.5%)

Source: Bank of England Quarterly Bulletin, Tables 3.2 to 3.8, various issues, (assuming non-sterling CDs are largely US dollar CDs).

20 US money market investors conduct very large arbitrage flows between CDs and CP in the US domestic market. The spread between the two types of securities is a function of US money market investor preferences. In the early 1980s, both US CDs and US CP were considered to be of the highest credit quality. Although the secondary market in US CDs is more active than the US CP market (where most issuers insist on dealer placement of paper to end-investors), these advantages were somewhat offset in the early 1980s by the scarcity value of commercial paper (Table 3).

Table 3 US CP and CDs Outstandings

(US\$ bn)

<u>Year-End</u>	<u>All commercial paper (1)</u>	<u>Commercial banks & thrifts large denomination time deposits (2)</u>	<u>(1/2)</u>
1980	124.4	258.5	48%
1981	165.8	302.1	55%
1982	166.4	327.9	50%
1983	187.7	329.8	57%
1984	237.6	413.9	57%
1985	300.9	436.4	69%
1986	331.0	447.1	74%
1987	357.6	488.9	73%
1988 H1	417.8	502.9	82%

Source: Federal Reserve Bulletin, November 1988, Tables 1.21 and 1.32. Large time deposits consist mainly of CDs (although it should be noted that a fraction of these CDs is not marketable).

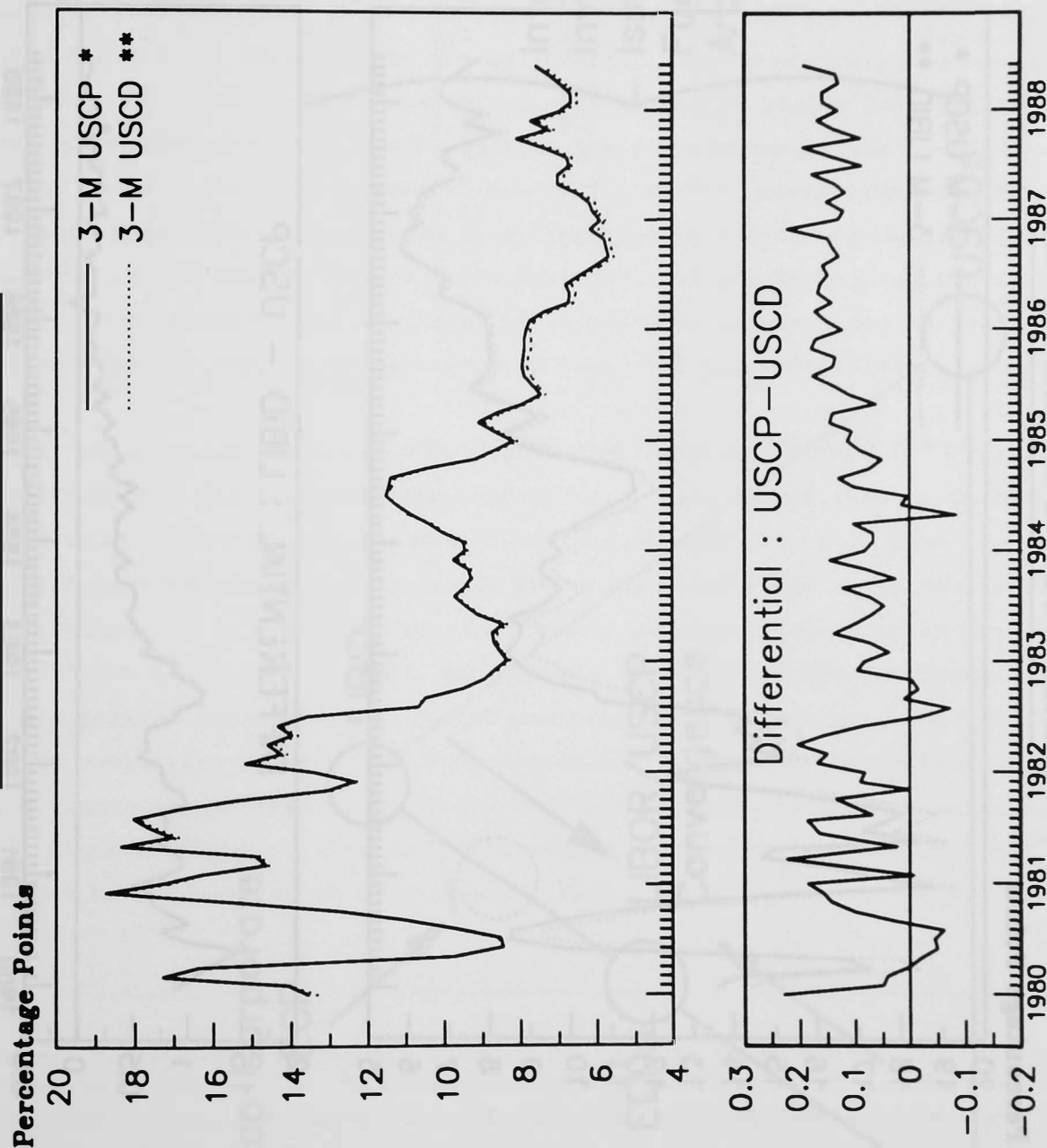
21 Between 1980 and 1988 the Fed composite indices of CP (adjusted to a CD equivalent yield) and CDs of similar three-month maturity have traded within a few basis points of each other, as can be seen on Chart C. The appearance, for instance, of a substantial positive gap in 1981 reflected worries by investors about the credit risk of non-financial corporate debt relative to financial debt when signs of a recession appeared. A negative gap occurred in 1982 when banks began experiencing problems with their LDC loans and again in 1984 when there was a run on Continental Illinois Bank of the US. The appearance of a stable positive gap since the end of 1984 could be a reflection of the higher financing costs associated with the strong growth of issuance in the CP market, and the gradual decline in the credit quality of many large US corporations.

22 There have been several changes in the US and worldwide capital markets which have influenced the euromarket interbank and US CP spreads. The Monetary Control Act (MCA) of 1980 gradually lowered the basic reserve requirement on short-term non-personal time deposits (largely CDs) from 6% to 3% by the spring of 1984. Prior to that, reserve requirements had been as high as 8% in 1980. The lowering of reserve requirements reduced the cost of issuing domestic CDs relative to ECDs. This change in regulation and the general decline of short-term interest rates from 1982 onwards, resulted in a reduction of spreads between ECDs and domestic CDs. As a result, the yield gap between ECDs and US CDs has narrowed and over the past few years ECDs and CD rates adjusted for reserve and FDIC costs have moved closer together. Because of the US money market arbitrage link between CP and CD rates, this has also indirectly reduced the spread between Libor rates and US CP rates. The historical convergence of US CP and euromarket interbank rates is clearly demonstrated in Chart D and can be shown analytically as a narrowing of the dotted line on Chart E.

23 The MCA also resulted in a deregulation of most interest rates paid by commercial banks in the domestic market, permitting them for the first time in many years to compete effectively with money market mutual funds for small size deposits. Although interest rate ceilings were eliminated in 1973 on large time deposits in excess of \$100,000 (essentially CDs), they continued to exist for smaller time and savings deposits. Smaller investors had been able to circumvent the regulatory ceilings and earn a market interest rate by investing in money market funds. Congress subsequently authorised banks to offer two ceiling-free accounts: the Money Market Deposit Account (December 1982) and the Super Now Account (January 1983).^{*} These accounts attracted a flow of savings to banks at the expense of money

* Interest rate ceiling on all types of deposits have now been phased out.

