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Balance of Payments Statistics: Data collection,
compilation and analytical issues

CONTENTS

1 INTRODUCTION.....	1
2 PLANNING DATA COLLECTION, SOME RELEVANT ISSUES.....	2
3 INTERNATIONAL COLLABORATION IN THE BOP METHODOLOGY.....	4
4 EUROPEAN TRADITIONS IN THE BOP DATA COLLECTION.....	7
A FROM EXCHANGE CONTROLS TO AMPLE FINANCIAL FLOWS.....	7
B A COMMON COLLECTION SYSTEM: EXERCISE BECAUSE OF THE EMU.....	8
5 BUILDING BLOCKS OF DATA COLLECTION SYSTEMS.....	10
6 DATA COLLECTION IN A SMALL OPEN ECONOMY WITH CENTRALIZED ENTERPRISE AND BANKING STRUCTURES, THE CASE OF FINLAND.....	12
7 COLLABORATION STRUCTURES WITH OTHER DOMESTIC STATISTICAL BODIES.....	16
8 COMPILATION PROCESS FOR MONTHLY DATA.....	18
9 SKILLS NEEDED IN A BALANCE OF PAYMENTS UNIT.....	20
10 QUALITY CONTROL, ANALYSIS OF CONSISTENCY AND ECONOMIC ANALYSIS.....	21
11 THE STRUCTURE OF A BOP REPORT FOR ECONOMIC ANALYSIS.....	23
12 APPENDIXES	
13 CHARTS	

BANK OF FINLAND
Information services

HANDBOOK

Jorma Hilpinen

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BALANCE OF PAYMENTS STATISTICS:

DATA COLLECTION, COMPILATION AND ANALYTICAL ISSUES

1. INTRODUCTION

This booklet discusses practical problems of data collection and compilation of the Balance of Payments Statistics (systems design). It does not very much cover conceptual questions, since those are covered by the IMF Manual, Textbook and in some extent also the Compilation Guide and Textbook. In many questions the booklet emphasizes the user point of view as well as that of the respondent in the BoP data collection system. Close contacts to users and analytical approach in the compilation process as well as the participation in the economic analysis are highly recommended. The efficiency of statistical activities are considered to be of major importance and the collaboration with other domestic and international statistical bodies is seen as one way to reach this target.

2. PLANNING DATA COLLECTION, SOME RELEVANT ISSUES

- * IDEA: Statistical systems like the SNA and the BoP are theoretical constructions where the real world is described in a consistent way as agreed. What is collected in practice is slightly another question.
- * The BoP Manual is a general framework for the Balance of Payments statistics and it is well known that very different collection systems are said to fulfil the conceptual recommendations of the Manual.
- * The Manual and the Textbook give more conceptual and theoretical advice, more practical things are included in the Compilation Guide.
- * It is noted in the Guide that collection and compilation systems are based on various traditions in various countries and so far no two similar systems have not been built, similarly, it is noted that what is good for a member country is also good for the IMF.
- * Recent financial market developments as well as the complete harmonization between SNA and BoP have considerable data collection implications: old systems need overhaul and in building new systems lots of new things have to be taken into account.
- * The national and international demand for data (what and when) defines the collection system to the greatest extent. Below, various uses of data are listed.
 - Foreign sector of the national accounts: (Annual and quarterly data, institutional sector breakdown, breakdown by type of asset)
 - Various and increasing needs of international organizations (IMF, EURO, OECD, WTO ...):(quarterly, annual and monthly data with long but also with very short production lags: IMF standard components, EUROSTAT and EMI questionnaires, OECD questionnaires, international trade in services...)
 - Various national economic policy planning and monitoring needs where most often monthly information on key items are needed with a very short lag:
 - * indicators for foreign stability considering the trade off between domestic demand and foreign stability; which part of the effects of policies flows abroad,
 - * indicators for competitiveness of export sector and also of import competing sector,
 - * the effects of monetary and foreign exchange policies through current and financial accounts,
 - * net capital imports and monetary expansion,
 - * credibility of exchange rate and speculative financial flows
 - * net foreign debt and its sector and asset breakdown,
 - * reserve assets, flows and stocks,
 - * debt servicing costs and profitability of various investments abroad,

* potential risks caused by the stocks of home currency denominated assets owned by non-residents,

* ... etc ...

* Different economies have different information needs and different priorities in statistics. Focus can be in flows or in stocks, in current account or in financial account.

* The Balance of Payments statistics should at the same time be monthly, quarterly and annual, aggregated and disaggregated with production lag at shortest only five weeks.

> How the collection and compilation system can fulfil all these needs?

> Is the organization efficient and flexible enough?

> How about the respondents?

Do not be purist with respondents and do not cause excessive reporting burden.

> Prioritize and collaborate; use already existing information.

Think what is most important to your organization and where you are experts; collaboration with other national authorities usually saves costs because they usually have useful information available.

> Conceptual and definitional level must also be flexible:

A few examples:

Residency of firms is easily connected to national numbering system; private persons can be defined to be resident there where they have economic activity.

Change of ownership can be approximated with a number of various estimates: time of payment, accounting rules of banks and other firms; that is, both cash principle and accruals principle are feasible.

For valuation of flows and stocks in many cases the one must be accepted which is available by the respondent: market value vs book value in financial items, terms of consignment in foreign trade, it is more important to know, which valuation is used.

In general, existing information structures of resident firms and banks must be accepted and are very feasible. The data are most easily available at the original source with concepts used there.

* Overall data collection and compilation costs including the cost and burden by respondents are as important yard sticks in the planning of data collection system as is the conceptual purity.

* Overlapping statistical activities by national authorities should be avoided; collaboration can spare money and reduce the reporting burden of firms and banks.

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3. INTERNATIONAL COLLABORATION IN THE BOP METHODOLOGY

The Balance of Payments people think that they are especially international in their work; they have long traditions in collaboration. During recent decades the international contacts have increased.

The tradition is longest with the IMF.

IMF: - BoP committee and its ad hoc groups
 - Tutoring activities / BoP courses
 - written procedures / country reports

Statistics: quarterly and annual reporting obligation to the IMF: Standard components, flows and stocks.

Collaboration between member countries and the IMF is concentrated to written procedures and reporting routines; the feedbacks to the data sent are not very immediate.

UN: Links to the national accounts via IMF; especially relevant now when the BoPM5 and the SNA have been harmonized.

OECD: Special field of competence in the definitional work in direct investments. 'Benchmark Definition of Direct Investment'
 Member countries have reporting obligations due to large publication activities of the OECD. Recently, the OECD and EUROSTAT have harmonized many reporting forms.

- Group of Financial Statisticians
 - Ad hoc group for Trade in Services Statistics

EUROPE:

New player EMI > ECB and ESCB

EMI Balance of Payments Unit in the Statistical Division of the Economics and Statistics Department

It has been informally agreed about the division of tasks between the EMI and the Commission (EUROSTAT) that EMI (later ECB) has full responsibility for money and banking statistics at EU level. Within the area of balance of payments statistics responsibility is shared so that in conceptual work EMI acts under its own responsibility in capital and financial account issues including investment income but excluding direct investment details. In the financial account statistics of the SNA the responsibility is likewise shared.

The collaboration with member countries takes place in the Working Group of Statistics (WGS) which has two task forces, one for money and banking (MBSTF) and one for balance of payments (FFSTF).

MBSTF: key questions: what is money and what is a bank?

The counterparts of monetary policy measures of the ECB will be the monetary financial institutions (MFI) which have been defined by the group.

FFSTF: BoP methodology in the field of competence of the EMI, also the preparations for the production of the BoP statistics for the Economic and Monetary Union.

FFSTF will endorse common guidelines for member countries for compiling the EMU BoP where the IMF BoPM5 is silent or obscure or not practical.

The guidelines will be more precise but not in contradiction with the IMF Manual.

EUROSTAT (The Statistical Office of the European Communities)

The collaboration is relevant also on the EEA level (that is, more countries are involved, the EEA treaty includes also a statistical part). In fact, already in 1984 it was decided in Luxembourg between EEC and EFTA countries that in technical issues like statistics, the co-operation will be deepened so that the EFTA countries are involved like EEC member countries. Recently, EUROSTAT has started collaboration with new market economies in Europe.

In the Balance of Payments, EUROSTAT has methodological responsibility of the current account issues. This takes place under the auspices of the Committee of the Monetary, Financial and Balance of Payments statistics (CMFB) which has advisory status. The secretariat of the CMFB is the Balance of payments Unit of EUROSTAT in Luxembourg. The CMFB has the Balance of Payments Working Party (BoPWP). Both the CMFB and the BoPWP meet twice a year.

BoPWP had in 1991 - 1995 several task forces:

TF1: collection systems and reporting thresholds

TF2: conceptual and methodological issues of current account

TF3: Edifact messages

TF4: travel

TF5: FATS (foreign affiliate trade statistics or former establishment trade statistics).

TF1 and TF2 have completed their work.

TF1 concluded that common collection system for the EMU is beyond reach of member countries and the harmonization of output and only a stepwise policy towards more harmonized data collection methods are more advisable. There will be new task forces to implement this policy.

TF2 has given conceptual recommendation for member countries and these will be confirmed in bilateral gentlemen's agreements between EUROSTAT and member countries.

TF3 has built messages to convey statistical information from respondents to compilers and from national compilers to international organizations (BOPSTA). TF3 is at the same time the UN task force for Edifact.

Travel and FATS task forces will finalize their work in 1996. FATS monitors the economic effect of foreign owned firms and it is in fact beyond the scope of the balance of payments statistics. However, the close linkages with foreign direct investment justify the collaboration between balance of payment and enterprise statistics experts.

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4. EUROPEAN TRADITIONS IN THE BOP DATA COLLECTION

A. FROM EXCHANGE CONTROLS TO AMPLE FINANCIAL FLOWS

* To understand the current situation we have to go back to the 1950s with more or less tight foreign exchange controls and means to monitor the efficiency of the controls.

* The so called 'ticket systems' to monitor foreign operations are the basis of many balance of payments statistical systems 'settlement systems' of today.

* Similarly, the prevailing organizational structure in the compiling of the BoP statistics comes from that era; exchange controls were usually run by central banks as well as are the relations to the IMF which demanded the BoP statistics.

* During 1960s and 1970s most industrialized countries liberalized capital movements and the existing ticket systems were changed accordingly. In some major continental countries the present systems in use stem from these decades.

* In 1960s and in early 1970s capital movements were simple and very much foreign trade related compared to the current situation; there were only few important players in the market and banks were in key position. No doubt systems dependent to the banking community were relevant and efficient.

- In the settlement system banks and domestic enterprises report all foreign settlements affected via domestic banking system and/or via foreign accounts in nonresident banks.

- Systems are said to be closed if they are connected to the foreign accounts in banks (in fact to the mirror accounts of the nostro accounts in the corresponding banks and to the loro accounts. The daily/monthly reports have to fulfil the condition 'opening position + settlements = closing position'.

- To maintain the consistency, all (positions, bop relevant settlements and bop neutral settlements) have to be reported to the bop compiler who gets much rubbish because positions and bop neutral settlements often are the majority.

- Systems are said to be open when only bop relevant settlements are reported and there are no identity between positions and settlements. Then you never know whether you get all relevant settlements.

* During the 1980s rest of the countries liberalized the capital movements and financial markets developed with giant steps. New financial instruments emerged and volumes of financial flows multified.

* International organizations like OECD and BIS were active in the process on liberalization, and important conceptual discussions and documents of the nature of new instruments helped also BoP compilers. Similarly, the IMF consultations and missions contributed to the BoP.

* The situation in early 1990 in the BoP systems: major continental countries had large and rather old settlement systems; the closed systems were about to fall because of balancing problems and enlarged volumes. In direct investments system had to be completed with annual surveys. The BoP flows are taken from settlements and but stocks are not fully covered.

* Smaller continental countries - liberalized latest - had most modern settlement systems - because of tradition. They also have various systems for stocks in addition to the direct investment survey.

* Anglo-saxian countries were exception, in Britain, the ticket system was abolished overnight in 1979 when the country liberalized and the BoP is based there, as well as in Ireland, on surveys by the CSO.

- In survey systems the most difficult problem is to maintain the frame of survey. The populations in the BoP items are 'specialized' and without proper targeting the compiler is lost.

- The number of details in the BoP (current and financial account together including the geography) is sometimes not compatible for surveys as well as the allowed short production time for monthly data.

* Nordic countries (Sweden and Finland) had built their systems mixed, we use both settlements and monthly surveys as well as annual direct investment surveys.

- Nordic countries can benefit their centralized enterprise structure and small number of banks.

- Also the late liberalization of exchange controls gave time to build modern systems for BoP statistics

B. A COMMON COLLECTION SYSTEM: EXERCISE BECAUSE OF THE EMU

* After the Maastricht treaty and more concrete program for the third phase Economic and Monetary Union (EMU 3) with common currency, the BoPWP TF1 was given a task to scetch a uniform bop collection system for the new currency area. The TF was enlarged to consist of all EEA countries because of the importance of the problem.

- Long discussion were held, it was utterly difficult to understand other systems.

- Settlement and survey views were in a peculiar way opposite, it was not understood that probably both systems are needed (IIP!).
- It was not understood fully that the good features of one system in one country might be disadvantages in another country. Quantitative analysis of the relevant populations was not conducted.
- It was unclear which data are needed when the EMU 3 phase starts. Do we have an US of Europe or a looser union?
- Finally, a few proposals were set on the table: The so-called 'three countries proposal' which aimed to meet the needs of the ECB and more broadly the need of the IMF when the currency area is more or less stable (only extra EMU information). The proposal had two alternatives: 1. 'settlement view and 2. a more modern transaction view in line with BoPM5. EUROS-TAT sketched two proposals which could produce also intra EMU information. However, the CMFB never liked the proposals and a more realistic stepwise process (building bridges between systems) was accepted.
- Lessons of this exercise:
 - * The EU countries are very different also in the BoP relevant issues.
 - * Study the data needs more carefully!
 - * Study the existing statistical infrastructure and institutional arrangements more carefully. Some countries are more advanced than others!
 - * Study the banking and enterprise structure, example: two small countries Denmark and Finland with totally different enterprise structures, patterns of foreign trade etc.
 - * Number one in priority is to harmonize the output and conceptual and classification issues. EMI is currently only aiming at this and only regards to the extra EMU data.
 - * The harmonization of the input is relevant because on international enterprises which see the disharmony in their various affiliates.
 - * Remains to be seen whether the stepwise approach to data collection issues brings about any positive developments to the EMU BoP.

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5. BUILDING BLOCKS OF DATA COLLECTION SYSTEMS

- * IDEA: Not one system but use of various blocks in a controlled and harmonized manner.
- * Define output priorities: what must be published and when?
- * What are your resources?
 - What your organization can do well and where the others could help you?
- * Legislation:
 - the right to collect data,
 - confidentiality rules for the exchange of information with other statistical bodies.
- * Attitudes in the society:
 - Is the importance of statistical information understood?
 - Will enterprises co-operate?
 - Try to win the confidence of the respondents.
 - Arrange seminars, give lectures, help the respondents, give feedback.
- * Economic, banking and enterprise structures:
 - Structure of financial markets: bank/enterprise driven?
 - Structure of foreign operations: commodities/services/direct investment/finance
 - The size of enterprises and banks
 - Payment system: domestic/foreign
 - Are the relevant populations and their distributions known?
- * Statistical infrastructure like registers and numbering systems:
 - Maintenance of organization register
 - Possibilities to target the populations
 - Is a general numbering system of organizations in use?
 - Classification and nomenclature standards available?
- * Collaboration structures between relevant national and international authorities:
 - CSO, Customs, CB: agreements, rules and legislation if needed.
 - What relevant data are available in other statistical bodies?

* Collaboration with users:

- Feedback and new needs for data

* Data processing structures:

- databases, programmes,
- program service for respondents,
- databases to disclose data,
- publication technology

* Check what you already have (exchange control systems, etc), check what collaboration partners already have!

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6. DATA COLLECTION IN A SMALL OPEN ECONOMY WITH CENTRALIZED ENTERPRISE AND BANKING STRUCTURES, THE CASE OF FINLAND

* Central Bank priorities and other needs:

- fast aggregate information; avoid details
- information on economic fundamentals for policy and monitoring as well as for markets
- International organizations' reporting requirements, Statistics Finland SNA needs

* Resources:

- not too abundant in the bank,
- pressures to keep the number of people employed in the public sector in check

* Legislation:

- The Foreign Exchange Act
- Law on the Bank of Finland
- Rules how to disclose statistical information which may have market effects

* Attitudes:

- statistics considered important in the society
- respondents, firms and banks, willing to co-operate

* Economic, banking and enterprise structures:

- small, open; foreign trade oriented, indebted
- few banks (and their importance diminishing)
- small number of foreign trade, foreign direct investment and finance oriented enterprises, but their size is considerable in Nordic standards

* Statistical infrastructure:

- Nordic tradition; good public registers
- organization and other numbering systems ok,
- Statistics Finland takes care of basic classification standards: (assets, economic activities, institutional sectors, etc

* Collaboration structures with relevant national and international authorities:

- Statistics Finland, Board of Customs

- Confidentiality legislation unsatisfactory and complicated
- Informal relationships well working
- Lots of relevant data available by collaboration partners

* What was our tradition?

- good relationships with banks and firms from exchange control periods
- different functioning reporting systems:
 - * closed settlement system (problems, not quite satisfactory)
 - * good ability to build and conduct surveys: easy to target relevant populations with settlement information

* Help of and collaboration with Board of Customs and Statistics Finland urgently needed:

- foreign trade details
- service trade details
- use of statistical standards and infrastructures

* How the 'system' turned out to be:

- In Finland the balance of payments statistics are compiled monthly including both flows and stock of the key items. Statistics are published five weeks after the end of respective month on Reuter-screen and in a statistical bulletin. Data are available also in time-series format in official and commercial databases. Monthly data are also reported to the EMI and the BIS. The IMF, OECD and EUROSTAT questionnaires are completed according to their quarterly and annual timetables. Conceptually, the IMF BoPM5 is closely followed with only minor exceptions.

- The statistical system is based to the use of both settlement information and various surveys and in addition information produced by the Board of Customs and Statistics Finland.

* Commodity trade data are usually received from the Board of Customs, currently a indicative survey on foreign trade aggregates is conducted by the Bank of Finland because of system problems in the Board of Customs.

* A major part of preliminary service data are based on settlement information, but a consithe detailed final data are received from Statistics Finland, especially on insurance and transport.

* Investment income is taken at present from settlements, but plans for the use of accruals principle with help of survey data are in the work programme. Reinvested earnings estimated using various methods, final data from the survey.

* Capital account preliminaries are taken from settlements but the final data are compiled together with Statistics Finland using various official sources.

* Direct investment, share capital flows are taken from settlements for preliminary statistics, direct investment loans are included in the monthly survey. The final information is received from the annual FDI survey.

- For conceptual issues, see appendix I: direct investment

* Portfolio investment data are based on the monthly survey of foreign assets and liabilities by sector and the securities trade and custodian survey responded by securities brokers. Surveys include gross and net flows, valuation items and stocks.

- For conceptual issues, see appendix II: portfolio investments

* Other investments are based on the foreign asset and liability survey.

* Data for reserve assets are received from accounting of the Bank of Finland.

- The settlement system:

* Closed, banks report daily, reporting threshold of a settlement some \$ 10000, small payments are reported as lump sums; enterprises report monthly their foreign accounts and nettings with rather high turnover thresholds, cash reporting of banks and foreign exchange offices is included. For each settlement, the following data are provided: currency, amount, organization number, country of the counter part, payment code. The number of payment codes is limited to some 50. Even with its problems, the settlement system is essential in targeting surveys, in quality controls and in keeping the whole system in track.

For details, see reporting instructions and technical appendix (III).

* Why and how surveys are conducted?

- The official register includes some 260 000 organizations,
- From settlements it is known that some 20000 are active in various foreign operations
- Foreign trade: some 7000 exporting and 11000 importing firms (more than \$ 20 000 annually, according to the Board of Customs)
- Only 300 enterprises are surveyed monthly concerning financial items and annually direct investments abroad.

- Some 1000 enterprises are surveyed annually concerning direct investments in Finland.
- There are 30 banks and other financial institutions (incl. securities brokers) in the monthly survey of the financial sector.
- surveys are mostly cut-offs, with cut-off line over 90 per cent (stocks), grossing up is rendered only in stocks, stratified sampling is employed in the survey of direct investment in Finland. Every fifth year surveys are made as a census. Occasional sampling surveys are conducted in problematic items like trade credits.
- Principle in surveys: as few target variables as possible to keep the size of the population and the size of the sample in check.
- For additional details, see reporting instructions and technical appendix (III).