USCP/USCD ARBITRAGE

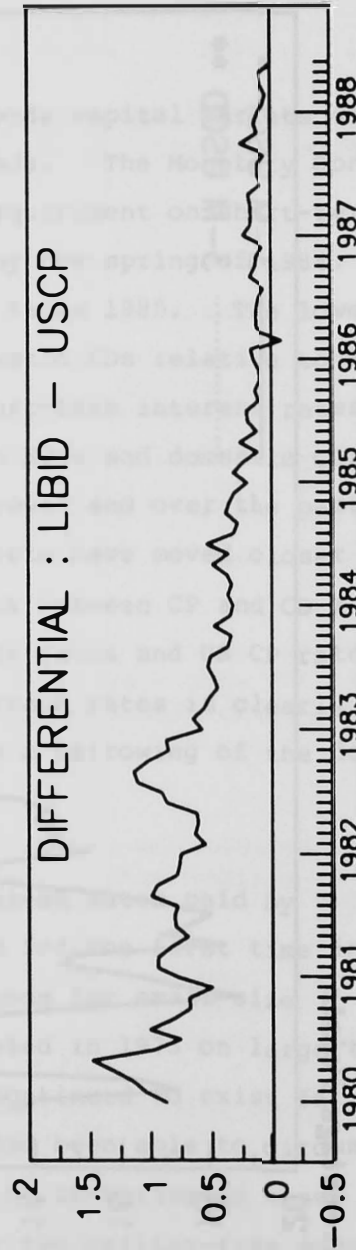
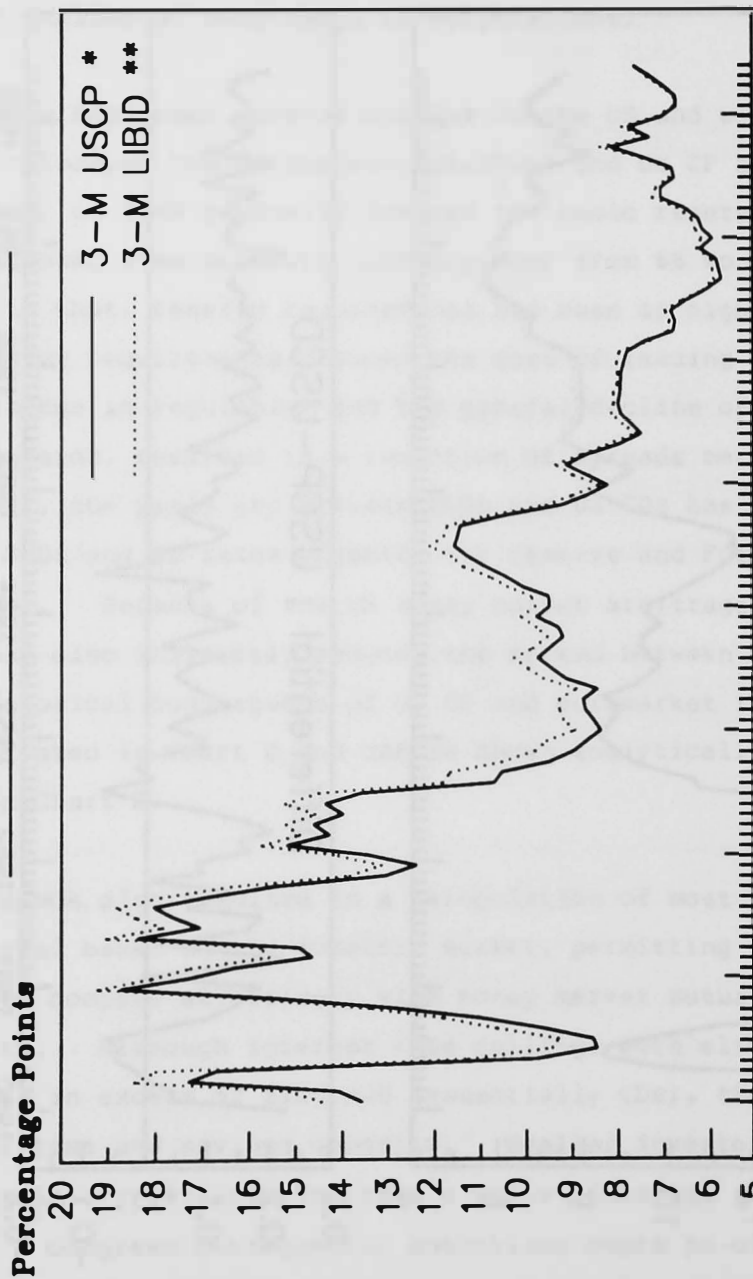


* Monthly Average Federal Reserve Board Composite Rates Adjusted to CD-Equivalent Basis .

** Monthly Average Federal Reserve Board Secondary Market Rates .

CHART D

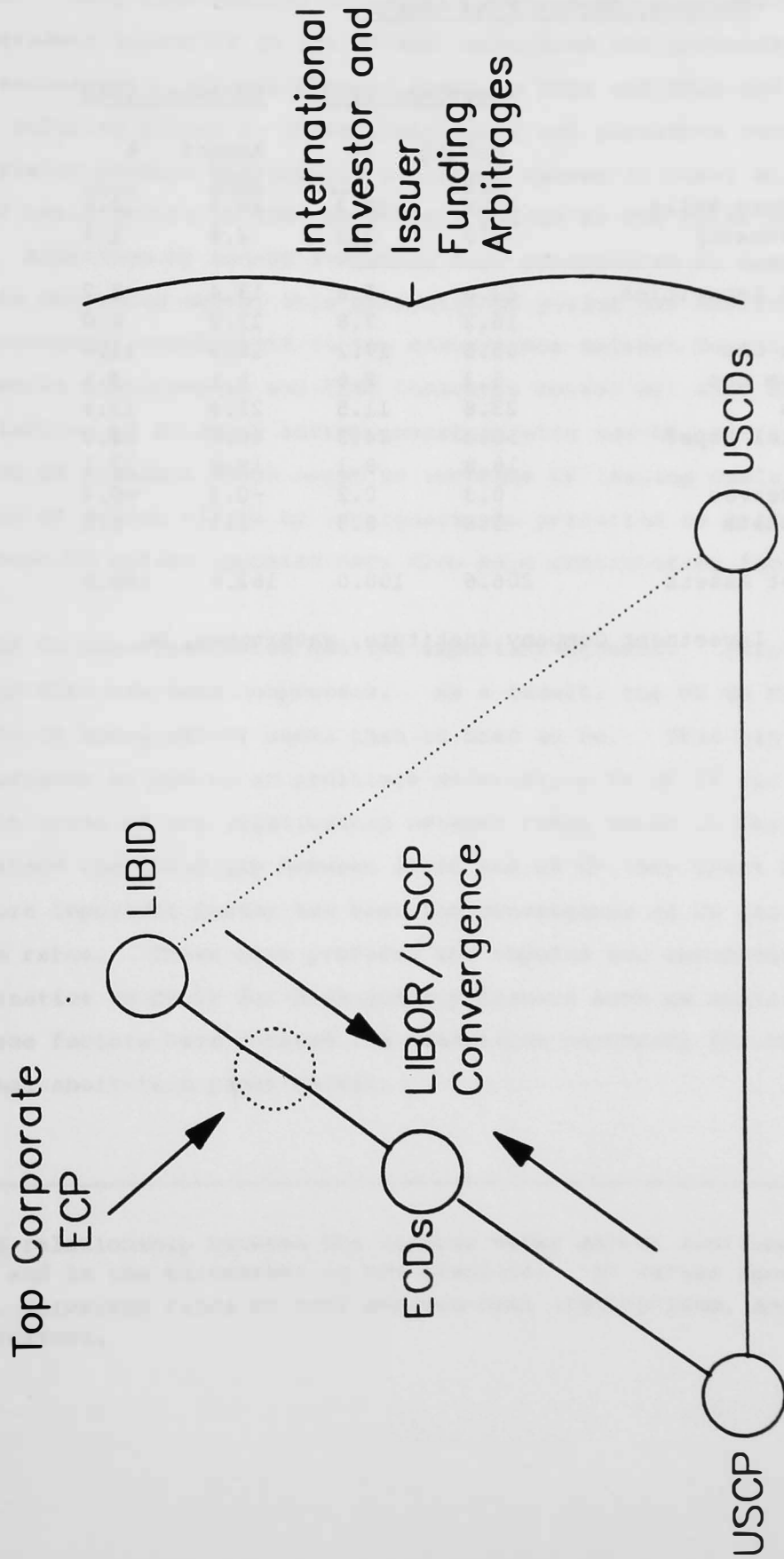
LIBID/USCP CONVERGENCE



* Monthly Average Federal Reserve Board Composite Rates Adjusted to CD-Equivalent Basis .

** Monthly Average Federal Reserve Board LIBID .

CHART E



market funds; the latter saw their assets fall by \$44 billion in 1983. This inflow of funds led banks to cut back on their issuance of large domestic CDs to the institutional market. The importance of CDs relative to CP consequently declined as a proportion of total money market fund assets (see Table 4).

Table 4 US Money Market Fund Assets

	<u>December 1982</u>		<u>December 1983</u>		<u>December 1984</u>	
	Amount (\$B)	%	Amount (\$B)	%	Amount (\$B)	%
US Treasury Bills	37.9	18.3	20.5	12.6	20.1	9.6
Other Treasury Securities	4.7	2.3	2.4	1.5	5.4	2.6
Other US Securities	12.0	5.8	13.4	8.2	16.8	8.0
Repos	16.2	7.8	13.0	8.0	22.7	10.8
Dom Bank CDs	35.5	17.2	18.9	11.6	18.5	8.8
Other Dom CDs	5.3	2.6	5.1	3.1	5.2	2.5
Euro-CDs	23.8	11.5	21.9	13.5	21.2	10.1
Commercial Paper	50.3	24.3	46.8	28.8	77.4	36.9
BAs	18.8	9.1	19.6	12.1	21.2	10.1
Cash Reserves	0.3	0.2	-0.3	-0.2	-1.2	-0.2
Other Assets	1.8	0.9	1.3	0.8	2.4	1.2
Total Net Assets	206.6	100.0	162.6	100.0	209.7	100.0