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7. COLLABORATION STRUCTURES WITH OTHER DOMESTIC STATISTICAL BODIES

* Collaboration partners with the Bank of Finland:
STATISTICS FINLAND, BOARD OF CUSTOMS, FINANCIAL SUPERVISION

* Areas covered:

1. Balance of payments, 2. Money and banking and 3. Other economic statistics

1. Balance of payments

- no special legislation to govern the collaboration
- excellent informal relationships
- areas of competence defined according to the model of EMI/EUROSTAT
- data exchange includes confidential information and is stipulated by the confidentiality legislation
- Statistics Finland :
 - * maintains register of establishments and enterprises and supplies the Bank of Finland with it,
 - * compiles service trade data (insurance and transport) for balance of payments as well as capital account data
 - * collects FATS-data via surveys and enterprise register
- Board of Customs:
 - * compiles foreign trade statistics
 - * supplies Bank of Finland with enterprise level trade data for quality control
- Bank of Finland:
 - * detailed BoP results conveyed to Statistics Finland for national accounts, flow of fund statistics and for structural financial statistics,
 - * supplies Statistics Finland with information on foreign ownership in firms
 - * all public data available also in Statistics Finland database
- regular expert meeting concerning problems in balance of payments statistics
- high level steering group (heads of department)

2. Money and banking (Statistics Finland, Bank of Finland, Financial supervision)

- informal collaboration as above,
- separate confidentiality legislation for each organization slightly out of date for intensified collaboration because of EURO-developments and increased efficiency demands,
- data flow from banks to all three institutions in harmonized format using commonly agreed concepts and definitions,
- high degree of automation in data collection
- regular expert meetings
- high level steering group (heads of department)

3. Other economic statistics

- Statistics Finland main source
- more and more metadata available
- regular user meetings
- economic analysis reveals also faults in data, feed back given
- official body: Statistical Council: producers and users in high level

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8. COMPILATION PROCESS FOR MONTHLY DATA

* Personnel resources:

- The Finnish balance of payments engages some 30 persons at the Bank of Finland. The contributions from Statistics Finland and Board of Customs are by-products of their own statistical functions and the resource use for the balance of payments by these authorities cannot be separated.

- The balance of payments work in the Information Services Department is organized to teams which each have responsibility of their parts in the compilation process. Teams have one or two responsible experts with academic education and clerical people with professional college level education. Teams and number of people in each are as follows:

banks and other financial institutions	1+2
securities trade	1+2
enterprises	1+6
direct investments	1+3
compilation, info service,	2+2
settlement system services	1+4
other data processing services	2+1

- The management group of the department consists of four 1 + 3 heads, who have other duties in addition to the balance of payments because the department is responsible for the general information management of the bank as well as for the library of the bank.

* Lead times in case of changes of data requirements or of collection system are 6 to 8 months.

* The monthly process includes the revision of time series also on quarterly and annual level. In addition, portfolio investments and direct investments have their separate quarterly and semiannual, respectively, release times of statistical notifications.

* Reporting to international organizations follows special timetables stipulated by them.

* Monthly process:

- The inflow of settlement data is continuous, because banks convey information daily to the central bank. The data are restored to a large mainframe database. Practically all settlement data are received in automated form.

- Survey data on financial flows and stocks are received after the 15th of each month concerning the preceding month. Survey data are restored in a

multidimensional database on a network server. Majority of survey respondents use, unfortunately, telefax transmission of data.

- Trade figures from Customs have been exceptionally delayed during last two years due to their system changes; the missing data have been replaced by a special commodity trade survey by the Bank of Finland. Traditionally, trade figures from Custom were received four weeks after the end of the month. Data on services from Statistics Finland comes quarterly and annually and monthly data are estimated employing models and settlement data. Other data are restored in time series format in the time series working database.

- The information cut-off day is some 28 days after the end of month. After first primary quality controls the multidimensional data are run to time series format to the working database. Few iterative balance of payments runs take place during the following week. Usually some reporting mistakes can be corrected and missing data are supplied or can be estimated during this week.

- The publication days are known by the markets in advance and usually they are about 35 days after the end of the month. Data are disclosed at 9 am on the Reuters and Telerate screens. The notifications are released at the same time. The compilation and publication are subject to strict insider rules because the data may have market effects.

- The data are also removed to official (run by Statistics Finland) and to a commercial data base for resale.

- The quality controls and updates of already published data are continuous tasks. Revisions are made according to a known timetable and later together with national accounts

- For details of the DP system, see technical appendix.

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9. SKILLS NEEDED IN A BALANCE OF PAYMENTS UNIT

A. General economic education with emphasis in the 'economist' skills

B. Special skills:

1. Accountant 'micro'
2. Financial market analyst
3. IMF conceptualist and co-ordinator
4. Specialist in statistical methods, the survey builder
5. Economist, econometrician \Leftrightarrow analyst
6. DP specialist
7. Co-ordinator in and out of the organization, 'spokesman'

=> combinations of the above skills

+ capable clerical people with good DP skills

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10. QUALITY CONTROL, ANALYSIS OF CONSISTENCY AND ECONOMIC ANALYSIS

* IDEAS:

- in order to have good quality statistics, the possibility to compare data with other sources of information is essential,
- the more data are used, the better the quality will be in longer run.
- statistics must be credible, otherwise it is not worth while to produce it.

* Primary quality control: following issues are discussed on general level and are not related to any specific system, however, most of them are followed in Finland.

- microeconomic analysis; relevant in some tasks of the central bank
- with respondents
- using other data for comparison
- concentrate to essential respondents
- check big deviations from 'the normal' ('time series way' of thinking)
- learn to know the persons in charge of bop reporting in responding firms and banks; make sure that they understand what is all about
- check the response with balance sheet if available (banks, major firms)
- check the eventual survey response with settlement flow if available
- try to make a consistent picture of the activities of the major firms (foreign trade, domestic investments, foreign direct investments, financial items, balance sheet)
- last but not least, banks are in key position, compare all available information (balance sheets, bop surveys, settlement flows)

* Survey oriented quality control

- coverage, frame
- control non response and try to get information with demand notes etc
- follow the relevance of your sample
- most important: keep your frame up to date

- remember:
 - errors because of the frame are usually larger than sampling errors; frame and sample must be checked/changed every year
- mergers, big investments, newspaper information important
- other economic information
- quality control during the year prepares the changes in frame and sample in the beginning of following year

* Aggregate quality controls and macroeconomic analysis

- errors and omissions of the bop statistics: time series analysis, analysis of randomness
- analysis between various statistical systems: SNA \leftrightarrow BoP, Banking data \leftrightarrow BoP, Flow of Funds: statistical error between upper and lower part
- models
 - * elasticities
 - * contributions to overall supply and demand
 - * cyclical pattern
 - * seasonality and time series models
 - * forecasting exercises
 - * etc...

* The more analysis, the more feedback to statistics, the better quality

* Organizational implications:

- the use and the compilation of statistics, especially when 'special' statistics like money and banking or balance of payments are concerned should not be organizationally much apart.

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11. THE STRUCTURE OF A BOP REPORT FOR ECONOMIC ANALYSIS

1. Domestic and foreign supply and demand, structure of spending, the absorption
2. Foreign trade developments (competitiveness)
3. Prices and exchange rates (relative prices, terms of trade)
4. Other items affecting the current account (services, interest rates abroad and at home)
5. How the deficit of the current account is financed or the surplus invested?
 - structure of financial flows
 - effects on monetary aggregates
 - pressures prevailing on money and foreign exchange markets, if any
 - what is of long and of short maturity?
 - bond and money market papers
 - direct investment share capital, another story, but direct investment loans part of finance
6. The international investment position
 - structure of the net foreign debt by sector and by type of asset
 - domestic currency denominated pares held by non-residents
 - debt servicing costs => feedback to the current account
 - structural vs cyclical/temporary debt/deficit
 - reserves and the liquidity
 - double deficit or not current account/state budget

DIRECT INVESTMENT STATISTICS IN FINLAND

GUIDELINES

The IMF Balance of Payments Manual
The OECD's Benchmark Definition of Foreign
Direct Investment (5th edition)

DIRECT INVESTMENT

A direct investment denotes a foreign investment made in an enterprise in Finland (**foreign direct investment in Finland**) or a Finnish investment made in an enterprise abroad (**Finnish direct investment abroad**) for the purpose of acquiring a lasting interest in the enterprise and an effective voice in its management.

A condition for treating an investment as a direct investment is that the investment must raise the investor's (direct + indirect) shareholding or voting power in the enterprise to **at least 10 per cent** of the total.

A direct investment enterprise can be a **subsidiary, associate** or **branch** of the direct investor. So-called special purpose entities are defined as direct investment enterprises. The acquisition of a dwelling or real estate is also treated as a direct investment.

DIRECT INVESTMENT CAPITAL

Direct investment capital transactions are recorded on a directional basis.

The components of direct investment capital are **equity capital, reinvested earnings and inter-company loans** (incl. reverse loans granted by a direct investment enterprise to a direct investor).

Investments in the form of **equity capital** include investments in share capital, group contributions and other transfers of equity capital.

Reinvested earnings (change in accumulated retained earnings of direct investment enterprises) = the investor's share in the income of the direct investment enterprise (before adjustment items, but after tax) - the investor's share of the dividends paid by the direct investment enterprise during the accounting period.

DIRECT INVESTMENT CAPITAL

(continued)

Direct investment loans comprise non-negotiable loans, private placements, financial leasing and other non-negotiable instruments as well as funds held in intra-group accounts ('cash pools' excl. the enterprise's own foreign payments accounts) and deposits. If both the direct investor and the direct investment enterprise are deposit banks, direct investment loans between them comprise only permanent loans, which are not normally repaid as long as the dependant relationship exists.

All loans between the foreign and Finnish units of a direct investor's group are regarded as direct investment.

DIRECT INVESTMENT CAPITAL

(continued)

Net direct investment capital flows =
investment in equity capital + reinvested earnings
- repatriation of equity capital + drawings of
loans granted by direct investors to direct
investment enterprises - repayments of loans
granted by direct investors to direct investment
enterprises + repayments of loans granted by
direct investment enterprises to direct investors -
drawings of loans granted by direct investment
enterprises to direct investors.

Stock of direct investment = the direct
investor's share in the shareholders' equity of the
direct investment enterprise (incl. voluntary
reserves and valuation items) + the direct
investor's loans to the direct investment
enterprise - the direct investment enterprise's
loans to the direct investor.

Direct investment flows are based on **market values**; direct investment stocks are based on **balance sheet values**.

DIRECT INVESTMENT EARNINGS

Direct investment earnings consist of **the direct investor's share in the income of the direct investment enterprise** as well as **net interest received by the direct investor** on direct investment loans.

In the balance of payments, direct investment earnings are broken down into **distributed earnings** (dividends and net interest) as well as **earnings reinvested** in direct investment enterprises.

Dividends and interest are recorded **in the year payment is due** and reinvested earnings **in the year earned**.

DIRECT INVESTMENT EARNINGS

(continued)

Distributed earnings = the direct investor's share of the dividends paid by the direct investment enterprise during the accounting period + interest received by the direct investor on loans to the direct investment enterprise - interest paid by the direct investor on loans received from the direct investment enterprise.

Reinvested earnings (change in accumulated retained earnings of direct investment enterprises) = the investor's share in the income of the direct investment enterprise (before adjustment items, but after tax) - the investor's share of the dividends paid by the direct investment enterprise during the accounting period.

PORTFOLIO INVESTMENT - CONCEPTS

Tradable securities:

1. Equity securities

Shares

- Shares, stocks or other documents that denote ownership of equity
- Participations in mutual funds/ investment trusts

2. Debt securities

Bonds, Debentures and Notes etc.

- Papers that usually give the holder the unconditional right to a fixed or contractually variable money income
- Maturity: over one year

Money market instruments

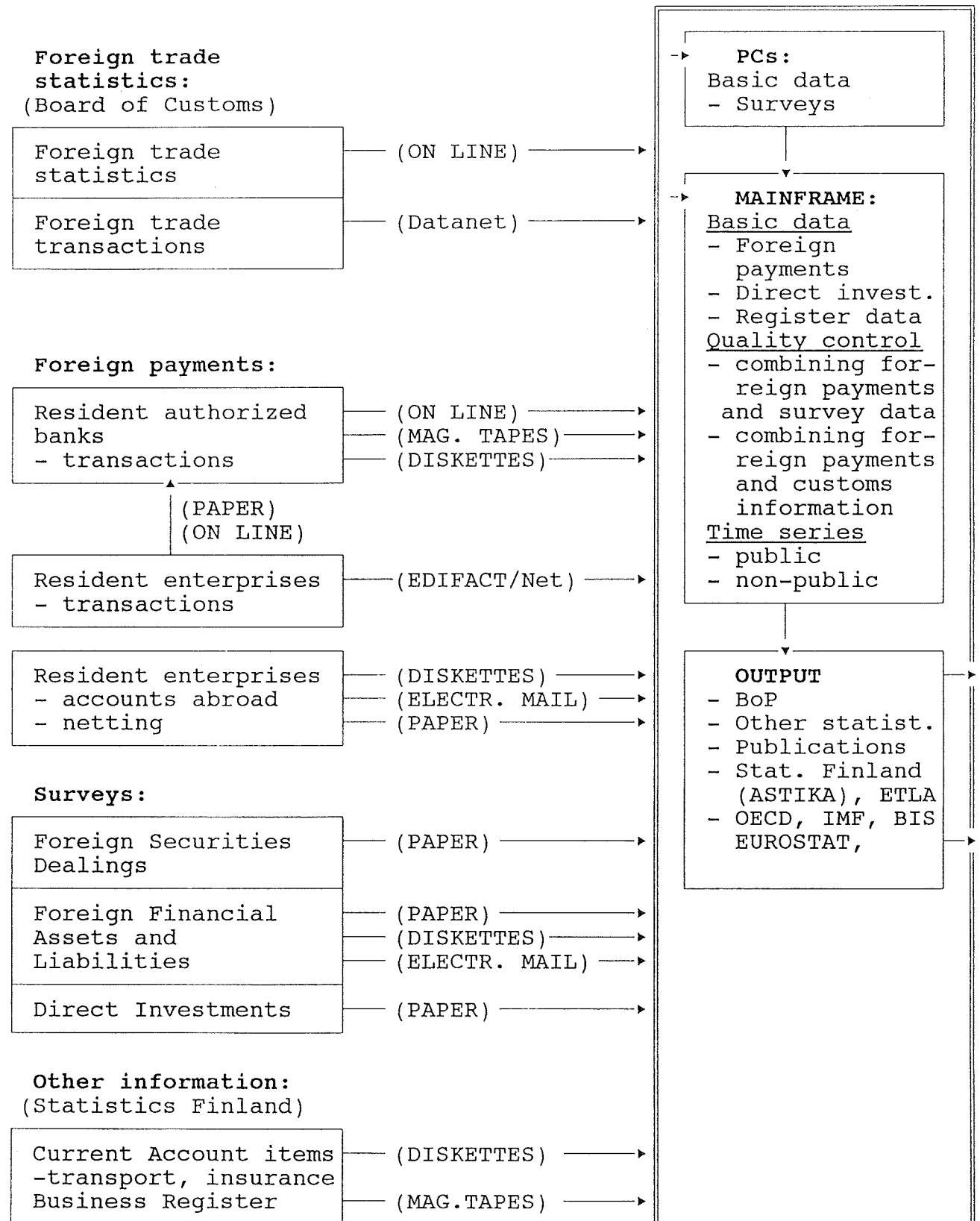
- Papers that usually give the holder the unconditional right to receive a stated, fixed sum of money on a specified date
- Maturity: one year or less
- e.g. treasury bills, commercial papers, negotiable certificates of deposits, bankers' acceptances

Derivatives

- Options and futures on currencies, interest rates, commodities etc.
- Warrants
- Swaps

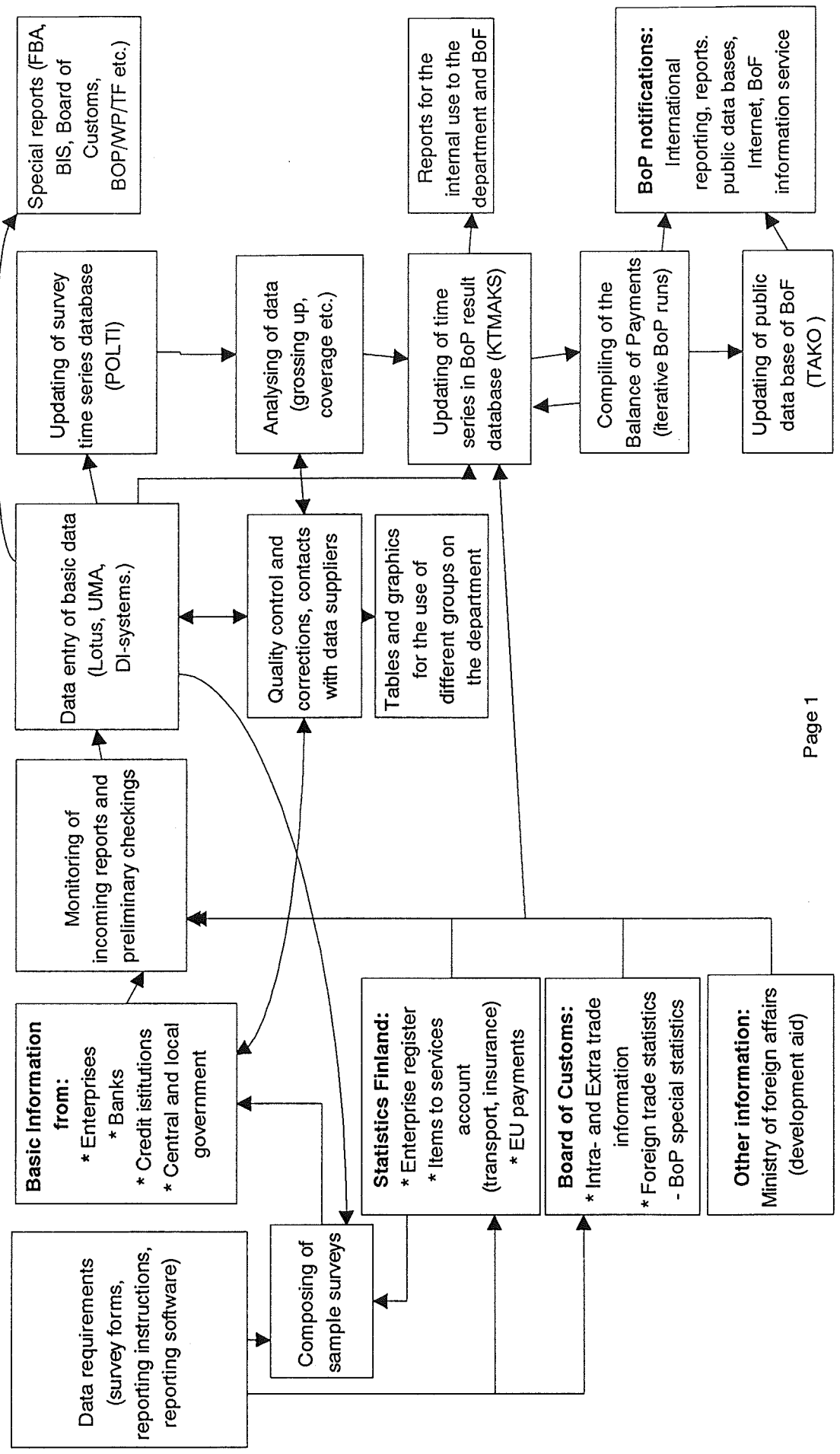
BALANCE OF PAYMENTS REPORTING FLOWS, GENERAL DESCRIPTION:

BANK OF FINLAND
 Statistical Serv. Dept.



WORK FLOW DIAGRAM OF COMPILING THE BALANCE OF PAYMENTS

C:\DATA\ABC\TP_PROSE.AF2
 Wednesday, 15 November, 1995
 15:51 Lasse Nordquist

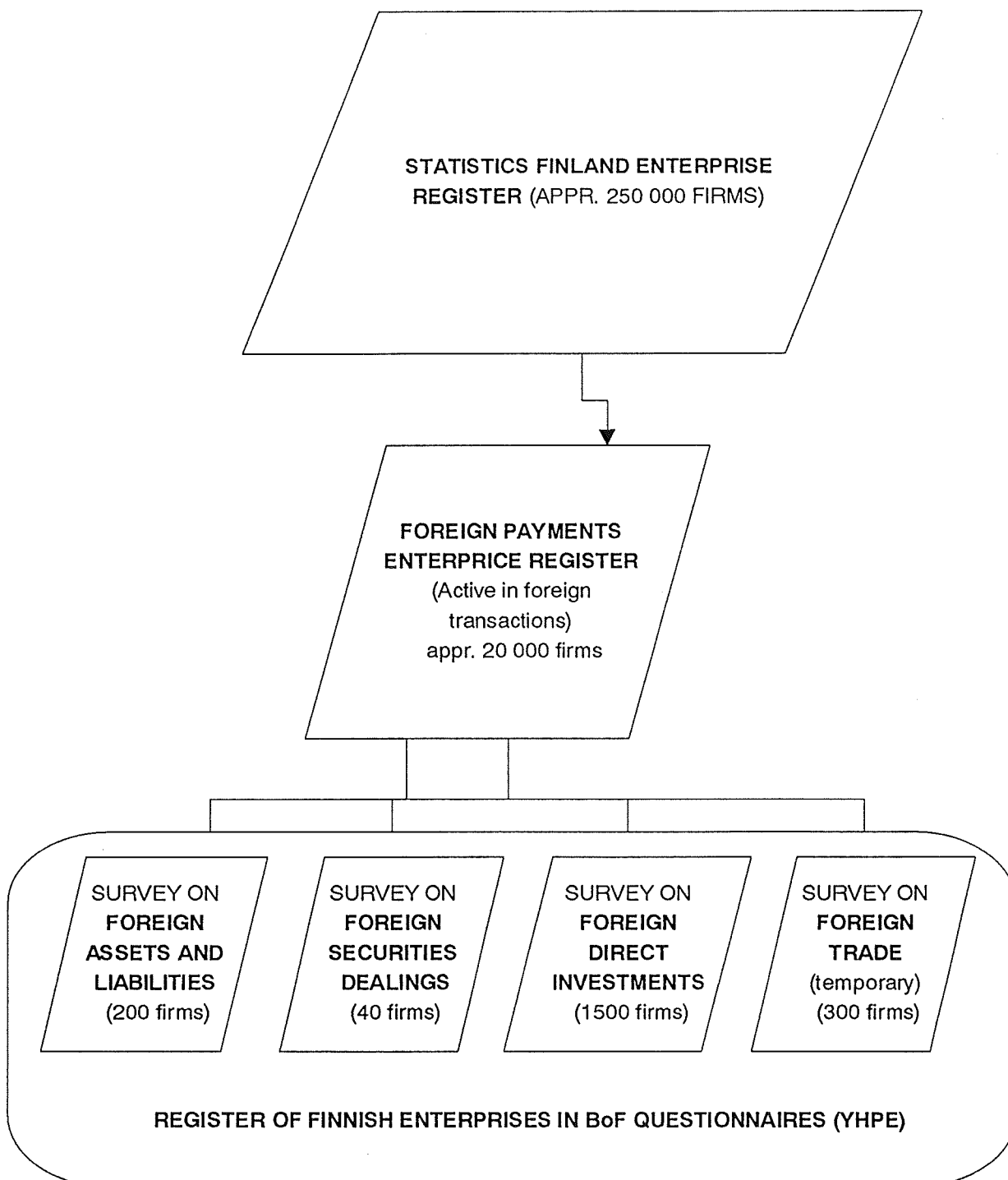


C:\DATA\ABC\REG.AF2

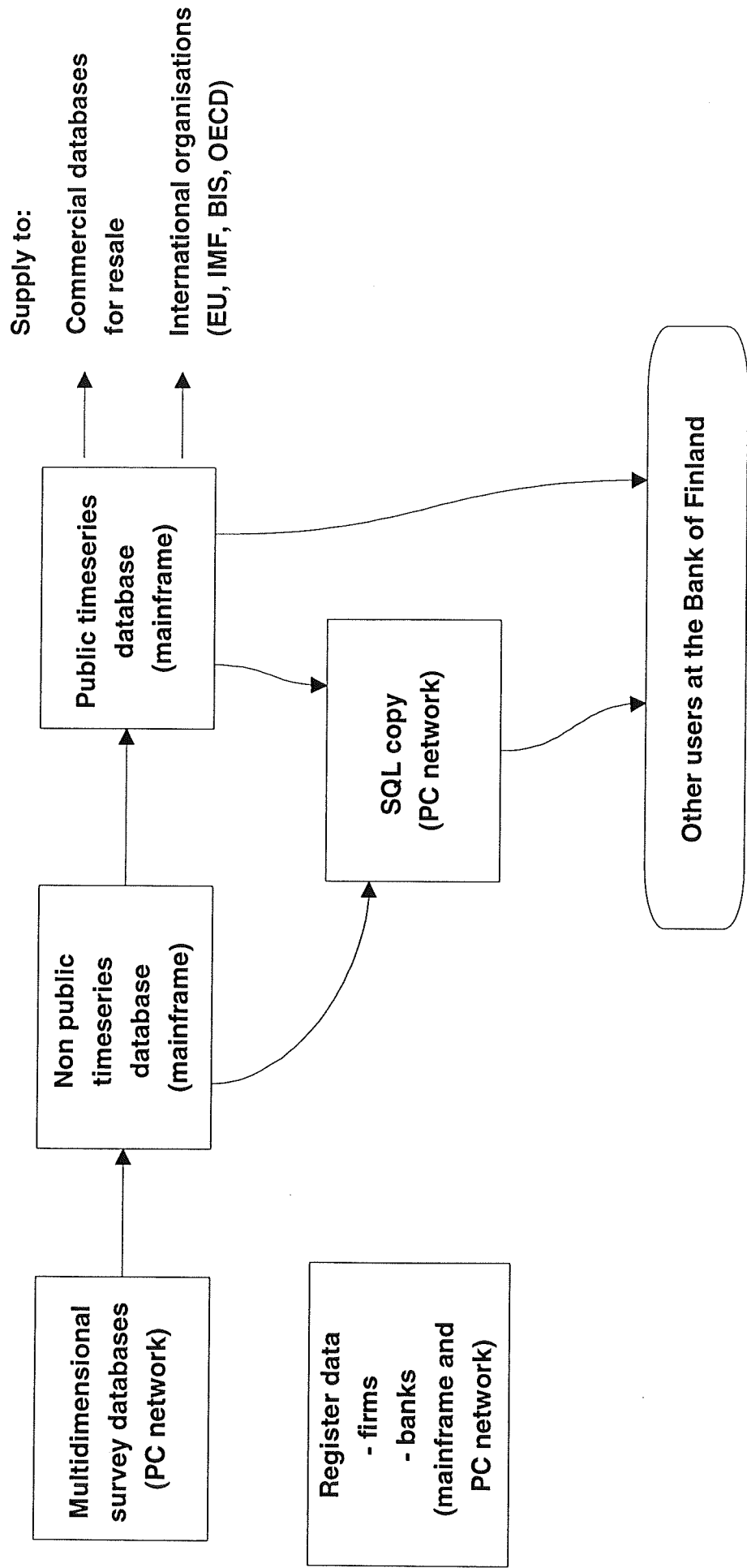
Tuesday, 7 November, 1995

9:47 Lasse Nordquist

REGISTER USE IN DETERMING THE BoP SURVEY POPULATIONS



THE STRUCTURE OF DATABASES IN THE COMPILATION OF THE BoP STATISTICS



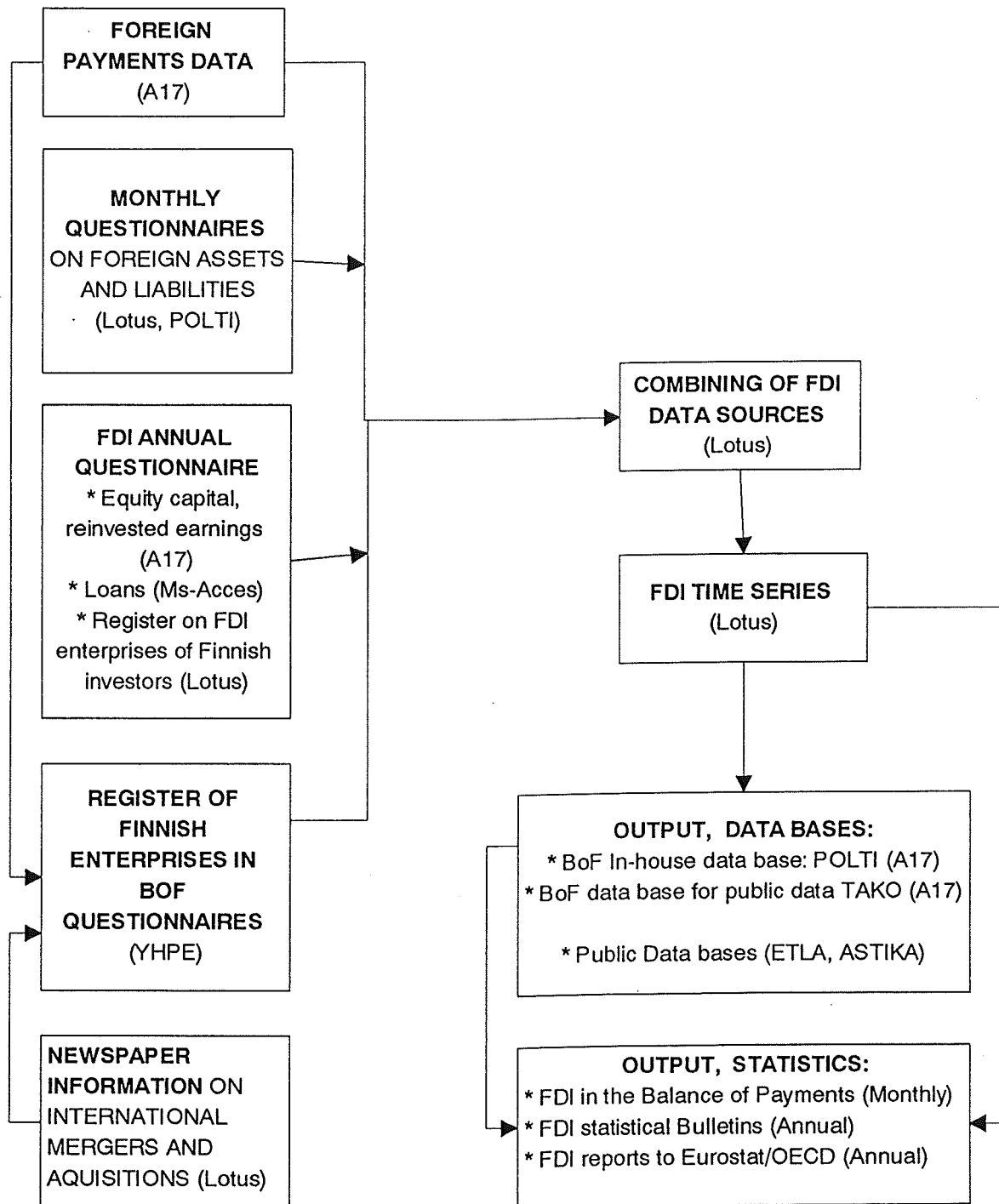
C:\DATA\ABC\FDI_BPF.AF2

Wednesday, 8 November, 1995 9:30

Airi Heikkilä

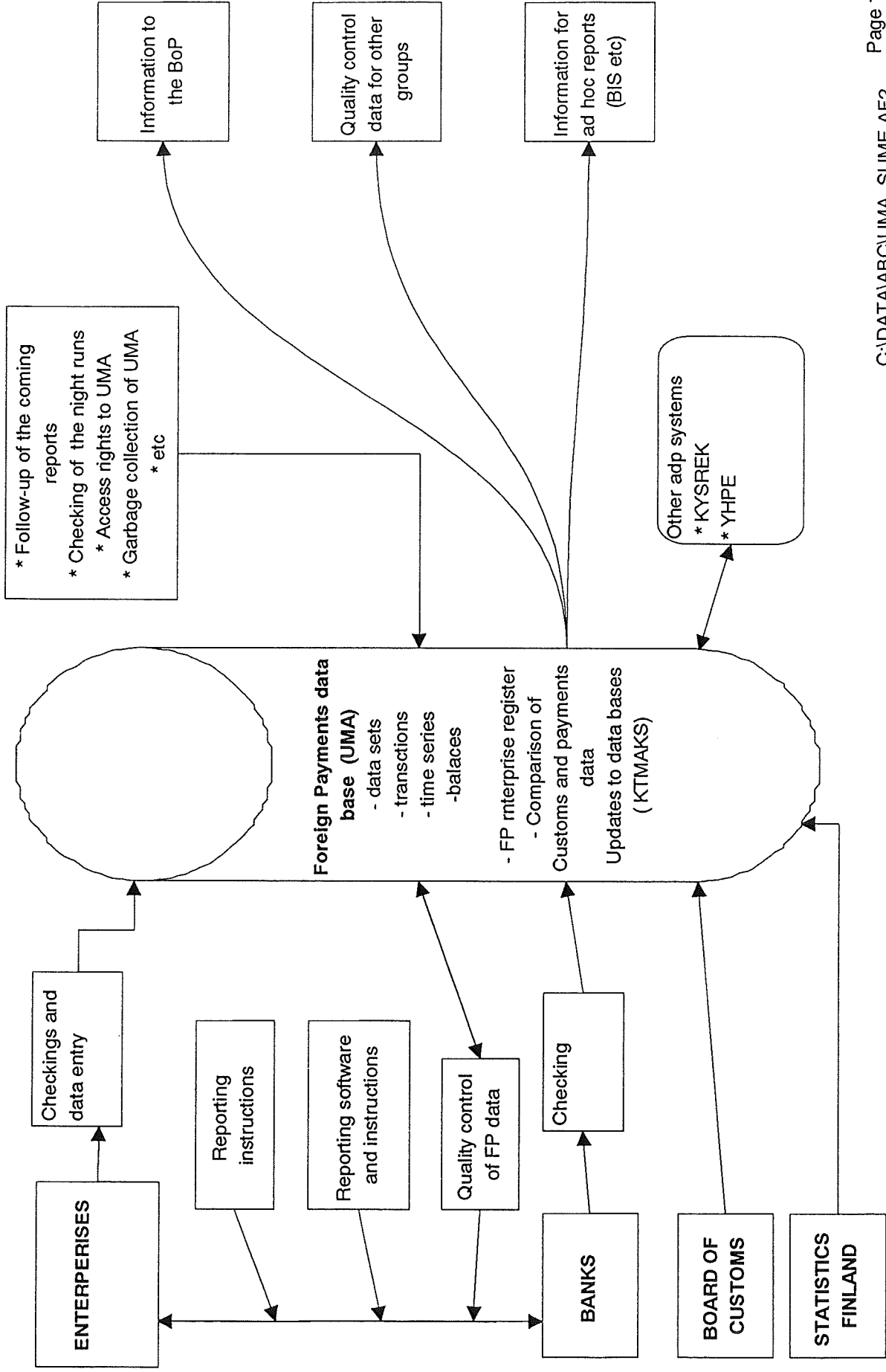
Lasse Nordquist

FOREIGN DIRECT INVESTMENT (FDI) DATA PROCESSING FLOWS

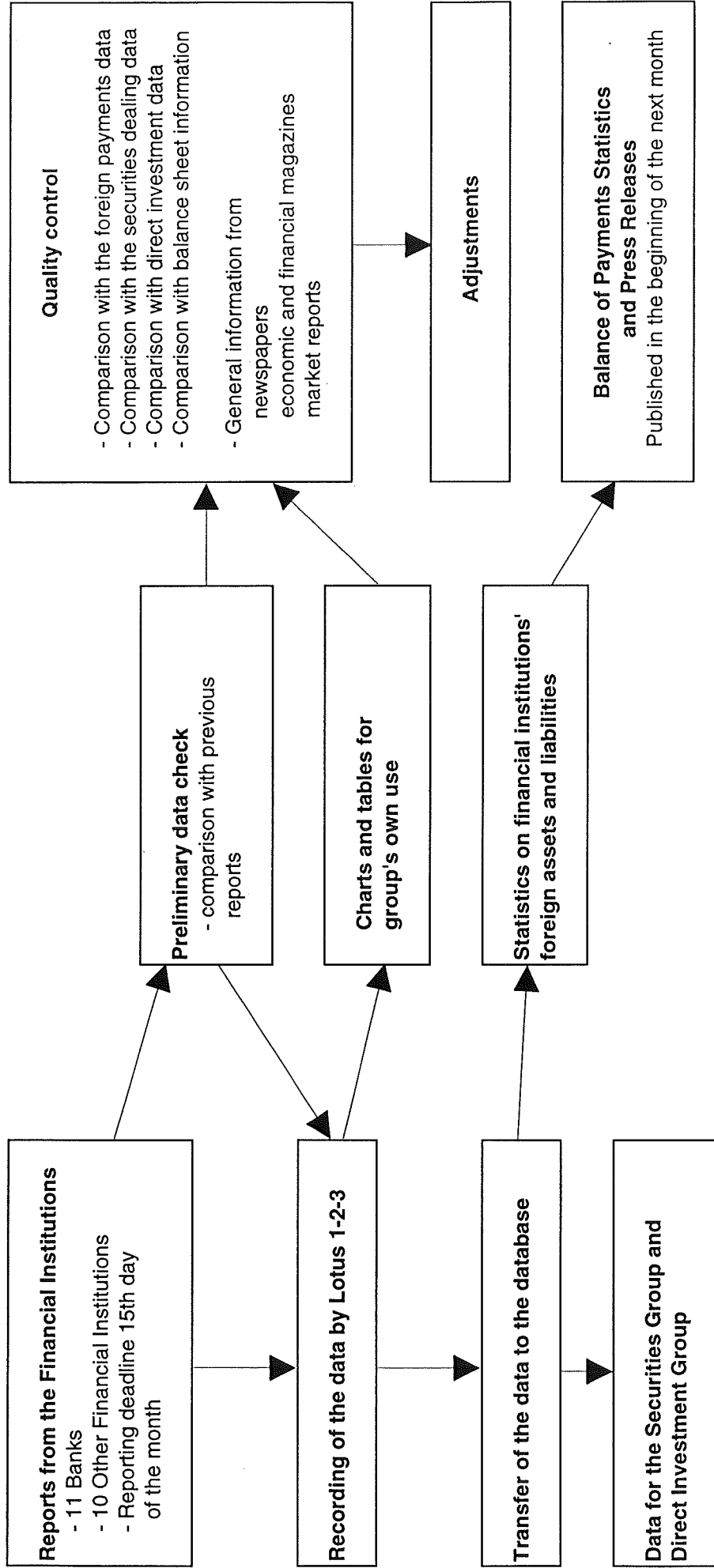


Wednesday, 29 November, 1995
16:19 L. Nordquist

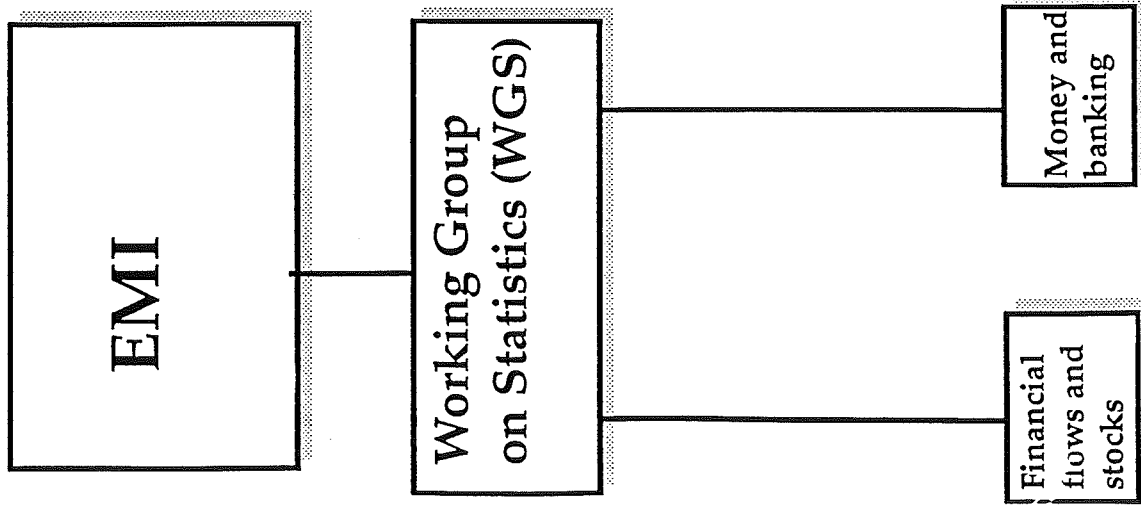
WORKFLOW DIAGRAM OF THE FOREIGN PAYMENTS GROUP



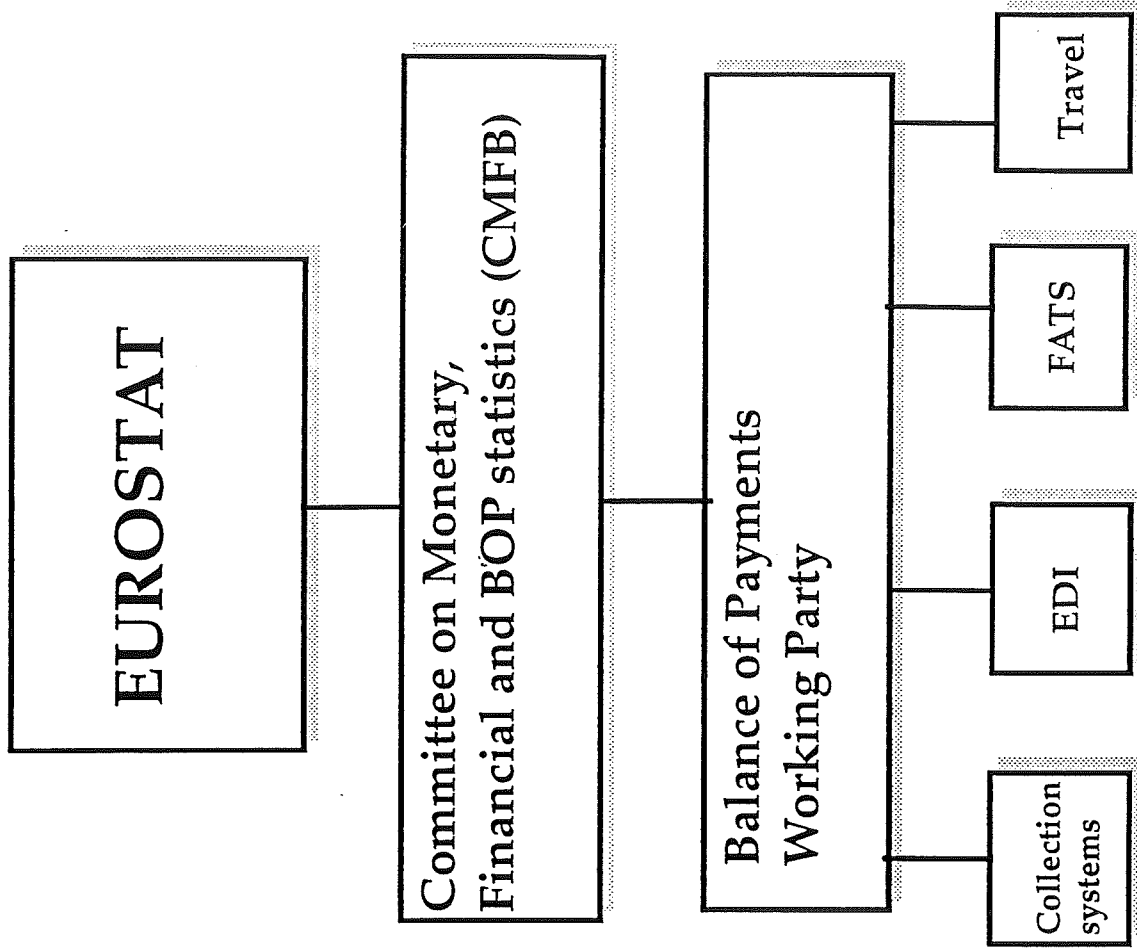
WORK FLOW CHART OF THE FINANCIAL INSTITUTIONS GROUP



NCBS



EU COMMISSION



STATISTICS FINLAND

BANK OF FINLAND

**MARKET
OPERATIONS
DEPT.**

**MONETARY
POLICY
DEPT.**

**INFORMATION
SERVICES
DEPT.**

**ECONOMICS
DEPT.**

**FINANCIAL
MARKETS
DEPT.**

**FINANCIAL
SUPERVISION**

**RESEARCH
DEPT.**

BIS

**EMI
(WGS)**

**EUROSTAT
(CMFB)**

IMF

OECD

STATISTICS FINLAND

- * NATIONAL ACCOUNTS (ESA/SNA)
- * BANKING STATISTICS
- * PRICE INDICES

BANK OF FINLAND

INFORMATION SERVICES DEPARTMENT

- * BALANCE OF PAYMENTS STATISTICS
- * FORWARD EXCHANGE STATISTICS
- * COORDINATION
 - COMPILATION OF DATA
 - DATA BANKS

MONETARY POLICY DEPARTMENT

- * FINANCIAL MARKET STATISTICS
- * MONEY AND BANKING STATISTICS

FINANCIAL MARKETS DEPARTMENT

- * STRUCTURAL DATA ON FINANCIAL INSTITUTIONS

ECONOMICS DEPARTMENT

- * FLOW OF FUNDS STATISTICS

FINANCIAL SUPERVISION

- * RISK MONITORING



MONITORING OF FINANCIAL MARKETS

BALANCE OF PAYMENTS

- * SURVEYS ON
 - FOREIGN ASSETS / LIABILITIES
 - DIRECT INVESTMENTS
 - SECURITIES TRADE

RESPONDENTS:

- FINANCIAL INSTITUTIONS
 - CORPORATIONS
- MONTHLY,
ANNUALLY

- * FOREIGN PAYMENTS VIA BANKS
- DIRECTLY FROM CORPORATIONS:
- FOREIGN ACCOUNTS, NETTINGS

A) MONEY AND BANKING STATISTICS

- * BALANCE SHEETS
- * INTEREST RATES
- * MONEY MARKET LIQUIDITY
- * LENDING
- * MONETARY AGGREGATES AND DEPOSITS

RESPONDENTS:

- BANKS
- MONTHLY

B) CORPORATE FINANCIAL SURVEY

- #### RESPONDENTS:
- 900 CORPORATIONS
- SEMIANNUALLY

FINANCIAL SUPERVISION DATA

- * CURRENCY EXPOSURE
- * PROFIT / LOSS ACCOUNT
- * RISK SURVEYS
 - FINANCIAL
 - INTEREST RATE
 - COUNTRY

RESPONDENTS:

- BANKS AND CREDIT INSTITUTIONS
- DAILY,
MONTHLY,
ANNUALLY

STATISTICS AVAILABLE:

- * REUTERS, STARTEL, TELERATE
- * FINANCIAL MARKETS STATISTICAL REVIEW
- * BALANCE OF PAYMENTS STATISTICAL BULLETINS:
 - MONTHLY AND ANNUAL BOP
 - DIRECT INVESTMENT
 - PORTFOLIO INVESTMENT
- * BANK OF FINLAND BULLETIN
- * PUBLIC DATABASES:
 - ETLATIETO LTD
 - STATISTICS FINLAND
- * EU (EMI, EUROSTAT), IMF, OECD, BIS

INFORMATION SERVICES DEPARTMENT

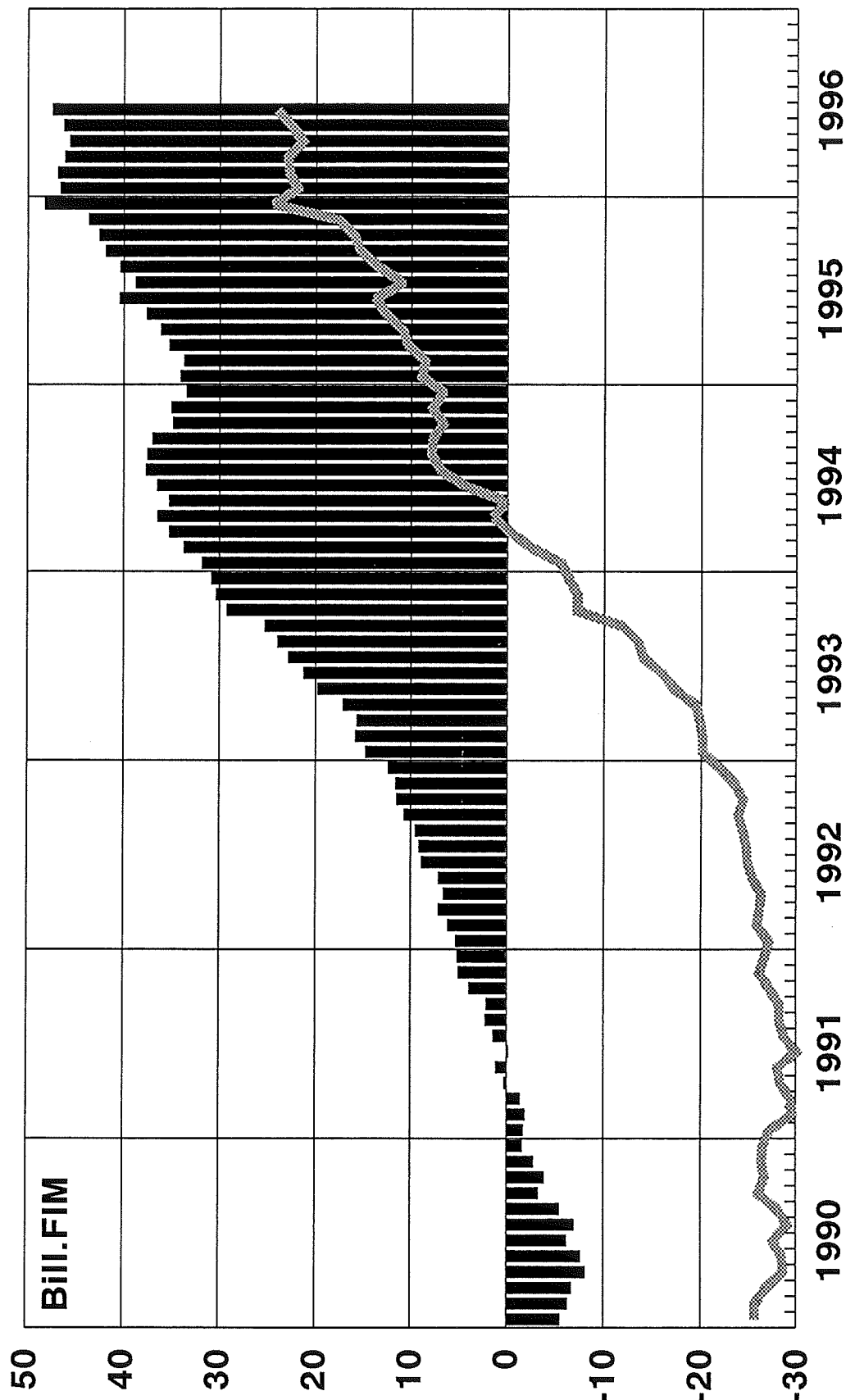
Head of Department
Ojanen Esa

Secretary (2)
Hiltunen Tarja

BALANCE OF PAYMENTS OFFICE	INFORMATION MANAGEMENT OFFICE	LIBRARY
Head of Office Nurminen Jarmo	Head of Office Hilpinen Jorma	Head of Office Alakulppi Merja
DATA COLLECTION PORTFOLIO INVESTMENT AND SURVEYS FOR FINANCIAL INSTITUTIONS	COMPILATION AND PUBLISHING REPORTING TO THE INTERNATIONAL ORGANISATIONS AND PUBLISHING	INFORMATION SERVICES LIBRARY SERVICES
DIRECT INVESTMENTS	INTERNAL AND EXTERNAL COORDINATION OF ECONOMIC DATA MANAGEMENT	(1) (3)
FOREIGN PAYMENTS		STATISTICS DESK
ENTERPRISE SURVEYS		(1)