Source: Investment Company Institute, Washington, DC

IV The Internationalisation of Money Market Investors

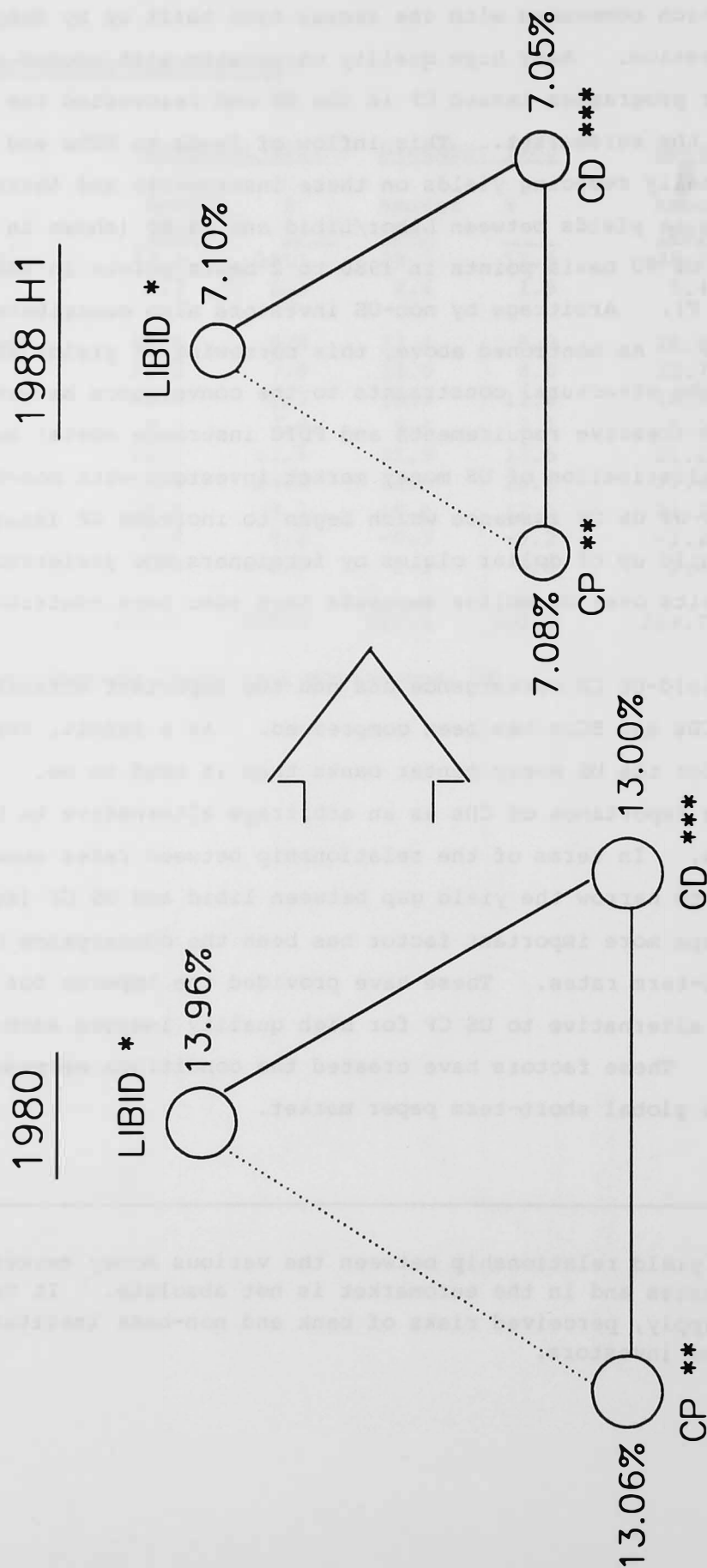
24 In the early 1980s, there was an increasing amount of direct US investment in ECDs and ETDs which commenced with the excess cash built up by many companies during the 1981-82 recession. Many high quality corporates with unused or underutilised commercial paper programmes issued CP in the US and reinvested the proceeds at a higher yield in the euromarket. This inflow of funds to ETDs and ECDs had the effect of marginally reducing yields on these instruments and therefore contributed to the narrowing in yields between Libor/Libid and US CP (shown in Chart D), falling from an average of 90 basis points in 1980 to 2 basis points in the first half of 1988 (see Chart F). Arbitrage by non-US investors also contributed to a narrowing of the yield gap. As mentioned above, this narrowing of yields was assisted by the elimination of the structural constraints to the convergence between US and euromarket rates (reserve requirements and FDIC insurance costs) but also helped by the greater familiarisation of US money market investors with non-US credits. The increased volume of US CP issuance which began to increase CP issuing costs and the trade-related build up of dollar claims by foreigners who preferred to hold eurodollar deposits over US dollar deposits have also been contributing factors.*

25 The Libor/Libid-US CP convergence has had two important effects. First, the spread between CDs and ECDs has been compressed. As a result, the US CD market is less important for the US money center banks than it used to be. This has reduced the quantitative importance of CDs as an arbitrage alternative to US CP for US money market investors. In terms of the relationship between rates shown in Chart B, the effect has been to narrow the yield gap between libid and US CP (see Chart E). The second and perhaps more important factor has been the convergence of US and euromarket short-term rates. These have provided the impetus for euronotes to become a viable alternative to US CP for high quality issuers such as multinationals and sovereigns. These factors have created the conditions necessary for the development of a global short-term paper market.

* However, the yield relationship between the various money market instruments in the United States and in the euromarket is not absolute. It varies according to demand and supply, perceived risks of bank and non-bank institutions, and the mix of issuers and investors.

CHART F

90-DAY INTEREST RATES



- * Monthly Average LIBID .
- ** Monthly Average Fed Composite Rates Adjusted to CD-Equivalent Basis .
- *** Monthly Average Fed Secondary Market Rates .

V Factors Favouring ECP

26 Within the broad trends in short-term interest rate differentials outlined above several factors in more recent years have contributed to a shift from underwritten euronotes such as NIFs to non-underwritten US-type commercial paper facilities. Euronotes (in all their various forms) have become an attractive alternative to ECDs for investors who want to diversify their portfolios away from bank risk while retaining the advantages offered by liquid instruments.

27 The development of a non-bank investor base has encouraged the better-rated or well-known, high-quality issuers to forego altogether the bank support provided by committed facilities. In the early 1970s, investors in ECP were almost exclusively banks interested in an adequate spread over Libor. The same pattern was evident when the ECP market revived in 1984. ECP provided an alternative to FRNs, interbank lending, and in some cases dwindling loan demand. However, there is some evidence that since 1987 banks have reduced their purchases of ECP.* Non-bank investors have been willing to accept lower yields on euronotes than on bank short-term liabilities because of the better credit quality of many non-financial corporates relative to banks and other financial institutions. The widening of the non-bank investor base willing to accept lower yields for better quality assets, has allowed top issuers to finance themselves at better rates than banks, ie at Libid to sub-Libid levels. Since banks receive Libid on their euro-time deposits, the sub-Libid yields available on euronote holdings have not been profitable and have discouraged banks' investment in these types of instruments.

28 Another factor favouring ECP is the simpler distribution method and the quicker access to funds through ECP programmes compared with underwritten euronotes which use a tender panel method of distribution. The tender panel method, whereby banks would bid competitively for funds after the issuer had requested funding through telexes, was judged too cumbersome for issuers needing short-term funding. It often took issuers a week to obtain funds compared with two days for ECP and one day for US CP. The tender panel has by now largely given way to dealer-driven programmes which are faster to operate and provide greater transparency in performance, and several issuers have restructured their programmes from note issuance structures to ECP (eg Kingdom of Sweden and the Government of New Zealand).

* Although it is difficult to know precisely how much ECP commercial banks buy for their own accounts, since they also buy for their trust accounts and for distribution to their institutional and individual clients.

29 The lower start-up costs of ECP programmes than those of NIFs, and the extreme competition to win ECP dealerships, have led to competitive costs for borrowers and have encouraged the development of the ECP market.

30 At the inception of the ECP market few issuers were rated, and name recognition was of primary importance.* The fact that banks, who are able to conduct their own credit assessment, were major purchasers of euronotes made the acquisition of ratings perhaps less of a necessity. Some observers have noted that the possibility of arranging programmes without bank back-up facilities, and the possibility of issuing without a credit rating provided cost savings for strong corporates, and may initially have encouraged the ECP market to develop.** Market practitioners have suggested as a rule of thumb that a rating and a back-up line could save issuers 5-10 basis points in borrowing costs. This obviously depends on the type of borrower involved. Savings for a well recognised and diversified European corporate would be minimal. Smaller corporates which are not well-known, but in a good financial position which is confirmed by a strong rating would benefit most. One definite advantage of a rating is that placing unrated ECP is becoming more difficult because few investors are willing to undertake detailed credit analysis if similarly-priced rated names are available. According to Feeney*** there is as yet little reliable data allowing analysts to draw conclusions on the impact of obtaining a CP rating on borrowing costs in the euromarket. Feeney's own assessment from the data he collected was that credit ratings appear to have had little effect at the top end of the market. For higher quality issuers, credit ratings appear to have merely confirmed the market's prior perception about credit quality. Feeney tentatively argues that the use of credit ratings in the ECP market as a means of effectively communicating credit risk may be more significant at the lower quality end of the market. It should, however, be noted that for some

* The euronote market has witnessed a decline in the number of financial intermediaries actively making markets. This retrenchment, which paralleled that occurring in other market sectors, reflected the dramatic narrowing of spreads available. It also represented a movement towards a structure similar to that in the US CP market, where the number of dealers tends to be small.

** This cost advantage will obviously depend on the nature of the bank back up line. The main division would be between contractual commitments to lend, for which consideration is paid, and informal, often non-contractual lines. Contractual commitments can be further broken down into ones affording the bank various "outs" and those that are irrevocable or nearly so. The cost advantage of ECP over NIFs mentioned above would require ECP to reflect one or more of the following factors: (1) unbacked by any credit lines; (2) backed by a credit line that is "free" in some sense; or (3) backed by a credit line already in existence (to support a domestic CP programme, for instance), and capable of double duty. The distinction between underwritten euronotes and ECP is somewhat blurred in cases where ECP issuers which arrange contractual back-up lines of credit have to pay significant fees for such a service.

*** Feeney, op cit p.58.

companies lower borrowing costs may not be the only criteria involved in setting up a programme. Non-pecuniary factors which favour funding in the euromarket include the diversification of funding sources, the freeing up of bank credit lines and name recognition.

31 Also instrumental in the development of the ECP market was a differential credit perception of issuers by investors in the US CP market and the euromarket. Because of the legal and fiscal restrictions imposed on the issuance of short-term notes in many national markets, quality issuers began issuing in the US CP market and/or began to arrange underwritten and non-underwritten euronote facilities.* But US CP investors have systematically required a premium over domestic issuers for foreign borrowers issuing in the US market, although this premium has narrowed over time. On the other hand, euromarket investors have based their investment decisions more on name recognition, rather than on strict credit assessment, and have not divided issuers consistently by nationality. In addition, in contrast to the US CP market, US issuers in the ECP market have generally been of significantly lower quality than US domestic issuers in the US CP market, while foreign issuers in the US CP market have been of generally higher quality than US domestic issuers. This differentiated perception of credit qualities created windows in the euromarket for a lower-quality class of US issuers, who faced a less stringent assessment of their credit risk, while non-US issuers found the issuance of ECP an increasingly cost-effective option.**

32 Several other factors which have arisen since the end of 1986 have stimulated the growth of notes drawn under ECP programmes. The collapse of the FRN market led investors and issuers to consider ECP as a liquid and relatively safe instrument. For money market investors, FRNs were originally viewed as alternative money market instruments to US commercial paper and ECDs. However, they could be considered an alternative only as long as there was investor demand, which ceased to be the case after the FRN market dried up at the end of 1986. ECP allows a change in the assessment of credit quality at every new issue, and the spread is not fixed as is the case with FRNs.