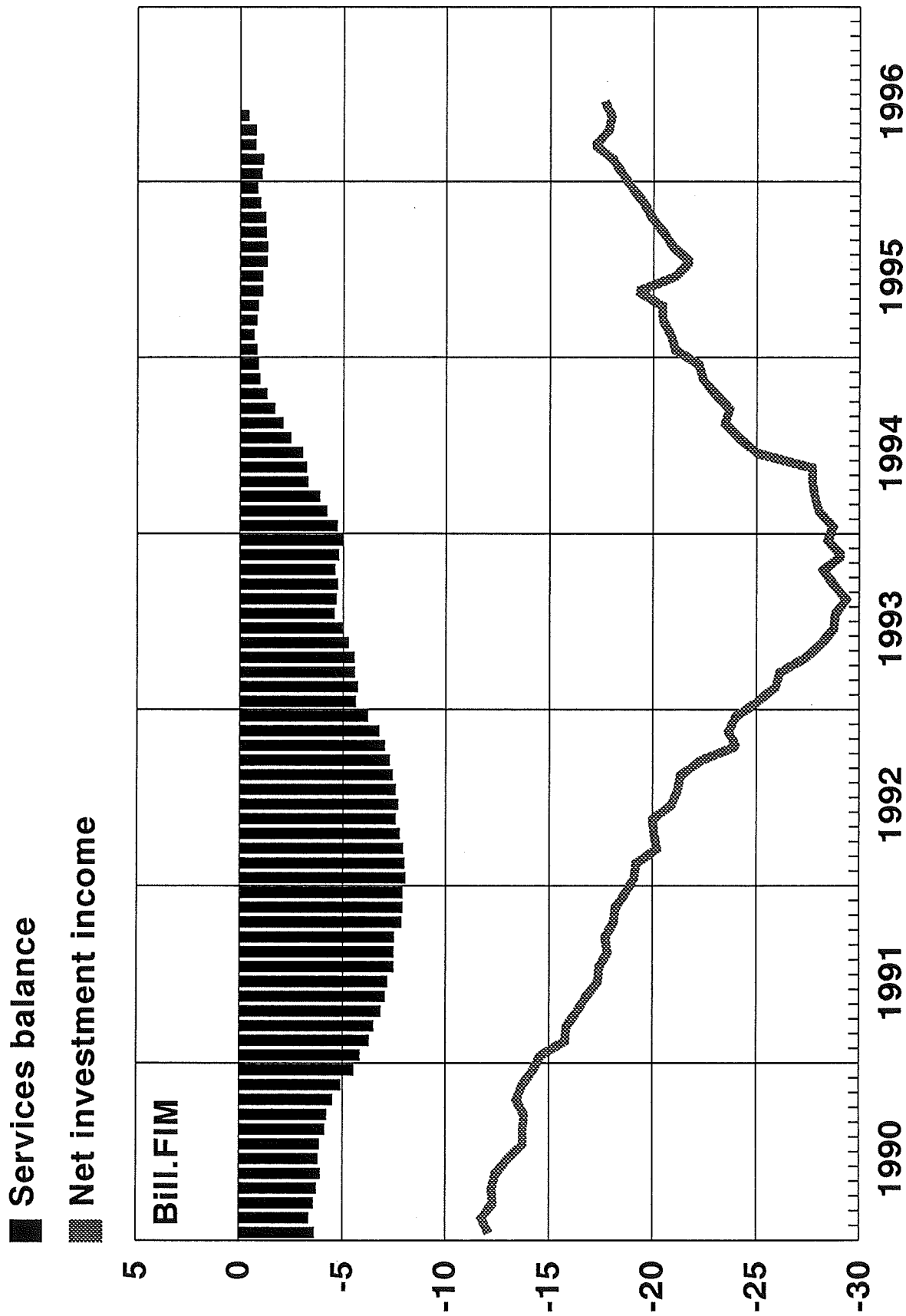
07.08.1996
TRADE AND CURRENT ACCOUNT BALANCES¹¹
12-MONTH MOVING TOTAL_{TP}

- Trade balance
- ▨ Current balance

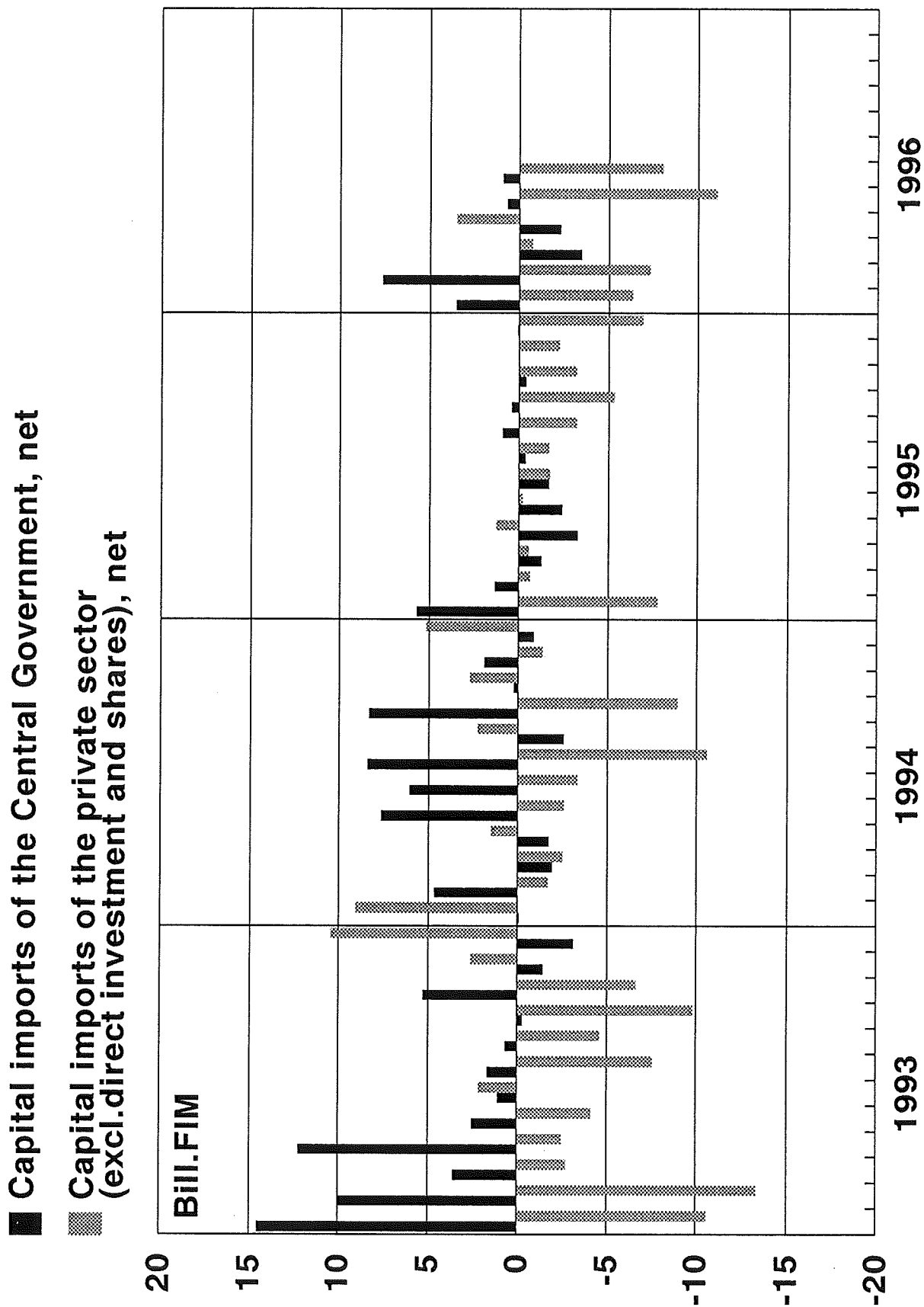


SERVICES BALANCE AND NET INVESTMENT INCOME

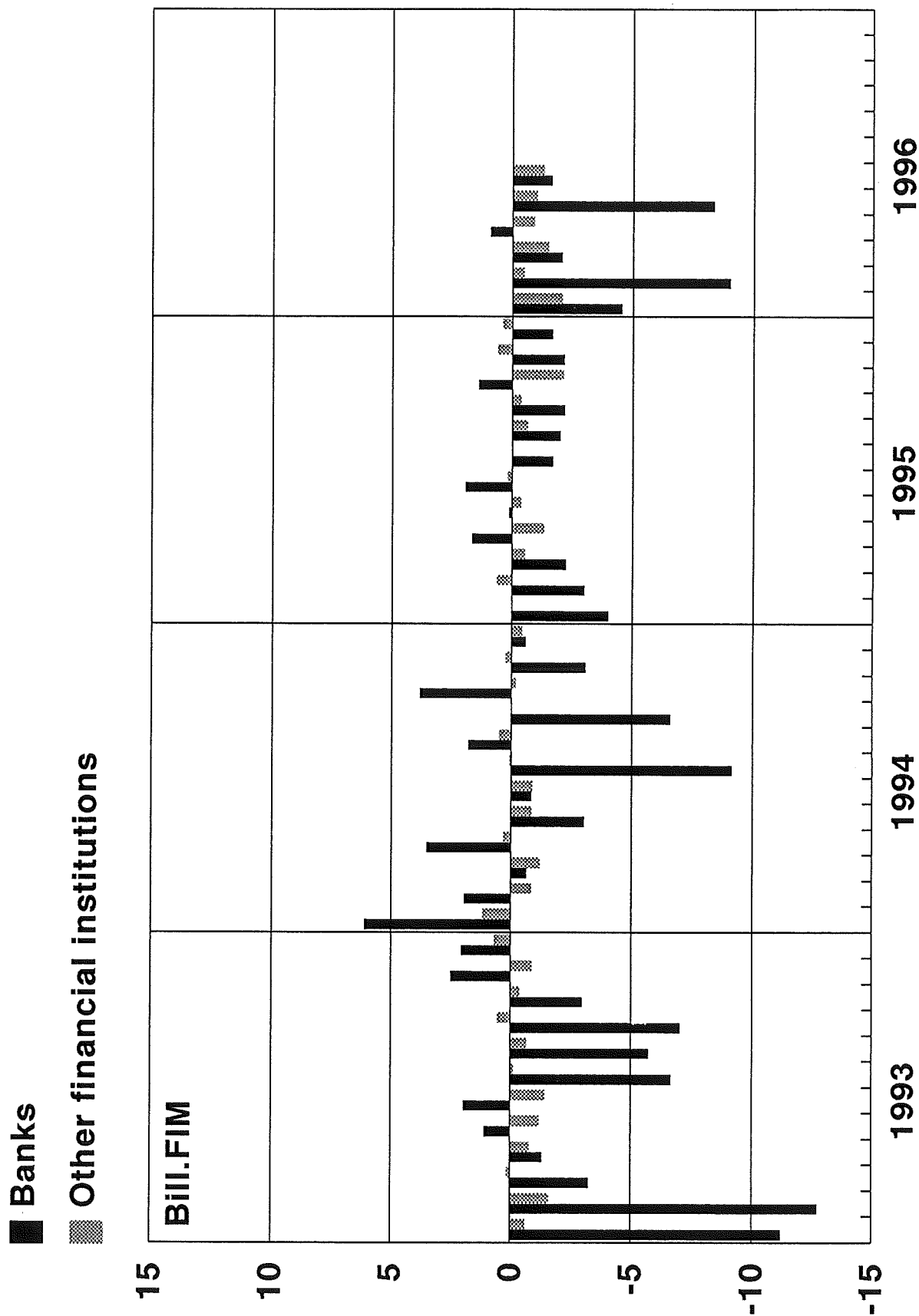
12-MONTH MOVING TOTAL



KEY ITEMS IN THE CAPITAL ACCOUNT



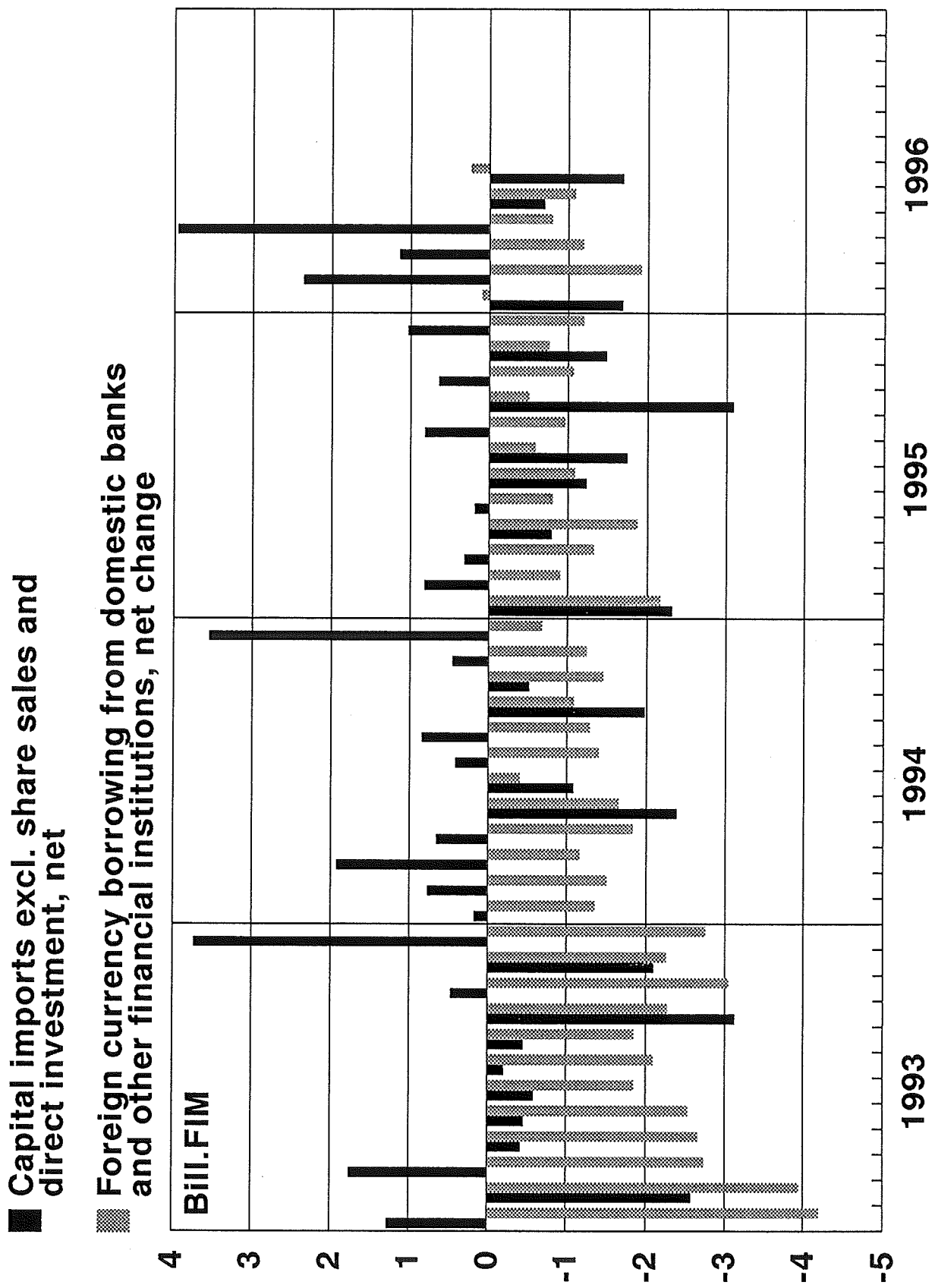
FINANCIAL INSTITUTIONS' CAPITAL IMPORTS NET



07.08.1996

FIRMS' CAPITAL IMPORTS AND FOREIGN CURRENCY BORROWING FROM DOMESTIC SOURCES

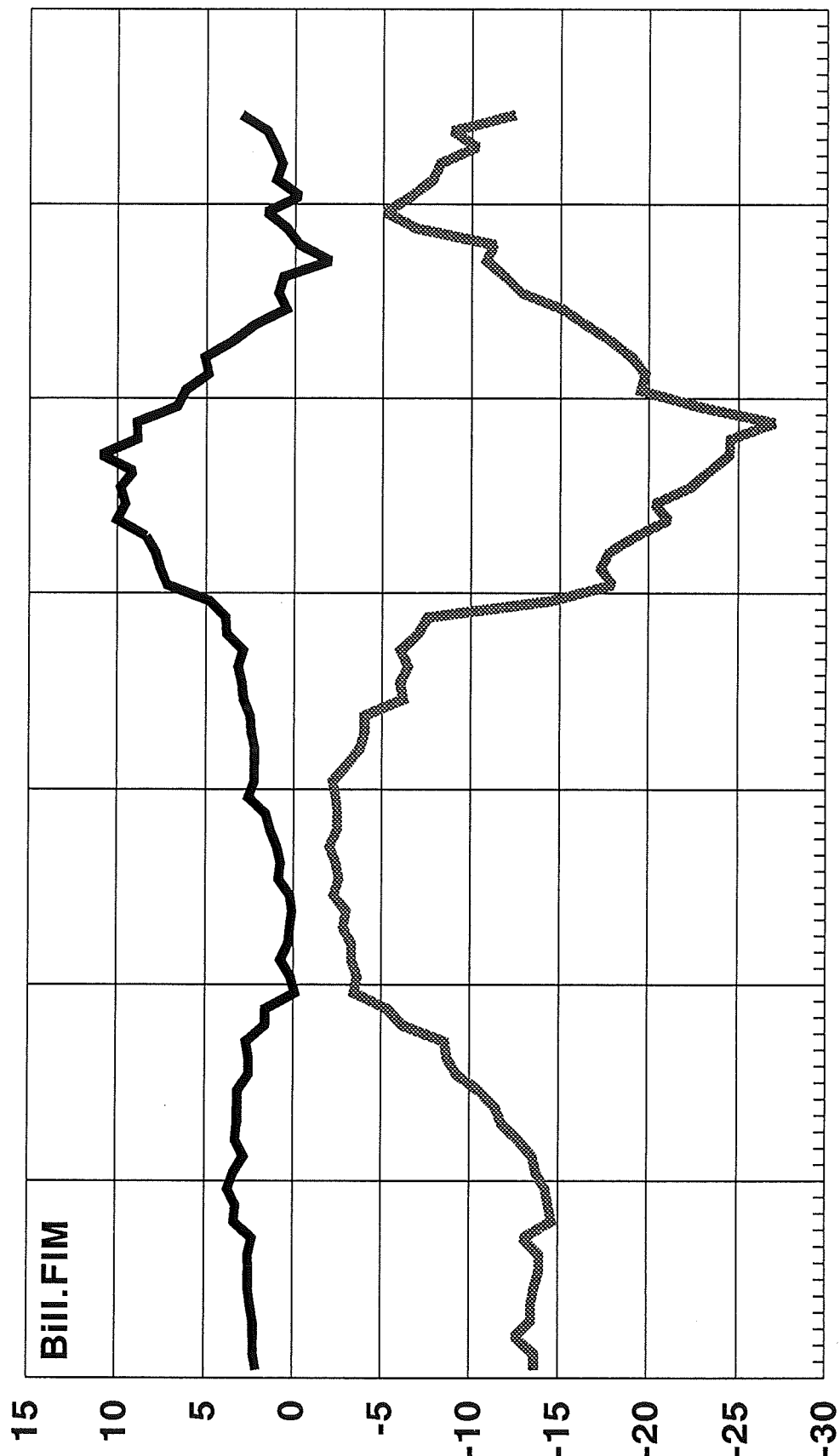
TP



DIRECT INVESTMENT

EXCL. REINVESTED EARNINGS
12-MONTH MOVING TOTAL

■ In Finland ■ Abroad

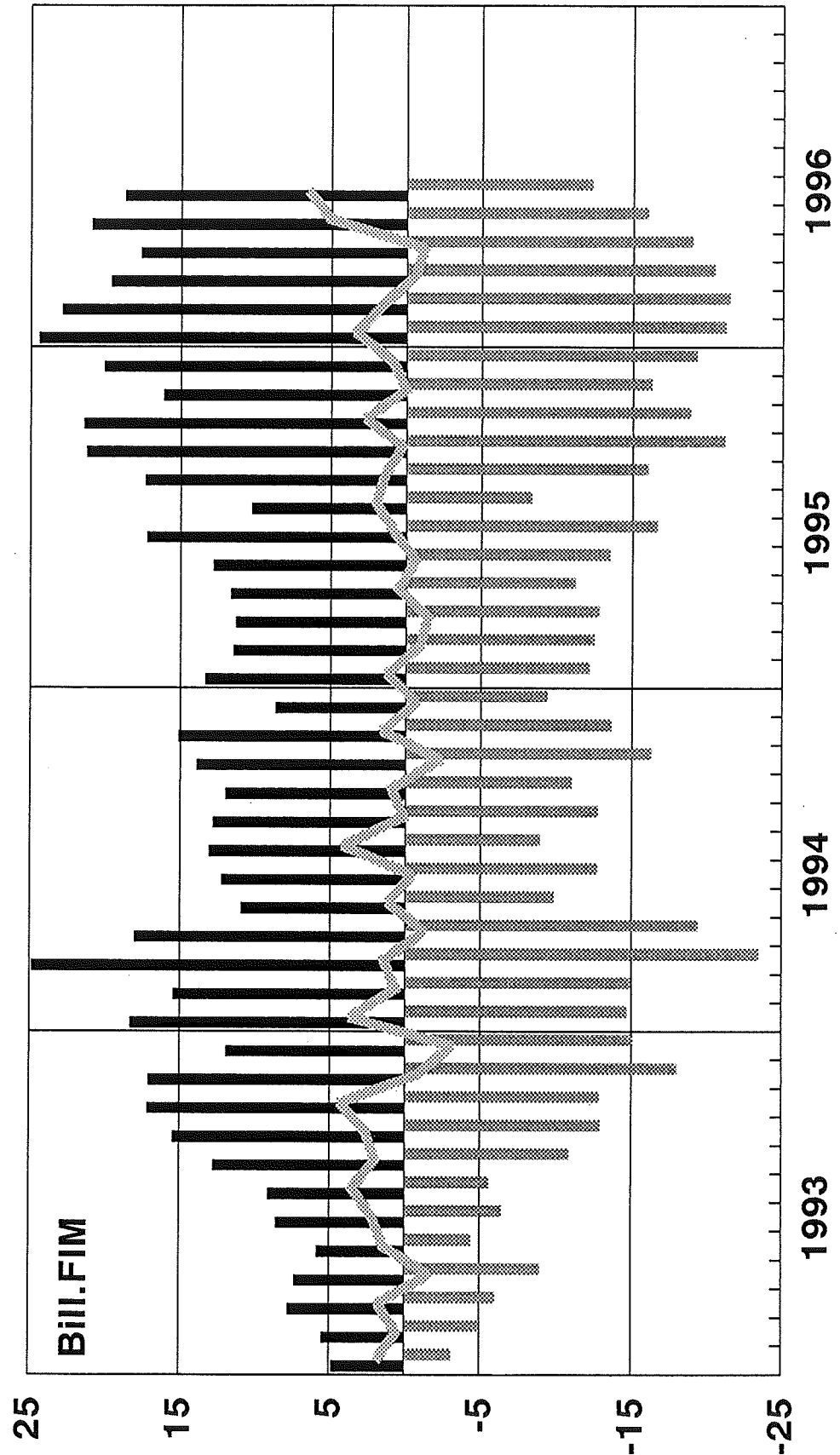


SALES AND PURCHASES OF MARKKA-DENOMINATED SECURITIES

Incl. CDs, TREASURY BILLS AND OTHER

07.08.1996
732
TP

- Sales abroad
- ▒ Repurchases from abroad
- ▓ Net sales

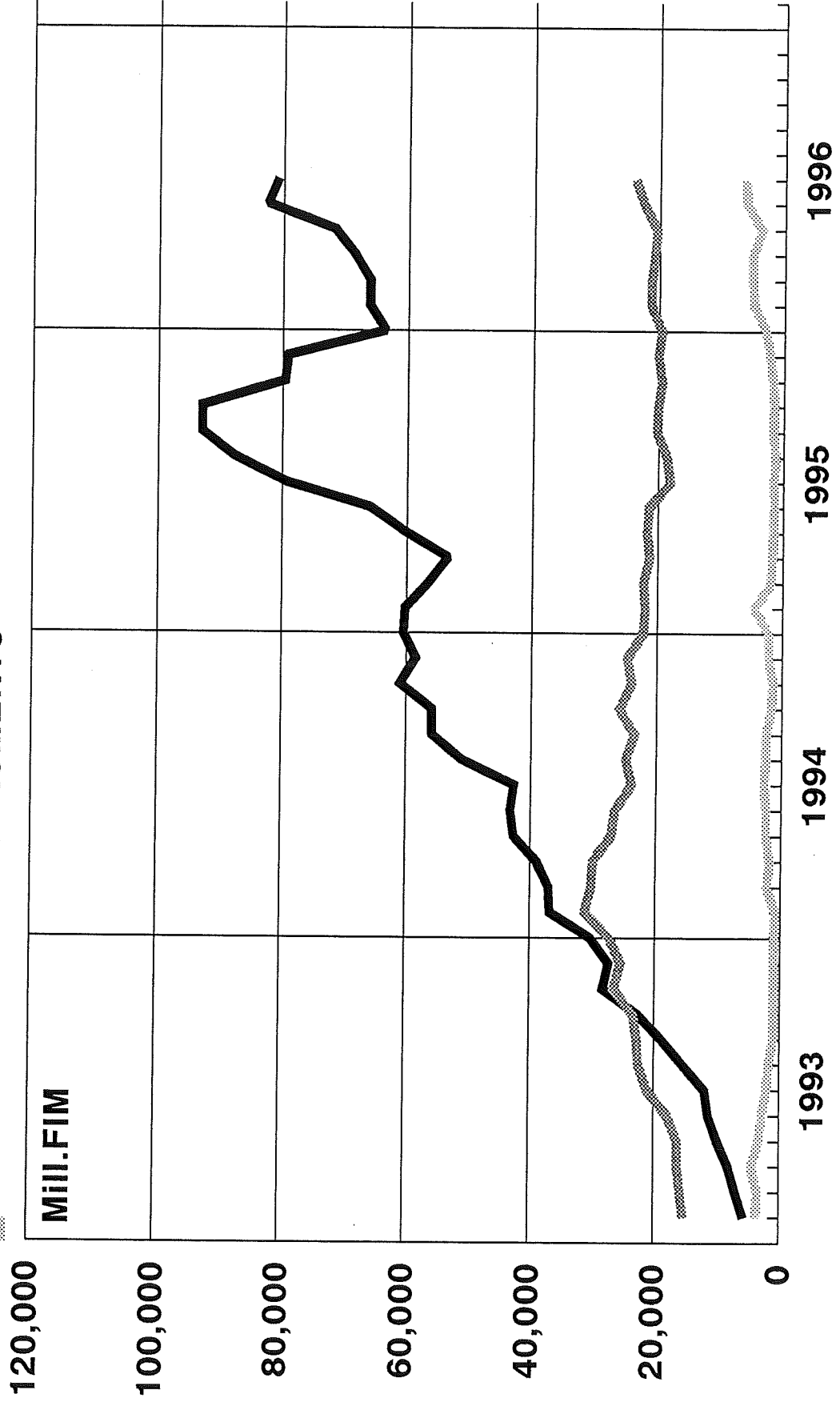


STOCK OF FOREIGN INVESTMENTS IN MARKKA-DENOMINATED SECURITIES

■ SHARES (incl. price changes)

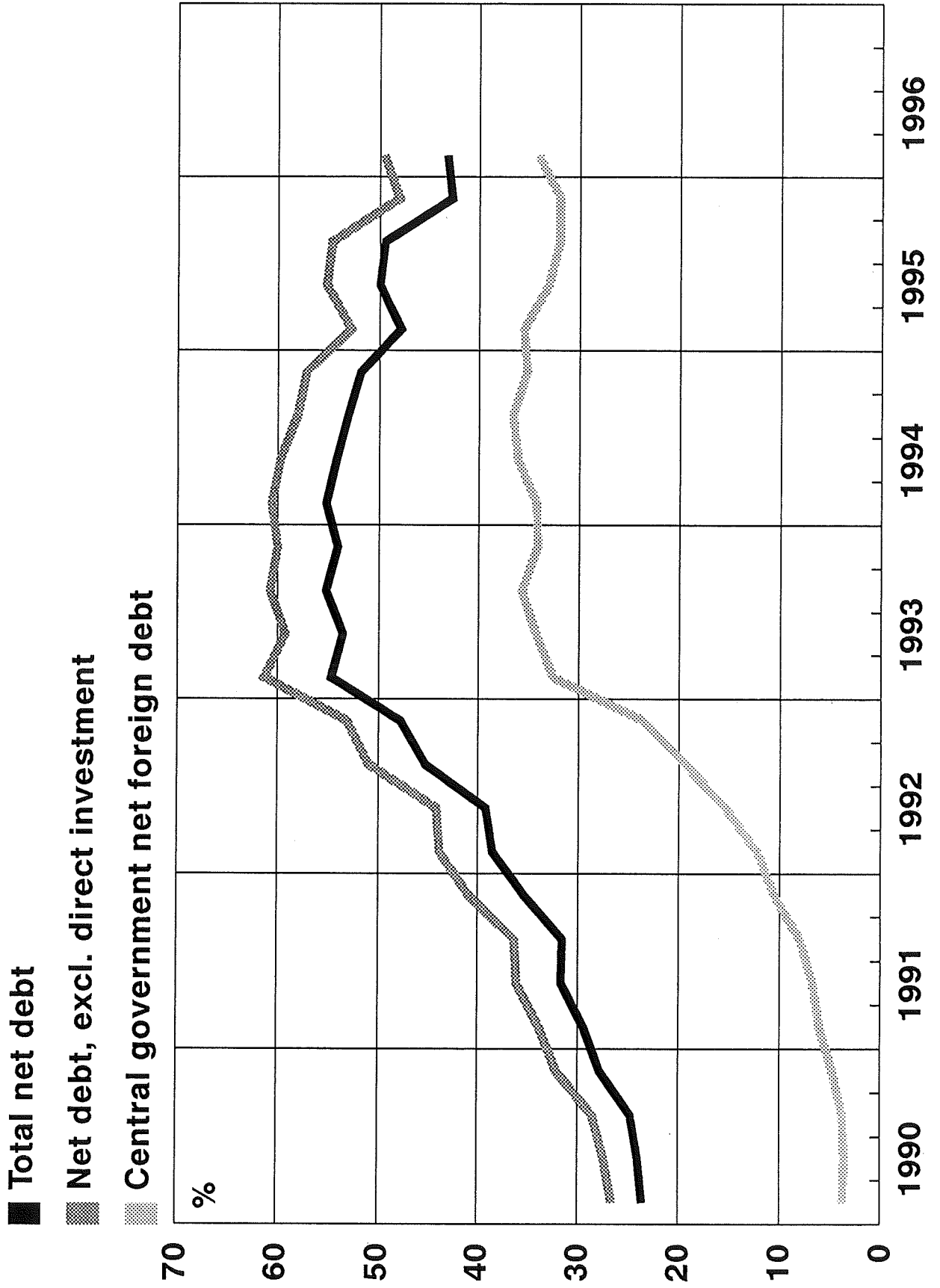
▒ BONDS (incl. capital gains)

▓ MONEY MARKET INSTRUMENTS



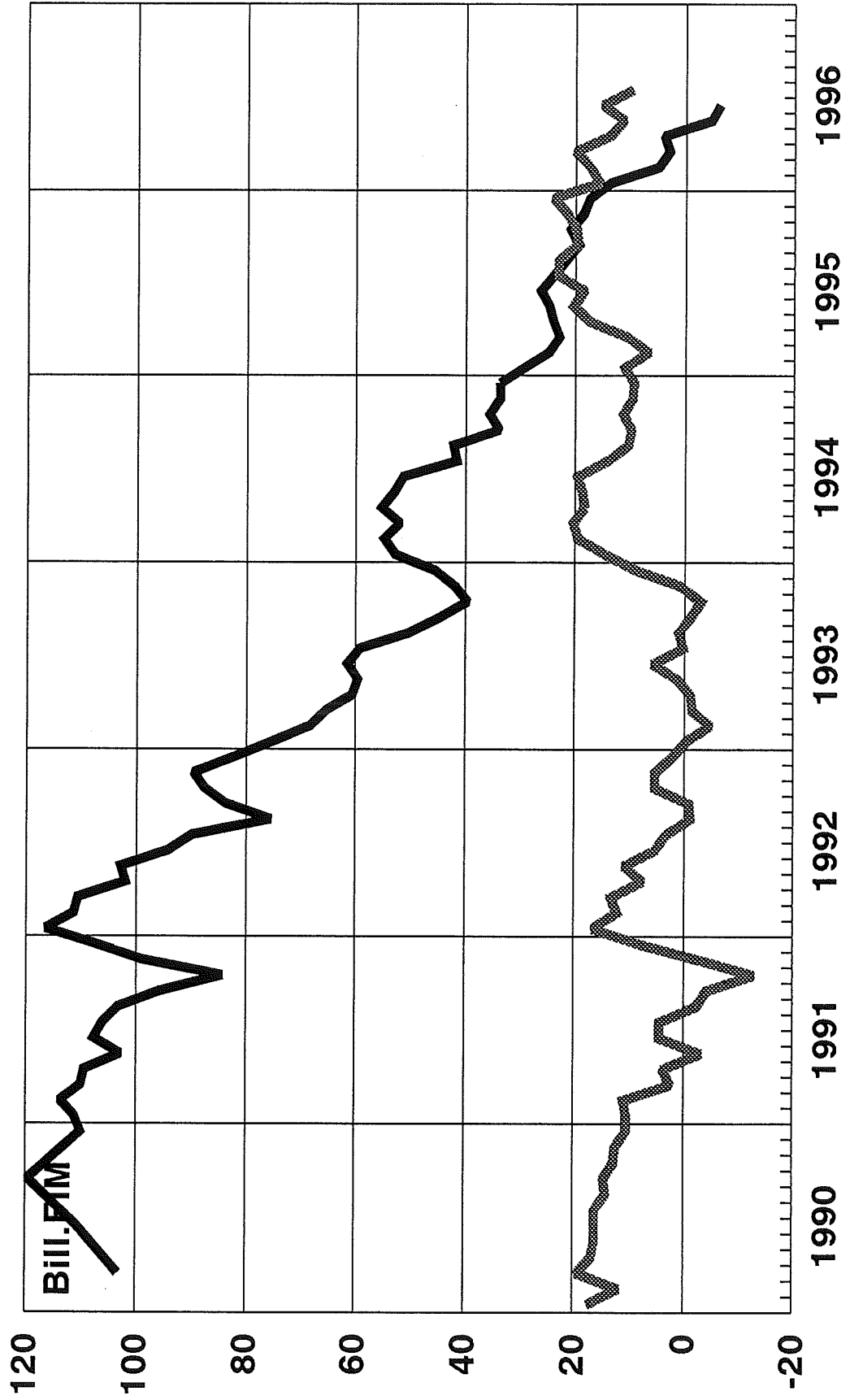
FINLAND'S NET FOREIGN DEBT PER CENT OF GDP

07.08.1996
741
TP



BANKS' NET FOREIGN DEBT

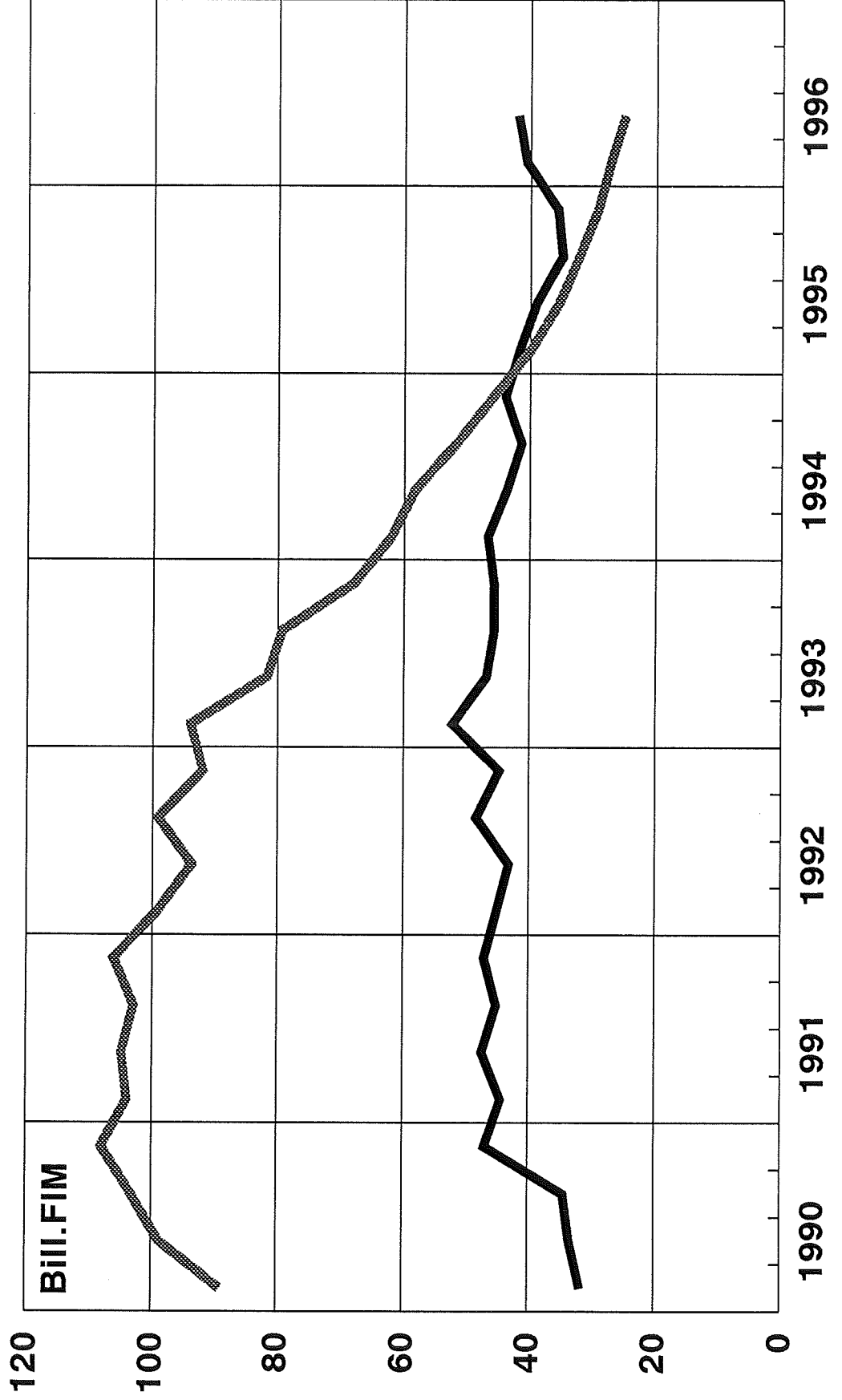
■ Net debt ■ Net forward position



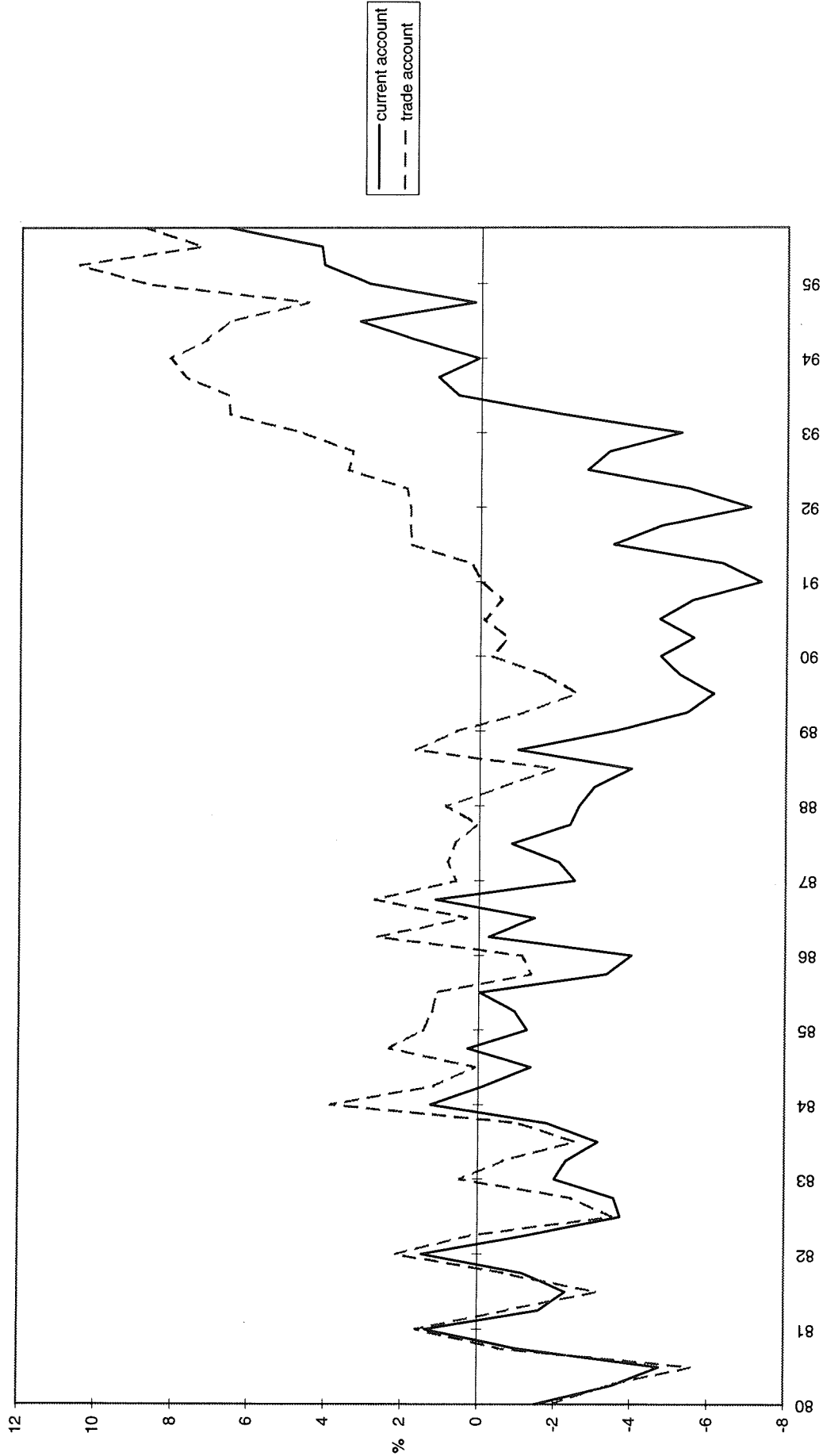
FIRMS' NET FOREIGN DEBT AND FOREIGN CURRENCY BORROWING FROM DOMESTIC SOURCES

■ Net foreign debt excl. direct investment and shares

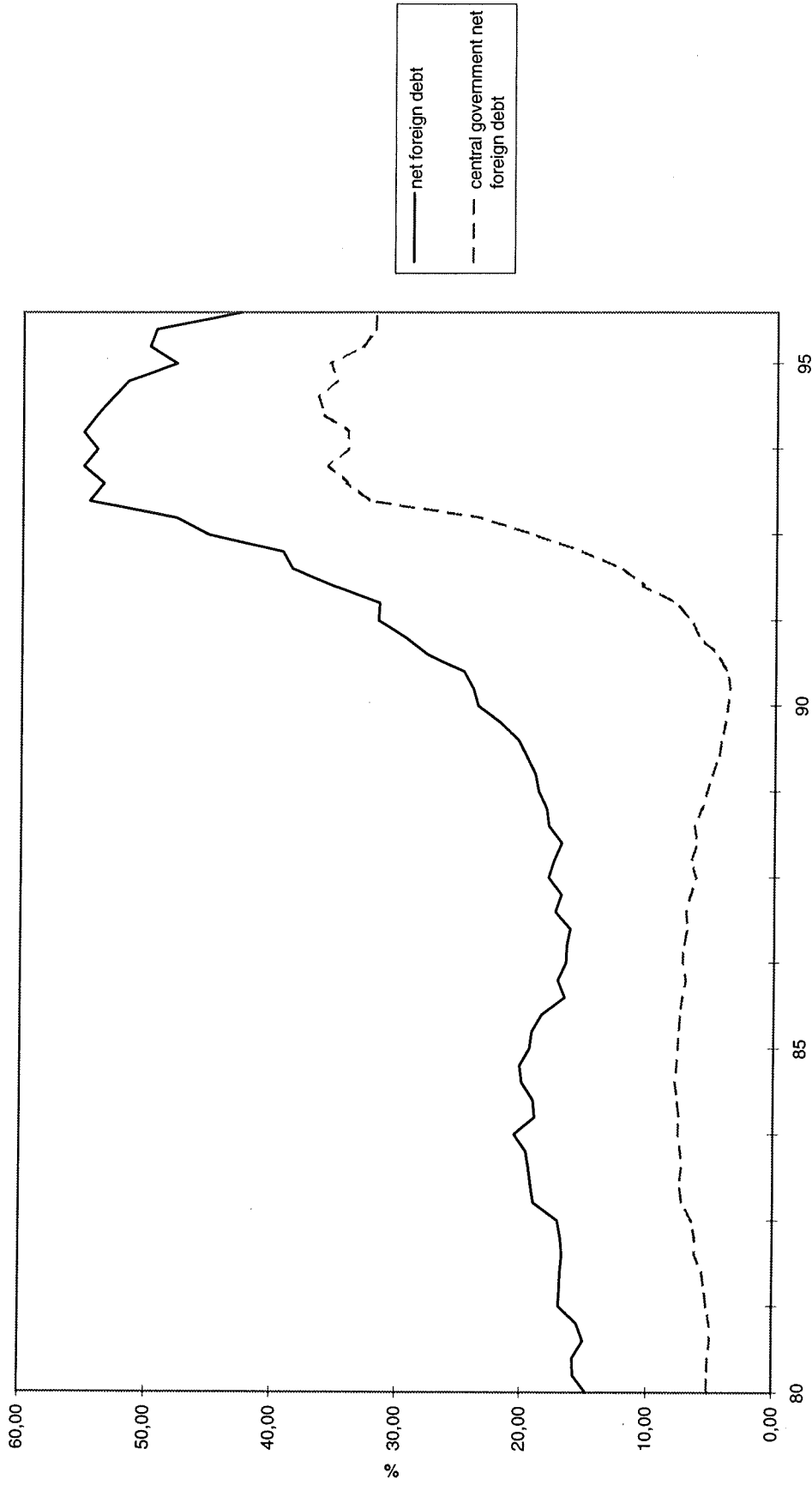
▨ Firms' foreign currency borrowing from domestic sources



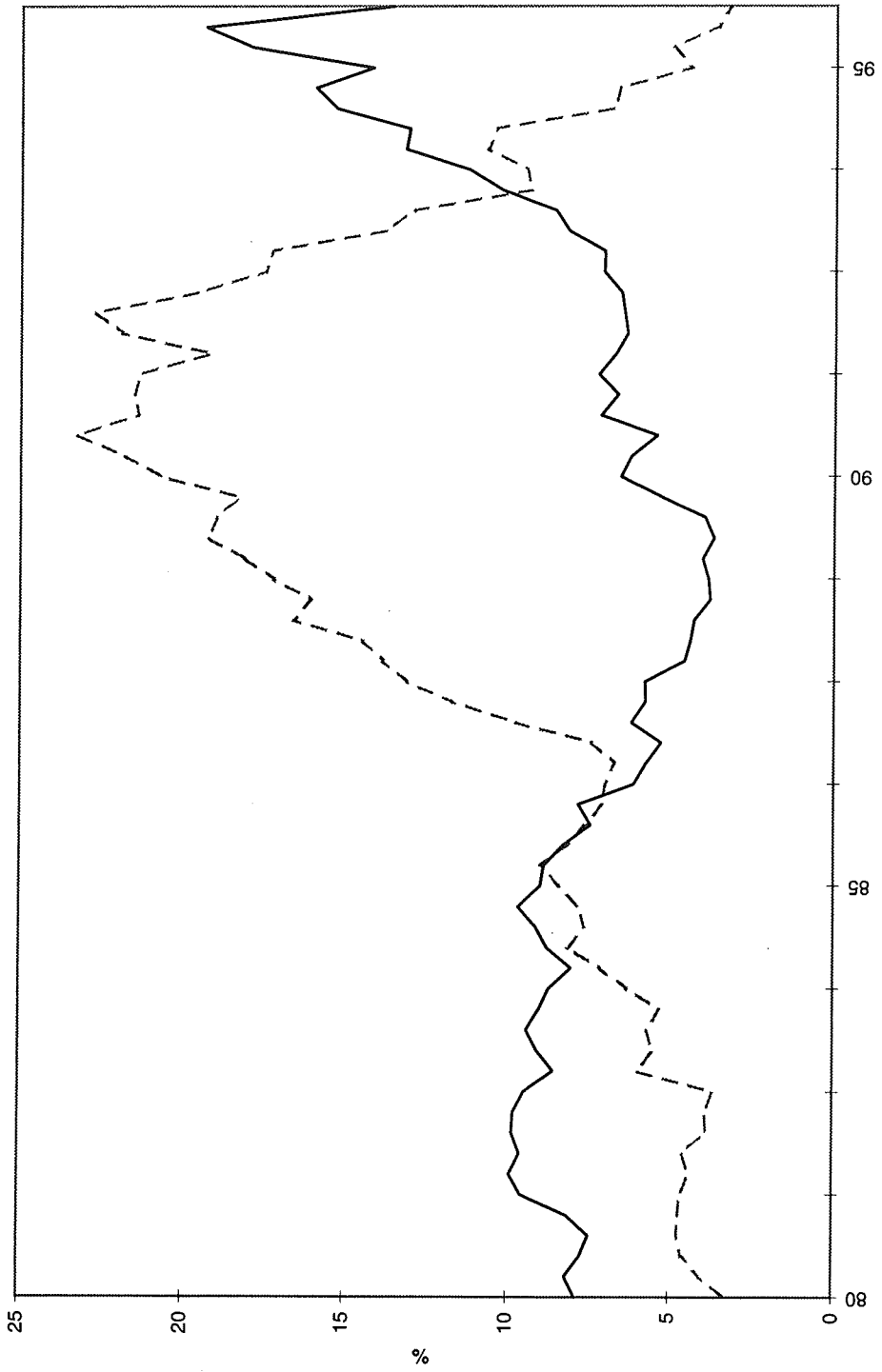
CURRENT AND TRADE ACCOUNT (% OF GDP)



FINLAND'S NET FOREIGN DEBT (% OF GDP)

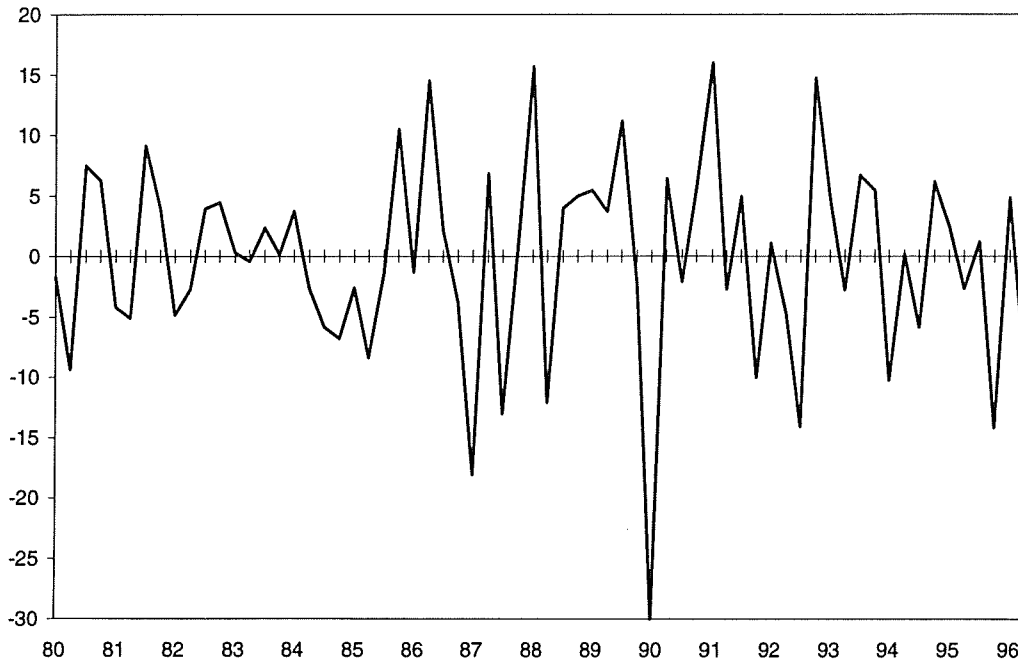


CORPORATE SECTOR AND BANKS: NET FOREIGN DEBT (% OF GDP)