33 The attractiveness of non-committed forms of short-term financing such as ECP relative to underwritten forms of issuance such as Note Issuance Facilities (NIFs) has also been increased indirectly by the agreement among the regulatory authorities of the G-10 countries and Switzerland (under BIS auspices) on a common framework for

* See S L Topping, "Commercial paper markets", Bank of England Quarterly Bulletin Vol 27, Feb. 1987, p.46-53.

** See R N McCauley and L A Hargraves, *op cit*.

international bank capital adequacy.* The BIS framework proposed a method by which off-balance sheet exposures will be converted to on-balance sheet assets. Because underwritten facilities such as NIFs and revolving underwriting facilities (RUFs) imply a commitment from underwriters, they will be incorporated in the framework. This will reintroduce committed facilities into banks' balance sheets with a need to set aside a given amount of capital backing. Non-underwritten issuance structures, such as ECP, will not be involved in the regulatory net since they do not give rise to contingent exposure for bank arrangers. Thus the arrangement of underwritten facilities by internationally active banks will be more costly in terms of capital than ECP, and this will be reflected in the costs of arranging these facilities.

34 A variety of other factors of a more temporary nature has encouraged the issuance of ECP. In the early part of 1987, when the weakness of the US dollar prompted central bank foreign exchange market intervention, the resultant increase in central banks' holdings of US dollars were largely invested in US Treasury bills. This depressed T-bill yields, which in turn by substitution, pushed yields lower for high quality non-bank paper in the US domestic market. For US corporates, this meant that it was significantly cheaper to issue in the US than through ECP. The differential between yields on sovereign paper in the ECP market and US T-bills became sufficiently wide to induce some central banks** to purchase ECP, thereby providing support to the growth of ECP. Towards the middle of 1987, central banks' intervention slowed and their profile in the ECP market became more modest. These official sector investors were then replaced by private sector investors. Prior to the stock market crash on 19 October 1987, the increase in interest rates resulted in more euromarket investors moving to short-term

* Since 1985 a number of supervisory authorities have taken steps to include in their measurement of capital adequacy commitments given by banks underwriting euronote facilities. In early 1987, the Bank of England and US Federal Banking Supervisory Authorities published a joint communiqué on primary capital and capital adequacy assessment which among other things aimed at capturing off-balance-sheet activities such as NIFs in the calculation risk/asset ratios. This was to provide a logical and consistent basis for calculations encompassing both on and off-balance-sheet businesses. Most of these proposals were subsequently adopted in draft form by other G10 countries and Switzerland at a meeting held in Basle in December 1987. The Committee reached a final agreement in July 1988.

** Although many central banks are restricted to purchasing sovereign paper, and a number of the central banks who presumably conducted most of the intervention do not yet purchase ECP.

instruments such as ECP where capital losses could be minimised. The increased demand cut the yield spread between ECP and US CP. The flight to quality experienced in October 1987 pushed rates on ECP to very low levels as capital flowed to short-term debt, which benefited all sectors of the ECP market. Particularly strong demand for sovereign paper was reported during the stockmarket crash but overall the ECP market proved very resilient. Private sector issuers were not reported to have had any major difficulty in rolling over their notes. The resilience was seen as an encouraging sign by investors, and when yields fell sharply at the end of December several dealers reported increasing investor willingness to buy non-rated or low-rated paper as a means of increasing income. In the first half of 1988, the market was supported by the strength of the US dollar, and therefore continued to expand strongly. The amount of ECP outstandings rose by almost \$15 bn from end-December 1987 to end-June 1988 (see Table 1).

VI Effective costs and market tiering

35 Little has so far been written about the competitiveness of the market for euronotes despite the rapid growth of the market. A study prepared in December 1986 by Rodney Mills* of the Federal Reserve Board compared the costs of borrowing in three-month europaper with those in the US commercial paper market. Mills concluded that on the basis of rates on three-month maturities for 18 A1/P1 rated borrowers, costs may have been lower in the ECP market roughly one-third to one-half of the time. Rates paid to investors were at most times, and for most borrowers, lower in the US market than in the euromarket, but the higher remuneration to dealers in the US (of about 5-8 basis points), frequently meant that all-in costs were lower in the euromarket (where commissions are estimated to be 2-3 basis points).

36 An indication of the cost effectiveness of ECP relative to US CP has been made possible by the publication of indices of eurocommercial paper yields.** The published rates are those quoted in the primary market to investors in dollar denominated ECP of 1,2,3 and 6-month maturities issued by A1/P1 rated companies (including bank holding companies but excluding banks). These rates do not reflect costs to borrowers as these are increased by other costs such as various fees and

* Rodney Mills, The Cost Competitiveness of the Europaper Market, International Finance Discussion Papers No 297, Board of Governors of the Federal Reserve System, Washington DC, December 1986.

** See Bank of England, "Eurocommercial Paper Rates", Bank of England Quarterly Bulletin, Vol 27, August 1987.

spreads. ECP has generally yielded more than US CP in the one-month and three-month maturities, on the basis of data collected since August 1987 (see Chart G). However, when US CP rates are increased by 5 basis points (bp) to allow for an approximation of the more expensive commission structure currently existing in the US, ECP is seen to exhibit frequent arbitrage opportunities (see Chart H).

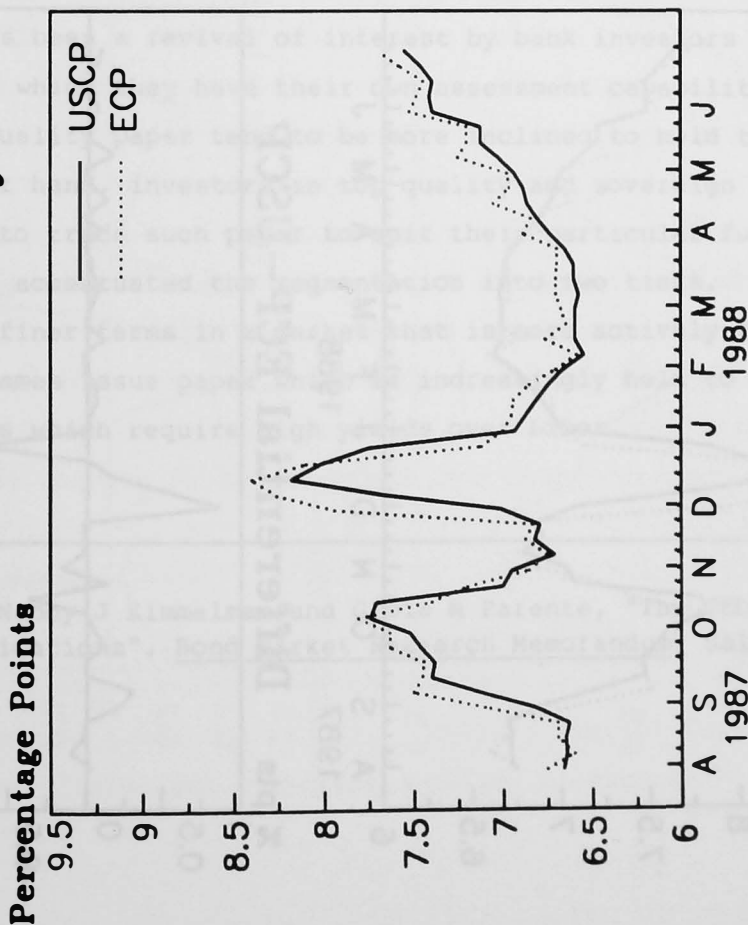
37 It nevertheless appears that ECP is still regarded by many issuers as an opportunistic or marginal market rather than one which is central to their funding policy. Paper will be bought and sold if advantageous swap opportunities arise or developments favour one market rather than the other. For example, GMAC, which is the biggest borrower in the world CP market, is reported to have reduced its paper outstanding in August 1987 to \$300 mn from earlier highs of \$1 bn. Compared with outstandings of \$30 bn approximately on its US CP programme, ECP represented at that time a peripheral funding source. GMAC was reported to have shifted an increasing proportion its financing requirements in the euromarket to euro-medium-term notes, although more recently GMAC has reportedly resumed ECP issuance. This suggests that for top-quality firms which can access both markets, ECP may often not be competitive. The main beneficiaries may therefore be the second line companies whose name may be recognised in Europe, but which are not of sufficient strength to get a good credit rating in the US, and government and supranational borrowers. Most highly-rated European companies would probably find the US market more cost-effective at short maturities (below one month where most US CP is traded) particularly considering its depth and flexibility when compared with the ECP market.