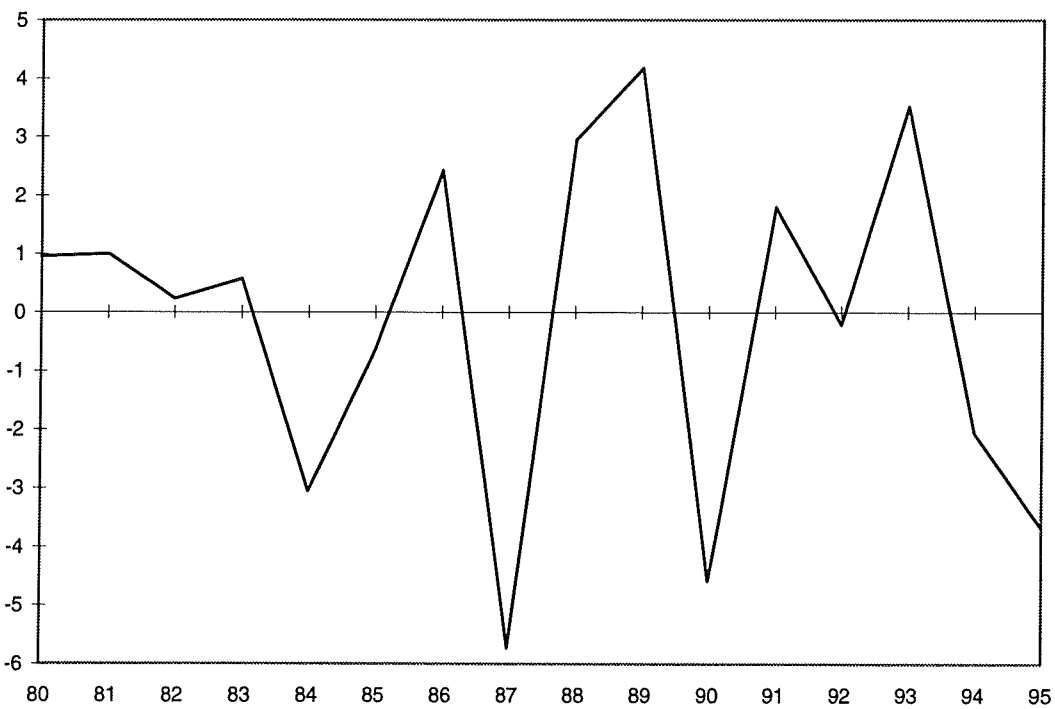
— corporate sector net foreign debt
- - - banks net foreign debt

**ERRORS AND OMISSIONS IN BALANCE OF PAYMENTS
(% OF CURRENT ACCOUNT REVENUE)**



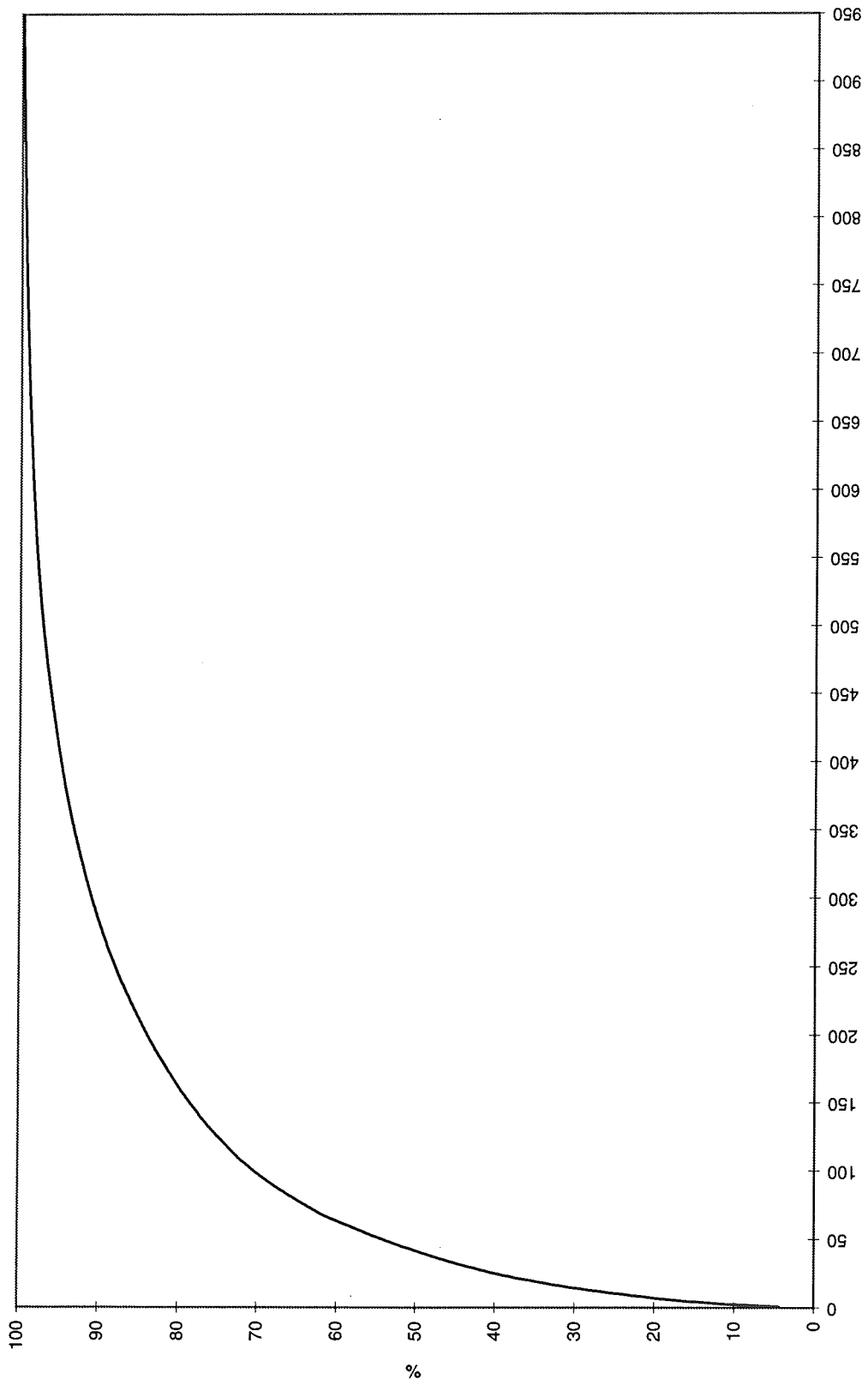
QUARTERLY

**ERRORS AND OMISSIONS IN BALANCE OF PAYMENTS
(% OF CURRENT ACCOUNT REVENUE)**

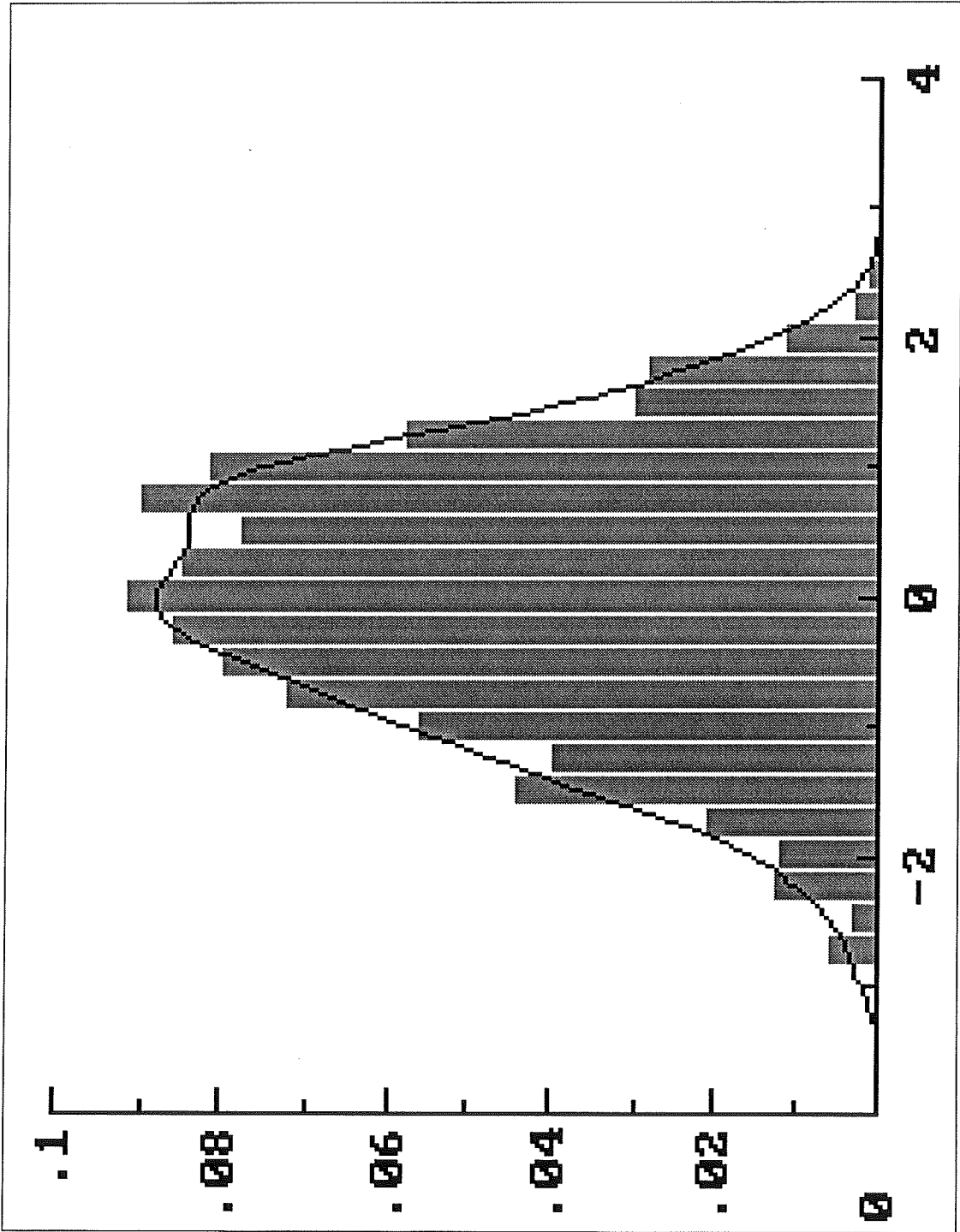


ANNUALLY

DIRECT INVESTMENT ABROAD (CUMULATIVE DISTRIBUTION)



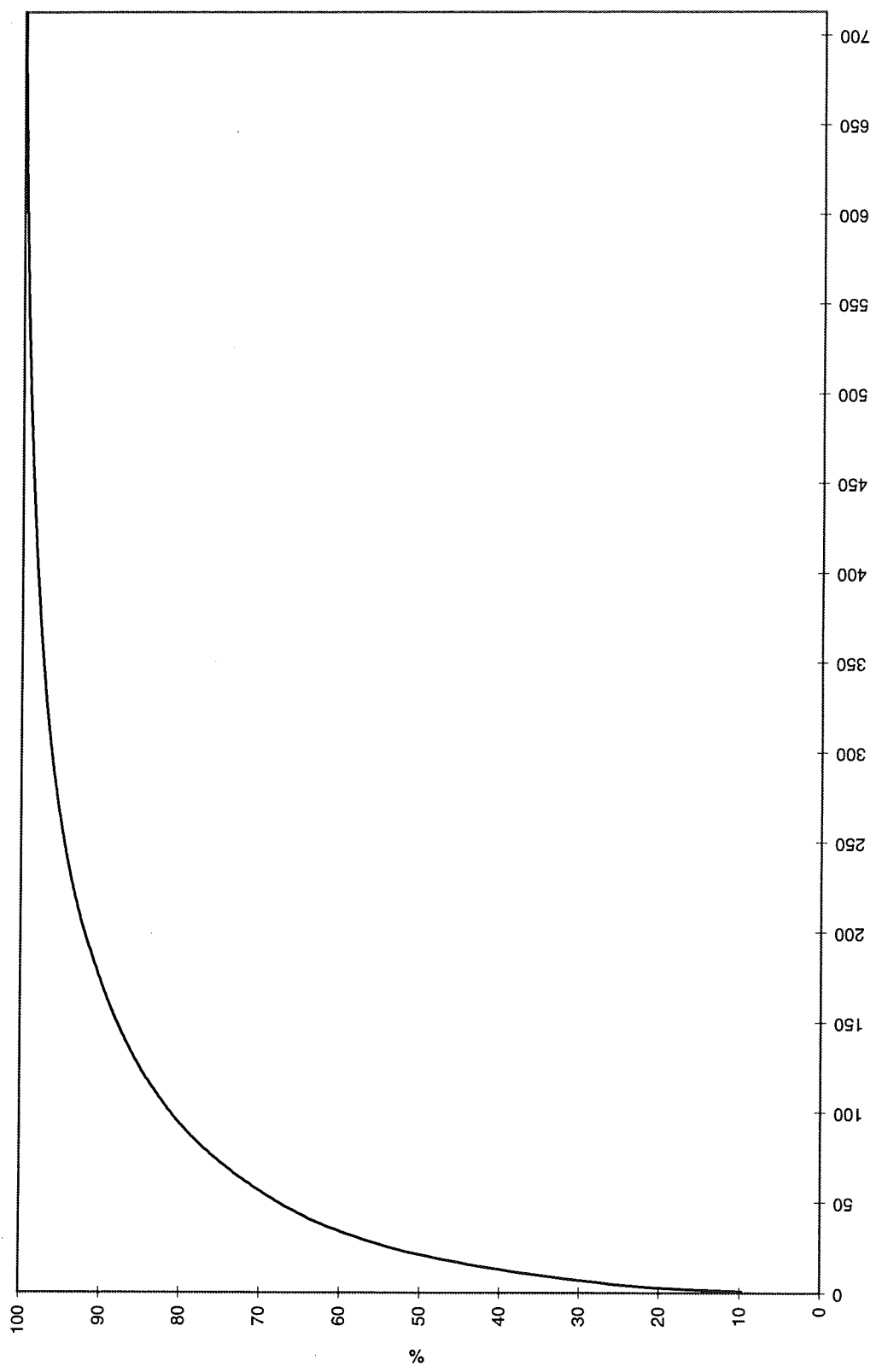
THE FREQUENCE DISTRIBUTION OF DIRECT INVESTMENT ABROAD (IN LOGS)



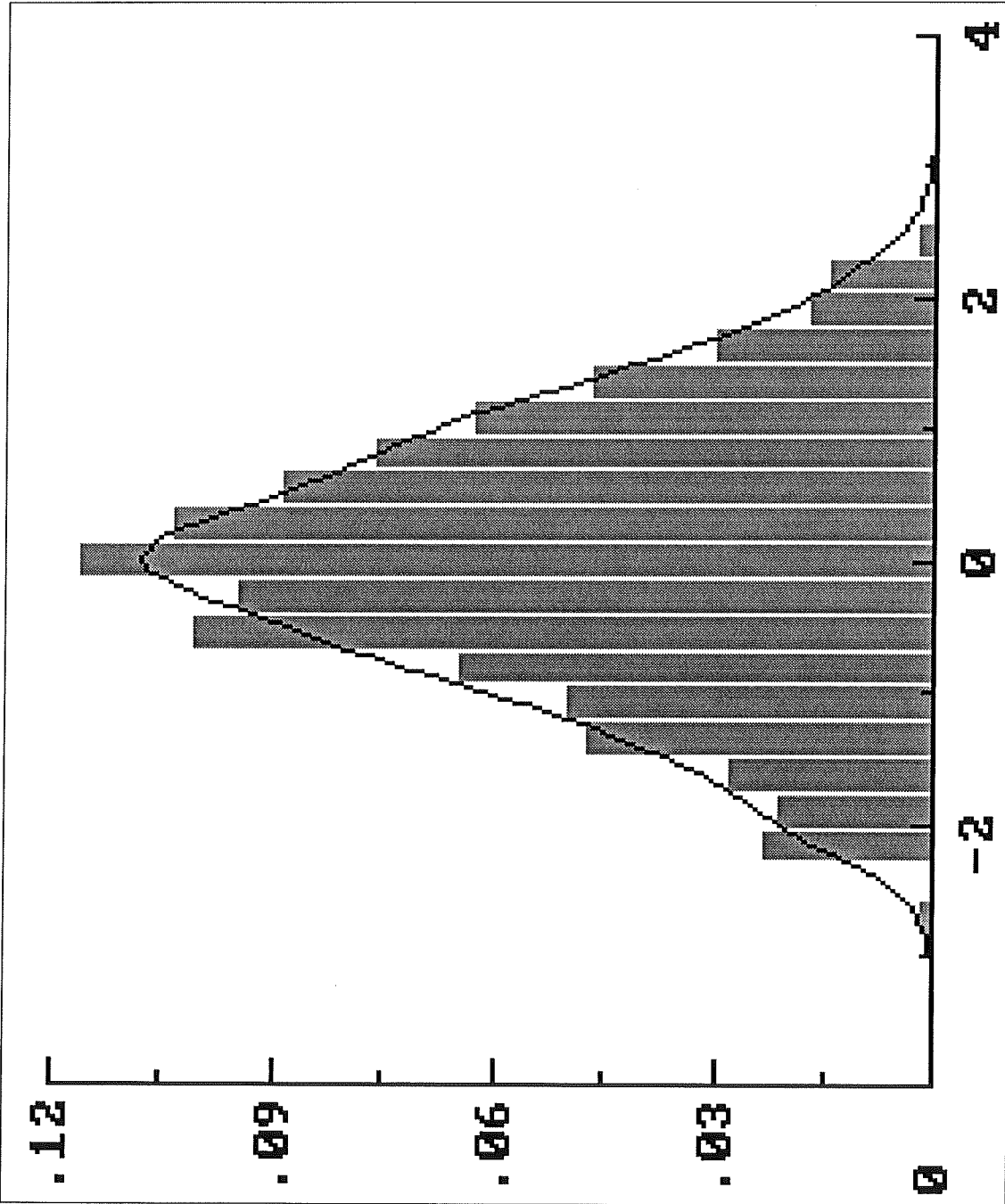
Mean	7.812488
Std.Devn.	2.759525
Skewness	-0.237396
Excess Kurtosis	-0.380279
Normality Chi ² (2)=	32.837 [0.0000] **

* = Significant at the 5% level
 ** = Significant at the 1% level

DIRECT INVESTMENT IN FINLAND (CUMULATIVE DISTRIBUTION)



THE FREQUENCY DISTRIBUTION OF DIRECT INVESTMENT IN FINLAND (IN LOGS)

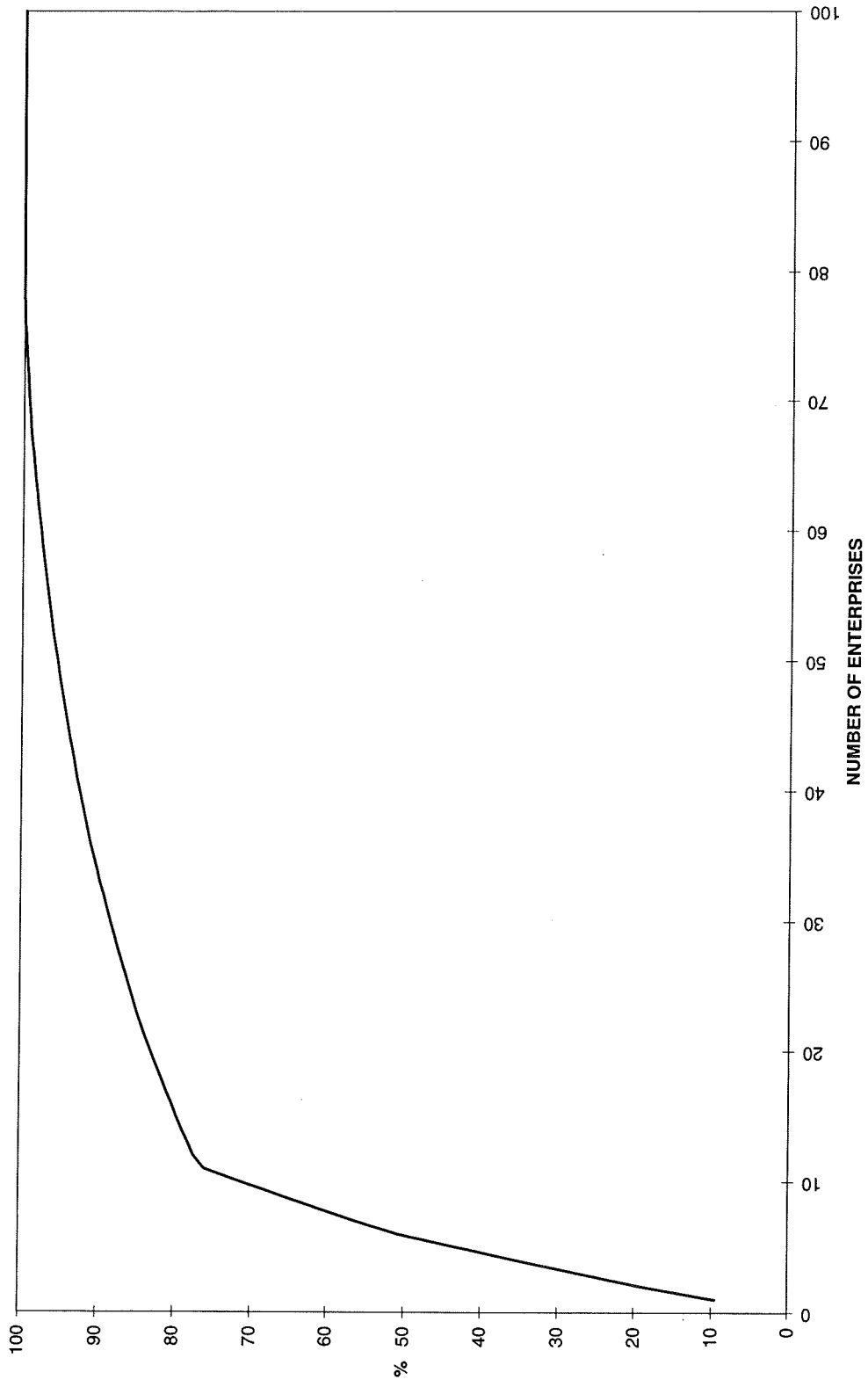


Mean	7.680
Std.Devn.	2.394
Skewness	-0.043
Excess Kurtosis	-0.325121
Normality Chi ² (2)=	4.3743 [0.1122]