38 There is a close correlation between the yield on ECP and interbank rates (see Chart I). This is in contrast to the US CP market which is old enough and big enough to have created a somewhat more independent rate-setting mechanism.* Libid-based pricing has persisted in the euromarkets because investors see ECP as an alternative to ETDs or ECDs. The range for A1/P1-rated corporate issuers is estimated to be between Libmean and Libid. Only absolute top-rated corporates can achieve sub-Libid borrowing. For A2/P2 issuers the range is from Libor to Libor plus 5. Lower quality non-rated issuers or little known issuers may pay as much as Libor plus 45 bp. However, paper for prime sovereign borrowers is offered at substantially lower yields than interbank rates and appears to be gradually gaining

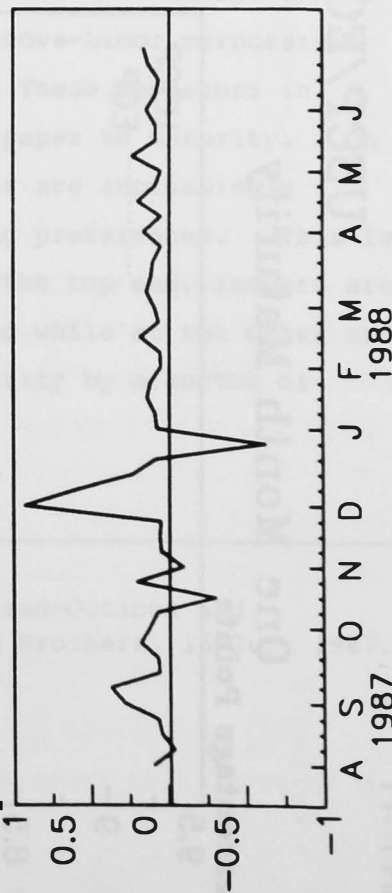
* Regression analysis based on daily data from 3 August 1987 to 30 June 1988 shows an R-squared of 0.95 for ECP against Libid and 0.47 for ECP against USCP. The beta coefficients of each equation run separately were statistically significant at the 5% level. When regressed jointly on ECP, R-squared improved marginally but the beta coefficient on USCP became insignificant at the same level while the coefficient on Libid remained significant.

USCP/ECP Yields *

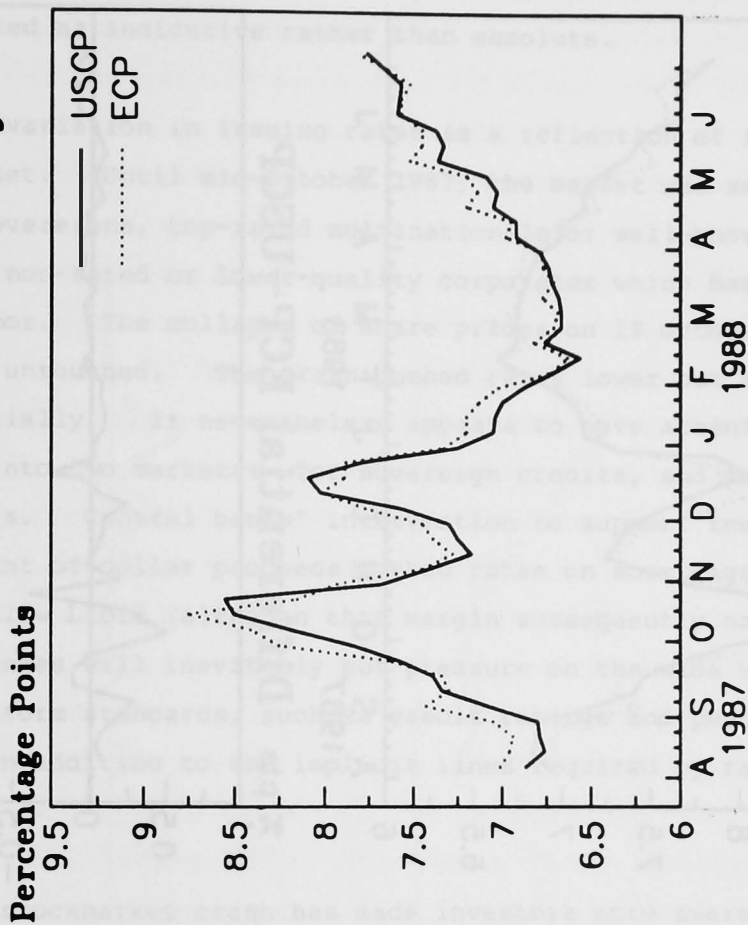
One Month Maturity



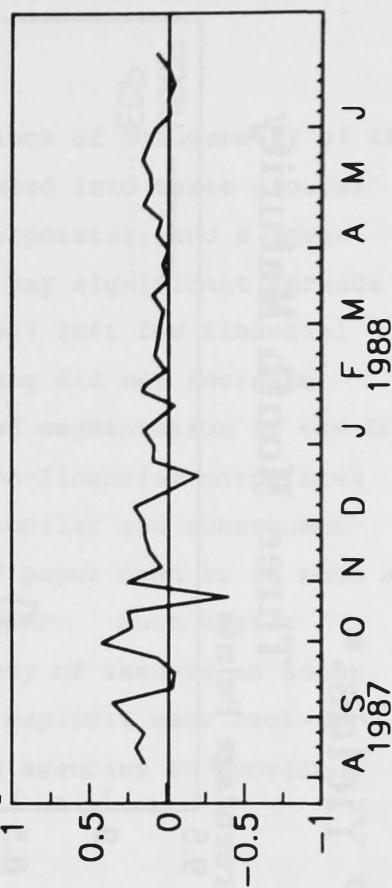
% pts Differential ECP-USCP



Three Month Maturity



% pts Differential ECP-USCP



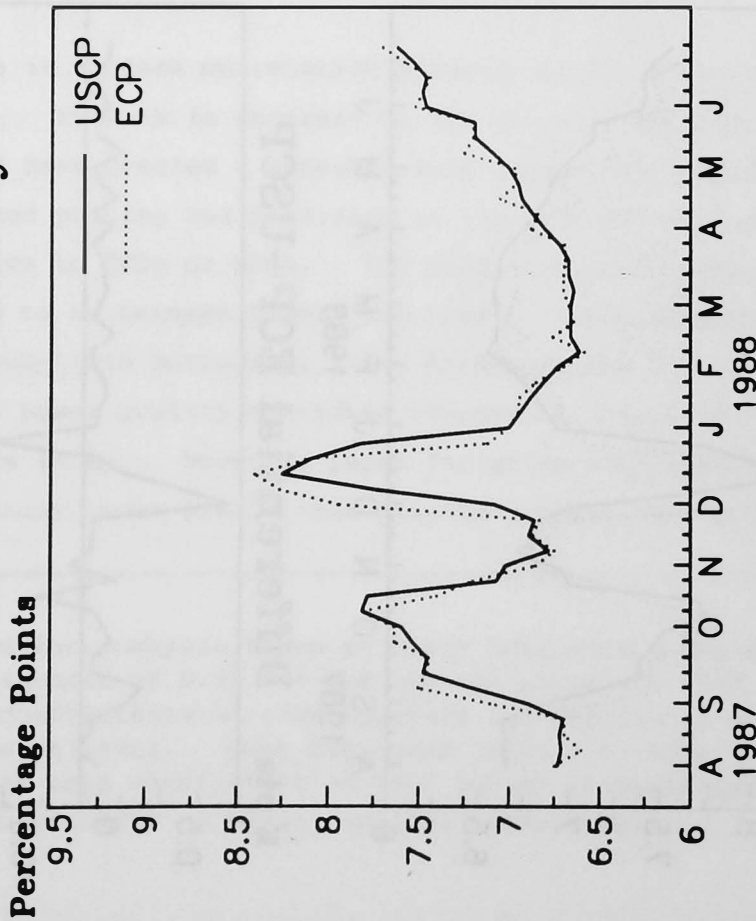
USCP : Weekly Average Composite Index Rate (Converted From Discount to Yield Basis) .

ECP : Weekly Average Bank of England Index Rate .

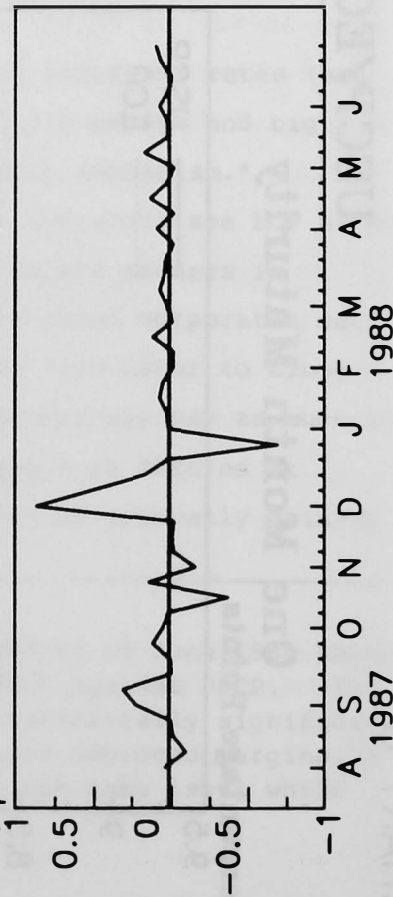
* Rates Exclusive of Dealer Fees .

USCP/ECP Yields.*

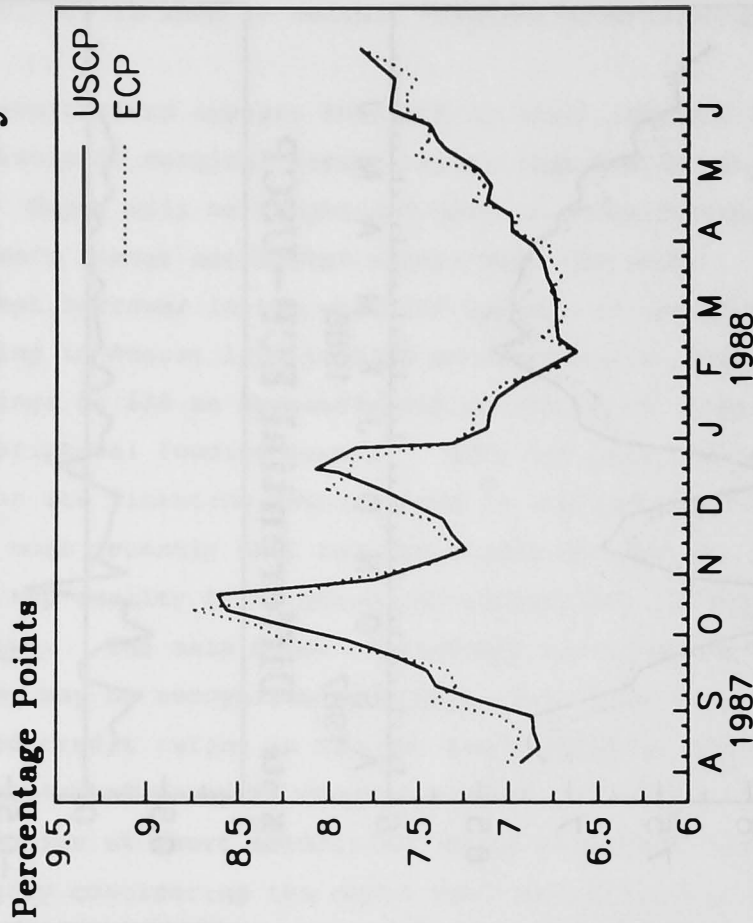
One Month Maturity



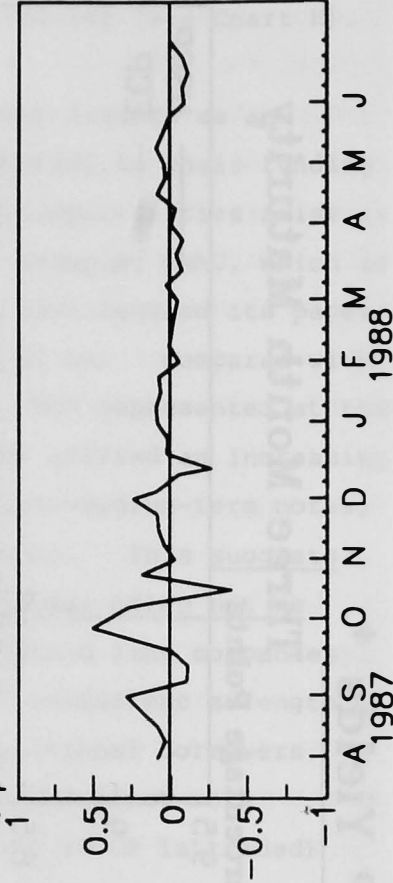
Differential ECP-USCP



Three Month Maturity



Differential ECP-USCP



USCP : Weekly Average Composite Index Rate (Converted From Discount to Yield Basis) .
ECP : Weekly Average Bank of England Index Rate .

independence from interbank rates* (Sweden's paper can often yield less than 20 bp below Libid). Because of the rapid evolution of the market, these rates should be considered as indicative rather than absolute.

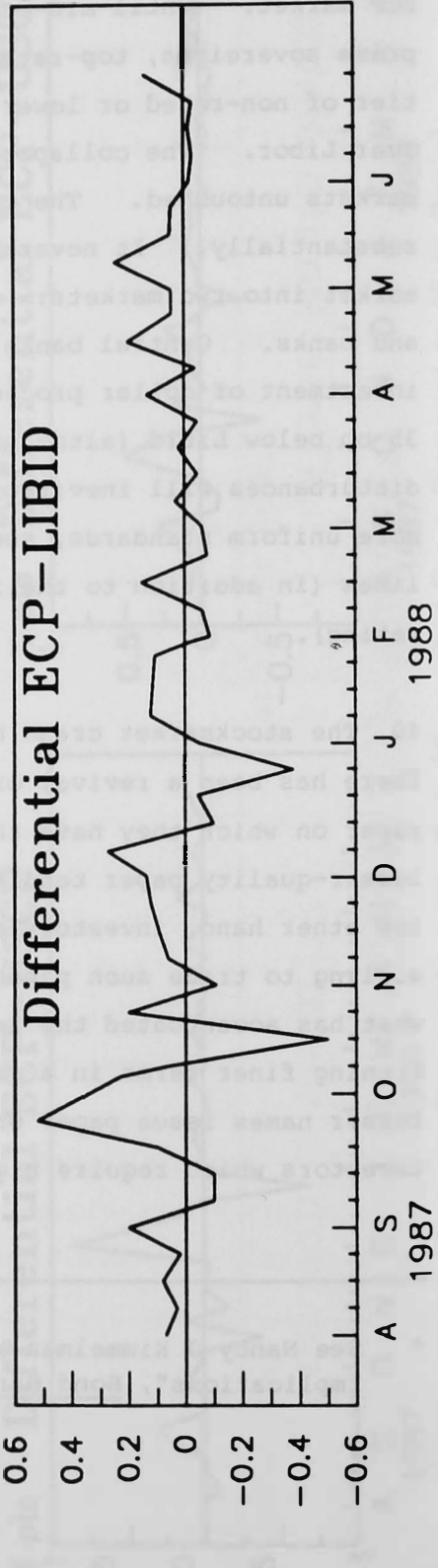
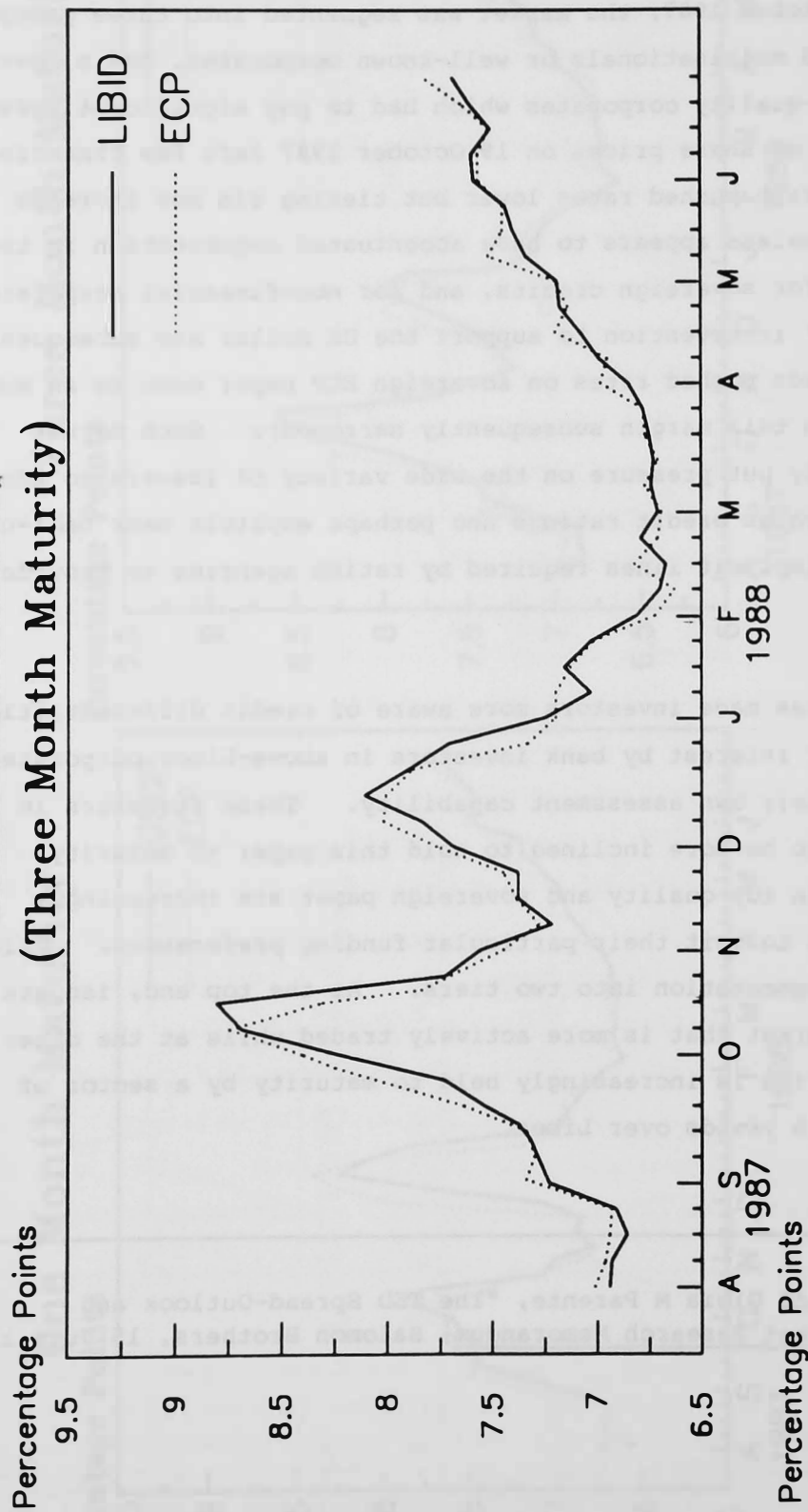
39 The variation in issuing rates is a reflection of the lack of homogeneity of the ECP market. Until mid-October 1987, the market was segmented into three groups; prime sovereigns, top-rated multinationals or well-known corporates, and a lower tier of non-rated or lower-quality corporates which had to pay significant spreads over Libor. The collapse of share prices on 19 October 1987 left few financial markets untouched. The crash pushed rates lower but tiering did not increase substantially. It nevertheless appears to have accentuated segmentation in the ECP market into two markets: for sovereign credits, and for non-financial corporates and banks. Central banks' intervention to support the US dollar and subsequent investment of dollar proceeds pushed rates on sovereign ECP paper down to as much as 35 bp below Libid (although this margin subsequently narrowed). Such market disturbances will inevitably put pressure on the wide variety of issuers to adopt more uniform standards, such as credit ratings and perhaps explicit bank back-up lines (in addition to the implicit lines required by rating agencies to provide a rating).