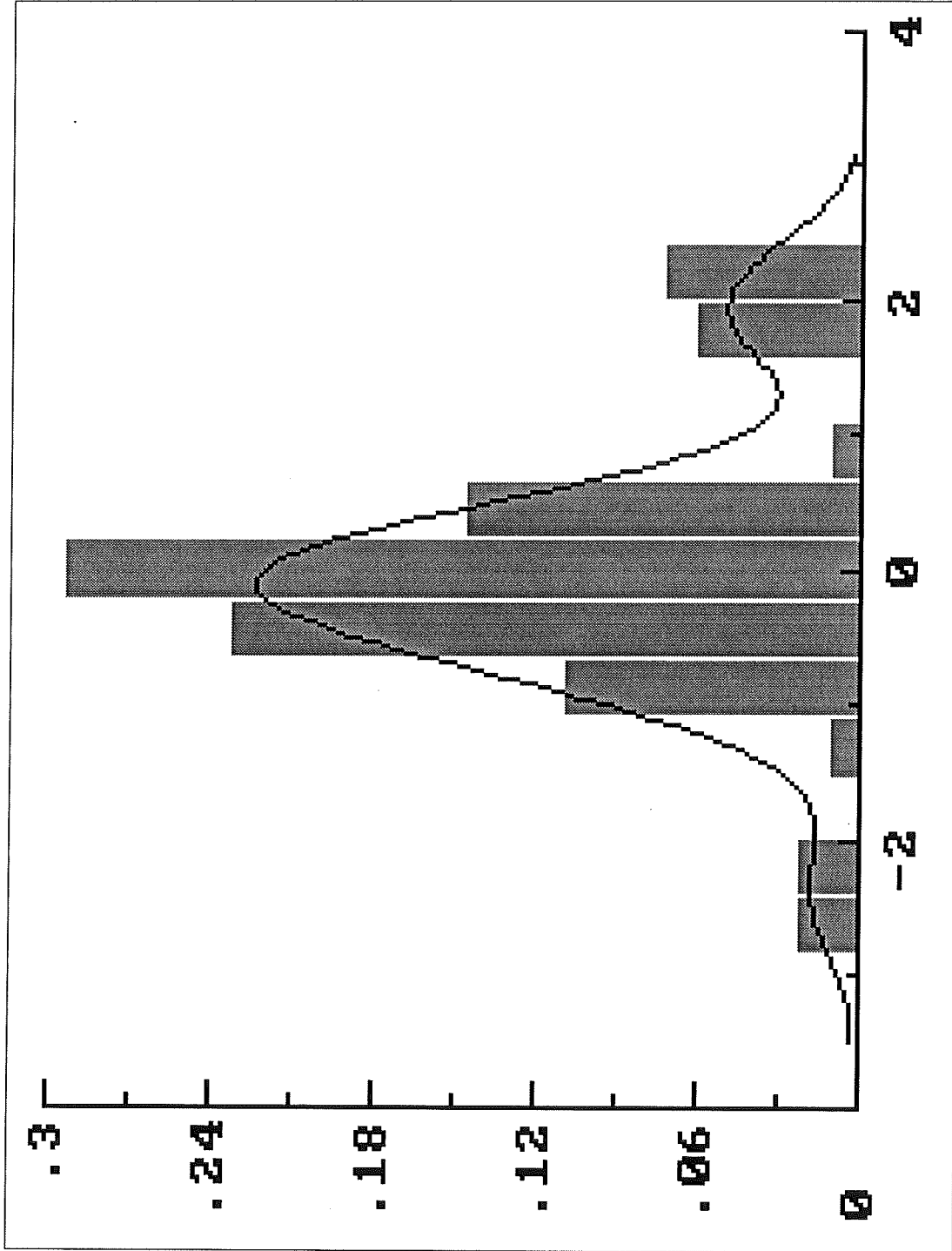
* = Significant at the 5% level

** = Significant at the 1% level

CORPORATE SECTOR BONDS FOR FOREIGN MARKETS (CUMULATIVE DISTRIBUTION)



THE FREQUENCY DISTRIBUTION OF CORPORATE SECTOR BONDS FOR FOREIGN MARKETS (IN LOGS)



Mean 7.827

Std.Devn. 1.460

Skewness 0.226071

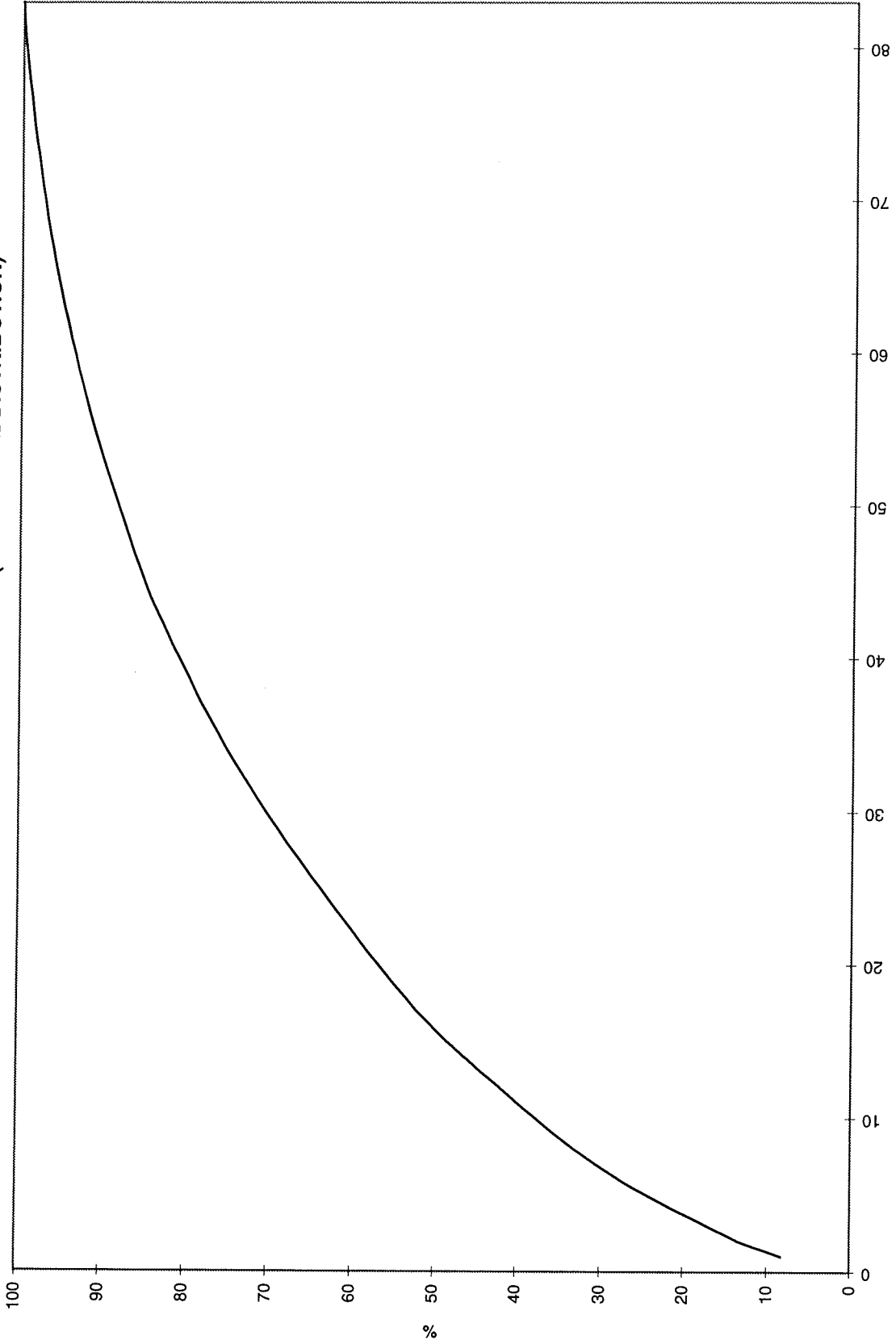
Excess Kurtosis 0.894

Normality Chi²(2)= 5.111 [0.077]

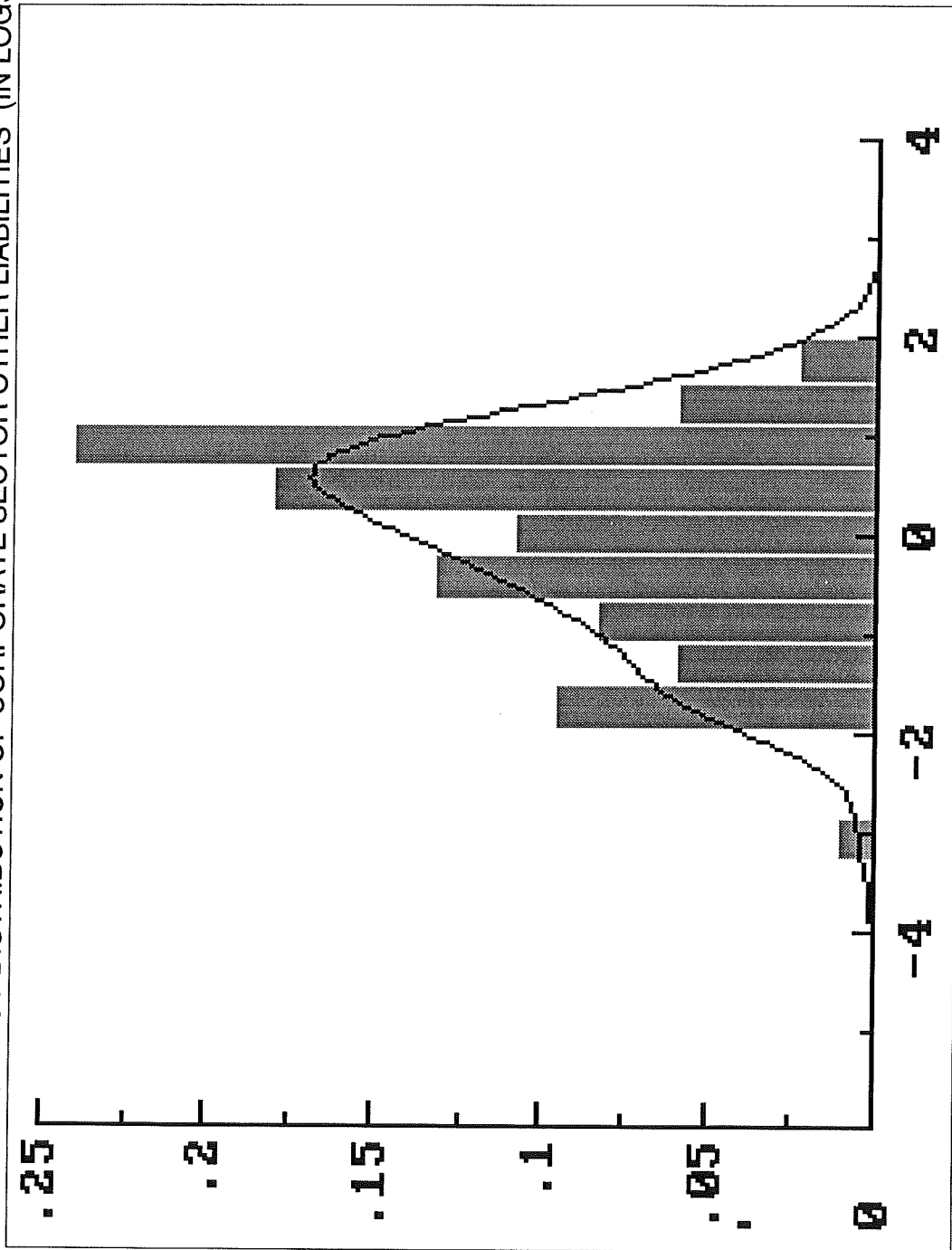
* = Significant at the 5% level

** = Significant at the 1% level

CORPORATE SECTOR OTHER LIABILITIES (CUMULATIVE DISTRIBUTION)



THE FREQUENCY DISTRIBUTION OF CORPORATE SECTOR OTHER LIABILITIES (IN LOGS)



Mean 8.748

Std.Devn. 0.540

Skewness -0.609

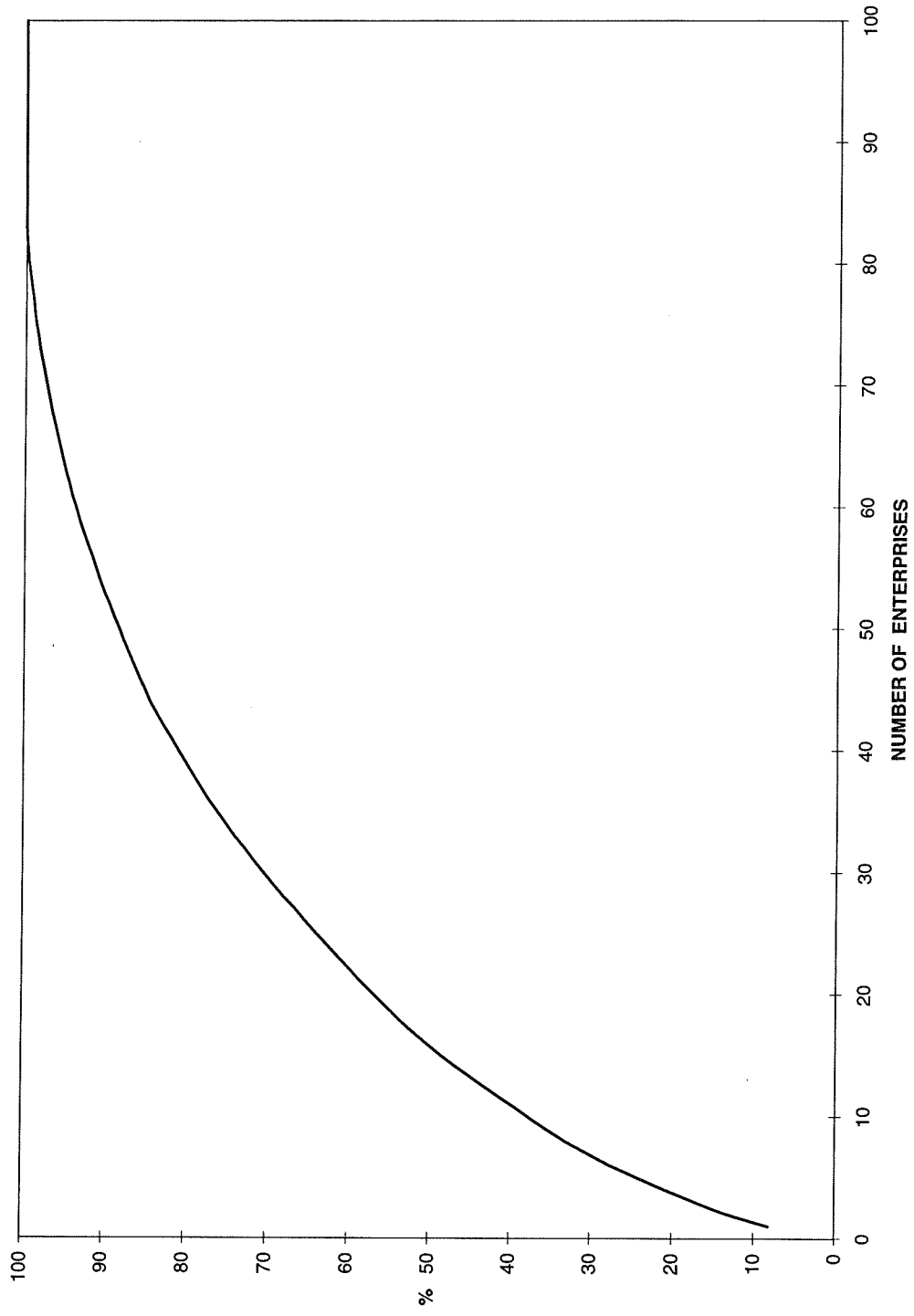
Excess Kurtosis -0.237

Normality Chi²(2)= 9.428 [0.009]**

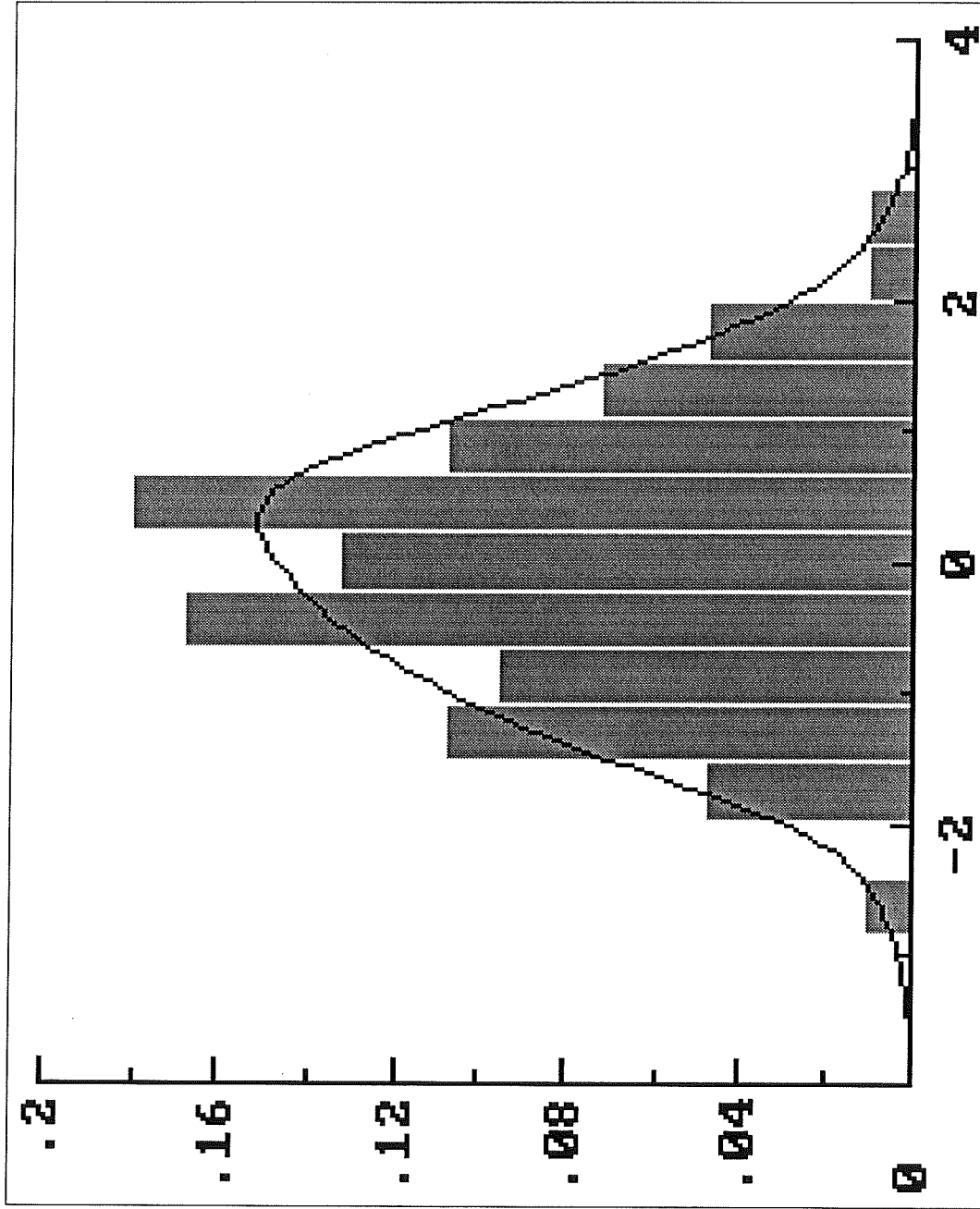
* = Significant at the 5% level

**= Significant at the 1% level

CORPORATE SECTOR FOREIGN ASSETS (CUMULATIVE DISTRIBUTION)



THE FREQUENCY DISTRIBUTION OF CORPORATE SECTOR FOREIGN ASSETS (IN LOGS)



Mean	7.701
Std.Devn.	0.917
Skewness	-0.041
Excess Kurtosis	-0.362
Normality Chi ² (2)	= 0.097 [0.952]

* = Significant at the 5% level
 ** = Significant at the 1% level

Jorma Hilpinen 15.11.1995

CURRENT ACCOUNT AND DIFFERENCE BETWEEN DOMESTIC SAVING AND INVESTMENT

Let us define

Y = national income

Q = income from domestic production

B = factor income and transfers from abroad

S = saving

M = imports of goods and services

X = exports of goods and services

C = domestic consumption

I = domestic investment

CA = surplus in the current account.

From national income and balance of payments we get:

$$Q = C + I + X - M \quad (1)$$

$$Y = Q + B \quad (2)$$

$$Y = C + S \quad (3)$$

$$CA = X - M + B \quad (4)$$

From (1) and (2) we get

$$Y = C + I + X - M + B \quad (5)$$

Rearranging (5) we get

$$Y - C = I + X - M + B \quad (6)$$

Taking (3) and (4) into account, we get from (6)

$$CA = S - I,$$

which says that current account equals the the difference between domestic saving and investment.