40 The stockmarket crash has made investors more aware of credit differentiation. There has been a revival of interest by bank investors in above-Libor corporate paper on which they have their own assessment capability. These investors in lesser-quality paper tend to be more inclined to hold this paper to maturity. On the other hand, investors in top-quality and sovereign paper are increasingly willing to trade such paper to suit their particular funding preferences. This is what has accentuated the segmentation into two tiers. At the top end, issuers are winning finer terms in a market that is more actively traded while at the other end, lesser names issue paper which is increasingly held to maturity by a sector of investors which require high yields over Libor.

* See Nancy J Kimmelman and Gioia M Parente, "The TED Spread-Outlook and Implications", Bond Market Research Memorandum, Salomon Brothers, 15 July 1987.

CHART I

LIBID/ECP Yields (Three Month Maturity)



LIBID : Weekly Federal Reserve Board .
ECP : Weekly Bank of England Index .

VII How Global is the CP Market?

(i) Currencies

41 Although the above analysis points to a greater integration of US CP and dollar ECP, it does not yet represent a global market where paper is traded in a wide range of currencies on a 24 hour basis. Most of the activity still occurs in US dollars. For instance, of the \$44.8 bn in ECP/ECD programmes recorded in the Bank of England's capital market database in the first half of 1988, 85% were principally denominated in US dollar, 4% were in yen (largely euro-yen CDs) while 6% were sterling-denominated. The rest was made up of Australian and New Zealand dollars. However, forty-four per cent of the facilities announced in the first half of 1988 included multicurrency options. The various clearing agencies do not yet provide regular currency breakdowns of outstandings, but the amounts outstanding in currencies other than yen and dollar are small. In September 1987, Euro-clear estimated that about 93% of the notes issued under ECP programmes were denominated in US dollars - a proportion which had declined to about 87% one year later. The dominance of dollar programmes and outstandings is partly a reflection of the development of ECP from US note issuance facilities and US CP. But it is also a consequence of various national regulatory authorities' restrictions on the issuance of ECP denominated in their national currencies. So far, only nine European countries have permitted the arrangement of ECP programmes in their own currencies, and these markets are often tightly regulated. The Japanese have only allowed euro-yen CP to be issued from 20 November 1987, and this applied initially only to non-resident rated issuers. However, as issuers have to fill requirements in various currencies and use different currency markets as a source of arbitrage, the use of various other currencies is bound to grow. The trend towards internationalisation of CP markets will be strengthened by the growing proportion of programmes with multicurrency options and programmes which facilitate swaps from one currency to another. The increasing use of other currencies has been accompanied by an expansion of national CP markets outside the US (although these markets remain basically domestic in character). Any further weakness of the US dollar may also eventually lead to diversification into other currencies.

(ii) Investors

42 Because it is traded over-the-counter it is very difficult to find accurate information on investors in ECP. Dealers monitor their sales closely but are usually very reluctant to reveal detailed breakdowns. This means that there is no

reliable data on investors and that figures published in most market surveys are based on sales made by a few dealers. One of the strongest forces driving investors in ECP has been diversification away from ETDs, ECDs, trade bills and conventional short-dated government debt instruments. ECP offers a wider choice of paper than most domestic CP markets by allowing investors to purchase notes from governments, governments agencies, banks and financial institutions as well as non-financial corporations. ECP has provided investors with a ready way to increase their exposure to corporate sector debt. As is the case with issuers, the investor base in ECP is more international and broader than is the case in domestic markets. According to a recent survey conducted by Corporate Finance* more than one quarter of ECP would be purchased by UK-based investors and a similar portion would be sold on the Continent. The remainder is sold outside Europe with perhaps close to another quarter ending up in the Far East.

43 The investor base can be grouped into commercial banks, central banks and government agencies, institutional investors, corporates and individuals. Commercial banks purchase ECP as a substitute for traditional assets such as bank loans. Because they can perform their own credit analysis commercial banks are heavy buyers of unrated and high-yielding paper. Central banks and government agencies concentrate their purchases on highly-rated sovereign paper generally because of internal investment guidelines which limit their purchases to high-quality government debt. These institutions are often willing to accept a lower yield for the usually higher liquidity of sovereign CP. Institutional investors are an heterogenous group of professional money managers who try to achieve relatively high income streams combined with high liquidity. There are also private individuals who invest in ECP but they constitute only a small fraction of the investor base because the notes issued under most programmes have a high minimum denomination (generally \$500,000).

44 Although the investor base is broad, the overlap of investors in ECP and domestic CP has been limited to the biggest investors. Cross-border investments have been hampered by different investment traditions, investment parameters, currency denominations, time zones and a variety of rules and taxes on overseas investments. Most investors are still less "global" than issuers. In particular, the lack of non-dollar currencies has excluded many investors from participating in

* Paul Dickins, "Commercial Paper on Display", Corporate Finance Supplement, Euromoney, October 1988, p.18.

the market.* A majority of ECP investors tend to buy and hold. But a significant proportion of investors invest in ECP only when they can either borrow at a lower rate in order to make an arbitrage profit or swap dollar ECP into other currencies at more favourable rates, compared with the rates available on foreign currency time deposits. This makes issuers dependent on the whims of opportunistic investors, and means that the availability of funds is less reliable.

(iii) Legal and Fiscal Aspects

45 Legal and fiscal barriers have prevented the further integration of domestic and euromarket CP sectors. For instance, securities may not generally be sold in the US without first registering the issue with the SEC or issuing pursuant to an exemption from registration under the Securities Act of 1933. Usually, euronotes such as ECP are neither registered under the Act nor exempt under its provisions. Therefore they may not be sold to US residents (other than the foreign branches of US banks) before the standard 90-day seasoning period for foreign securities has elapsed. (Issuers which issue in both markets would in any case try to limit the flow back to the US in order to avoid the possibility of euronotes competing with notes issued under their US programmes.)

46 The legal and fiscal restrictions existing in various countries on the issuance of CP have encouraged borrowers to issue in the US domestic market and the ECP market, although in recent years some governments have relaxed their prohibitions against domestic paper issuance. The US domestic CP market, which was formerly exclusively American, is increasingly becoming an international market with a growing number of foreign companies and sovereigns (such as Canada and Sweden) issuing paper known as "Yankee". As of August 1988, foreign issuers collectively accounted for about 10% of US CP outstanding. Foreign companies use the dollars raised by issuing paper in the US to finance the activities of their US subsidiaries, to support other activities requiring dollar payments for goods and services (such as oil imports for instance) or to swap in their own currencies.

(v) Arbitrage and Settlement

47 Several multinational corporations which are already operating CP programmes in the US have set up ECP programmes with the aim of arbitraging actively between the

* Swiss Bank Corporation International (which is one of the five top ECP dealers) estimated in 1987 that 25% of their investors are sold dollar ECP hedged into other currencies.

New York and London dollar markets. The longer maturities of 1 to 6 months prevalent in the ECP market allow funding in these maturities often at cheaper rates than in the US where maturities are substantially shorter. One important difference between the London and New York markets is that funds are settled in two days in London compared with one day in New York.

48 In spite of the progress made towards a "paperless" book-entry system, most ECP is still security-printed in definitive bearer form, and investors have been reluctant to make a complete transition to book-entry transactions. This procedure was necessary when the notes were physically delivered to banks, but definitive notes are now regarded as expensive to print, unsafe and hard to automate. Definitive notes have persisted because many investors still regard them as essential evidence of good title in case of default or where the notes are used as collateral for other transactions. Euro-clear calculates that less than 0.5% of the outstanding notes it holds were physically delivered. In most issues, a single large denomination global note is held by a depository bank on behalf of the two clearing systems (Euro-clear and Cedel), with transfers between investors recorded by book-entry. Definitive notes are now delivered only when a client lacks an account with one of the clearing systems.

49 The growing internationalisation of the CP markets may, however, expose settlement systems to some new risks to the extent that domestic clearing mechanisms do not quite match those existing in the US and the euromarket. Clearing and settlement systems have increased their exposure resulting from cross-border obligations, and this may create difficulties where various countries' financial responsibility standards have evolved largely in the context of domestic activity. Also, because of the different types of financial guarantee mechanisms associated with settlements in different markets, the increasing interlinkage of systems may create problems in the area of loss allocation mechanisms in market clearing organisations.

VIII Impact on international capital market activity and banking intermediation

50 As a new instrument in the euromarkets, ECP can be expected to have an impact on international capital market activity. On the investors' side, ECP now provides what is very close to a truly international money-market instrument. ECP competes as a substitute instrument for ECDs and FRNs, and has already had a significant impact on the FRN market, for instance. Prior to the introduction of ECP, money market investors used to purchase FRNs as short-term investments. Initially,

euronotes often offered higher yields than comparable FRNs, thus reducing the attractiveness to investors of FRNs. (This is thought to have been one of the contributing factors to the collapse of the FRN market, according to Parente and Vishkai.*) For commercial banks, high-yielding ECP constitutes an attractive alternative to FRNs, interbank loans and corporate loans. ECP may also be one additional instrument which central banks will be able to use in the management of their foreign exchange reserves.

51 As a short-term investment, ECP entails a much reduced interest rate risk, while the credit risk for investors of the issuing company can be monitored on a continuing basis. It is not without risks, however. With such a short-term investment the investor is taking an added risk in that he cannot rely on the repayment of interest to partially offset any default on the principal sum as both fall due simultaneously.

52 For issuers, ECP will add to the range of short-term securities available for portfolio management and financing. One of the most obvious uses of ECP is as a substitute for other money-market or floating-rate instruments such as FRNs and syndicated credits. FRNs were themselves a securitised alternative to syndicated credits, and the arrangement of ECP programmes may also act as a substitute for such credits. The attractiveness of such programmes, however, could be reduced during periods of interest rate volatility** since it may make it more difficult for issuers to roll over their notes or increase their outstandings at acceptable costs.

53 The introduction of ECP will offer both issuers and investors an additional channel to conduct their transactions without having recourse to banking sector intermediation. Ceteris paribus, this could be expected to reduce commercial bank lending and therefore reduce bank's funding needs through time deposits and ECDs. Some of this disintermediation will reduce income accruing to banks but could be offset in part by the activities of commercial banks in the marketing of ECP. One potential negative impact for banks is that since many ECP issuers are high quality entities, this may leave banks with assets of a lower average quality. The loss of quality assets may then make it more difficult for them to improve their balance sheets.

* See Gioia M Parente and Reza Vishkai, "After the Fall: Changing Trade Relationships in the Eurodollar Floating-Rate Note Market", Salomon Brothers Bond Market Memorandum, 24 February 1987.

** Feeney notes that, although the ECP market has never experienced a long-term rising interest rate environment, it has been affected by the recent bear market in equities.

54 One of the main effects of securitised instruments such as ECP is to remove commercial banks from the role of assessing and assuming credit risk. To the extent that non-bank investors in securities are less-well equipped to analyse credit risk effectively, then risks to international financial markets could be increased. The international securities markets have none of the procedures developed by bank supervisors to monitor risk. However, the risk of the occurrence of a major failure with severe consequences for the international banking system appears to be limited, and would probably be localised to investors holding the notes. It could nevertheless create considerable uncertainty were the programmes involved be of a large size. In the US, when Penn-Central Transportation Company failed in 1971, it had \$82 mn of paper outstanding. This created difficulties for all issuers, particularly those in a weak financial condition. In response to the crisis, the Federal Reserve urged banks to lend freely to their non-bank customers and, if necessary, approach the discount window. As is well known, there is no lender of last resort in the euromarket. As more back-up lines for ECP are arranged, the possibility exists that some banks which provide ECP back-ups will have to face up to their commitments in the event of issuer illiquidity or deterioration of credit quality.*

55 The October 1987 stock market crash provided, to a certain extent, a test of the robustness of the ECP market. No firms were reported to have experienced difficulties in refinancing maturing notes although, as in other sectors of the euromarket, there was evidence of substantial market tiering. Demand for ECP was reported by banks and securities houses to be very strong but the rise in outstandings turned out to be much smaller than anticipated, which suggest that most of the demand was probably for sovereign paper. Some lesser quality issuers which the market perceived to be financially burdened probably did experience an increase in the cost of their funds relative to high quality names, but they were nevertheless able to finance themselves at acceptable rates because of the overall reduction in rates across the maturity spectrum. A more stringent test such as a prolonged economic downturn associated with a rise in interest rates has yet to be experienced.**

* More back-up credit lines are likely to be arranged because of the greater number of issuers which seek credit ratings. The rating of issues requires that borrowers have access to bank credit even if that access is not contractually linked with the issuance of paper.

** During Autumn 1988, financial problems surrounding Sunnmoersbanken, a Norwegian bank, and Klockner and Co, a West German trading company, both issuers of euronotes, had some effect on the ECP market. The Norwegian authorities intervened to support Sunnmoersbanken, while Deutsche Bank stood behind Klockner and Co (although it was not an underwriter on the euronote facility). There were market reports of some investors dumping lesser quality notes but there was no significant evidence of a flight to quality (at least as far as market yields were concerned). This episode may nevertheless lead investors to be more cautious over credit ratings (Klockner, for instance, had an A1 rating) since it has become apparent that a rating does not render any issuer immune to "event risk".

IX Conclusion

56 Short-term dollar-denominated US and euromarket money markets have moved much closer in recent years but are likely to continue to differ in some important respects. In spite of the greater number of foreign issuers in the US CP market, the US market's appeal will continue to be limited for some time by the premiums on foreign issuance required by US investors and the limits imposed on institutional purchase of foreign securities. This will continue to limit issuance to top-rated foreign borrowers. If premiums on foreign issuance remain, the development of a more mature ECP market may tempt these issuers to switch their financing to the ECP market. Meanwhile, because it is less quality-conscious, the ECP market may continue to attract lesser quality borrowers both from the United States and the rest of the world, although investors' greater awareness of credit ratings will act to offset this tendency. As market participants become more sophisticated, nationality differences are more likely to decline.

57 Although more odd-maturity notes are being issued, the maturity structure of notes issued under ECP programmes is still closely tied to the 3 and 6-month maturities of the initial underwritten euronote facilities. This reflects the fact that ECP is a substitute for other euromarket instruments (such as ECDs and ETDs) which have standard maturities of 1, 3 and 6 months. The ECP market will probably remain a market for longer-maturity paper with a greater reliance on secondary market trading to provide liquidity. Issuance, clearance and settlement of ECP still takes two days compared to one day in New York, and there is little indication of a movement towards greater uniformity in these procedures.

58 Many of the other differences between the US CP and ECP markets are likely to be more transitory. The crash of October 1987 has heightened the credit consciousness of ECP investors, accelerating the trend towards issuers seeking credit ratings. In the same vein, more ECP programmes have recently been announced with bank back-up lines. Moreover, it appears that the ECP market is following the US pattern of tailoring the maturity of the paper to the needs of individual borrowers and investors, and is thereby moving away from the standard three-month maturities which used to account for the bulk of paper issued.

59 Although the ECP market has witnessed a very strong level of competition compared with the US CP market, competition in the US market may increase following the entry of banks as placing agents. The strength of competitive pressures will probably make pricing methods converge, although this convergence may coincide with

greater segmentation according to the credit quality of issuers. Although ECP rates are more closely in line with interbank rates, the pricing of sovereign ECP is increasingly made in relation to other domestic government instruments such as US Treasury bills.

60 Globalisation has proceeded furthest for dollar-denominated instruments. Other markets have still to undergo significant transformations to reach the liquidity and maturity of the dollar market. The various existing CP markets are no doubt converging but some of the differences between them outlined in this paper are likely to survive for some time.

APPENDIX 1

There are several problems in trying to compare rates in these two markets. The CP rates used for the United States were based on the Federal Reserve's CP composite index which refers exclusively to paper rated P1 by Moody's or A1 by Standard and Poor's or both if rated by both agencies. These rates are averages of representative rates for dealer-placed paper from five US dealers, (rates paid by individual borrowers are not disclosed by dealers). In making comparisons between the euro and US markets, the Mills study only looked at euromarket issuers who had received P1 or A1 ratings. As few euromarket borrowers had sought ratings at that time, the list was fairly limited. Another confining characteristic of the US market rate data is that the data apply solely to issues of borrowers whose long-term debt rating is AA by either rating agency. Of the 18 euromarket borrowers with A1/P1 ratings, only 4 had AA ratings. Rate adjustments were made for issuers who had AAA, A or no longer-term debt ratings. One other major problem in trying to compare rates in the euromarket with US CP rates was the absence of new-issue rates in the euromarket. The author had to infer such rates from secondary market data supplied on a weekly basis by Merrill Lynch and published in the International Financing Review.

The ECP rates published by the Bank of England are those quoted for US dollar denominated issues by companies including bank holding companies, (but excluding banks), which are rated A1 by Standard and Poor's or P1 by Moody's. No higher or lower paper is included, and sovereigns are excluded. The rates are those quoted in the primary market for 1, 2, 3 and 6-month maturities, and, as with the Fed US composite index, it measures the return to investors on newly-issued paper. One notable distinction between the US CP composite and the ECP rates is that the latter are quoted on a yield basis as opposed to a discount basis. Another distinction is that US rates are for same day settlement while ECP rates are for two day delivery and settlement. In a process similar to that of the Federal Reserve, the Bank of England approaches a panel of dealers (7 originally) at 11.30 am each day to get quotations on actual deals. The rate quoted is the median rate.

The Bank of England and the Federal Reserve's US CP composite rates have been used for one month and three-month paper as a way of comparing costs for top-rated companies in the two markets. The US CP composite rates have been converted from a discount to a yield basis to make them comparable with the Bank of England index. Since both series represent yields to investors some estimate of dealers' commissions had to be added to produce costs to borrowers. (Commissions are widely reported to range from 5-8 points in the US and a much lower 2-3 basis points in the euromarkets.) Because ECP rates are still widely quoted off euro-dollar interbank rates, Libid has also been included.

APPENDIX 2

Domestic Commercial Paper Markets and the ECP Market*

Outstandings (June 1988)

<u>Country</u>	<u>Currency (bn)</u>	<u>US\$ (bn)</u>	<u>Date Started</u>
Australia	A\$ 10.0	8.0	Early 1970s
Canada	C\$ 15.4	12.7	1952
Finland	FIM 9.9	2.5	1986
France	FFcs 59.5	9.8	1985
Hong Kong	HK\$ 14.0	1.8	1983
Italy	Lit 6,500	5.2	1985
Japan	Y 5,189	39.3	1987
Netherlands	DFL 1.0	0.6	1986
New Zealand	NZ\$ 0.5	0.3	1982
Norway	NKR 19.4	3.1	1985
Spain	PTA 787	5.0	1981
Sweden	SKR 28.0	4.8	1983
Turkey	TL 53.0	0.5	1987
United Kingdom	£ 3.3	5.6	1986
United States	\$ 417.8	417.8	19th century
ECP	\$ 48.3	48.3	Early 1980s

- * Sources: various central banks publications, Corporate Finance, Lucy Heller, Editor, Eurocommercial paper, and market estimates where no official data was available.

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