



BANK OF FINLAND

Monthly Bulletin

Economic situation

The BOF3 quarterly model of the Finnish economy

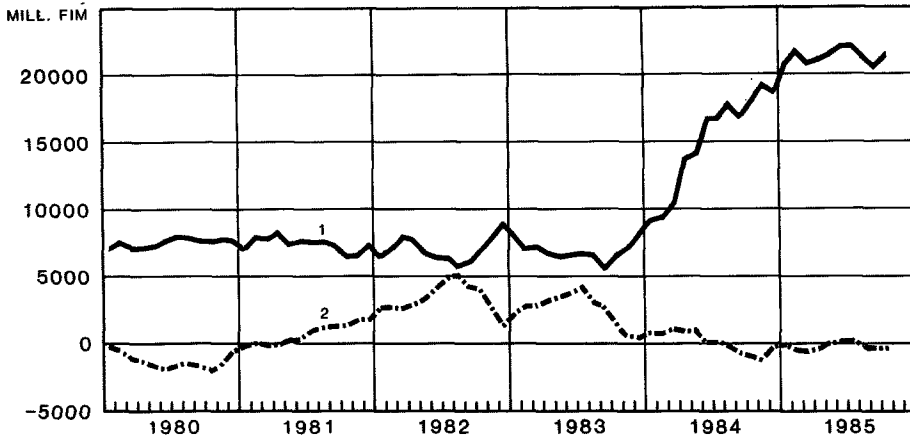
Monetary and foreign exchange policy measures from December 1984 to November 1985

Publication of the Bank of Finland

NOVEMBER 1985

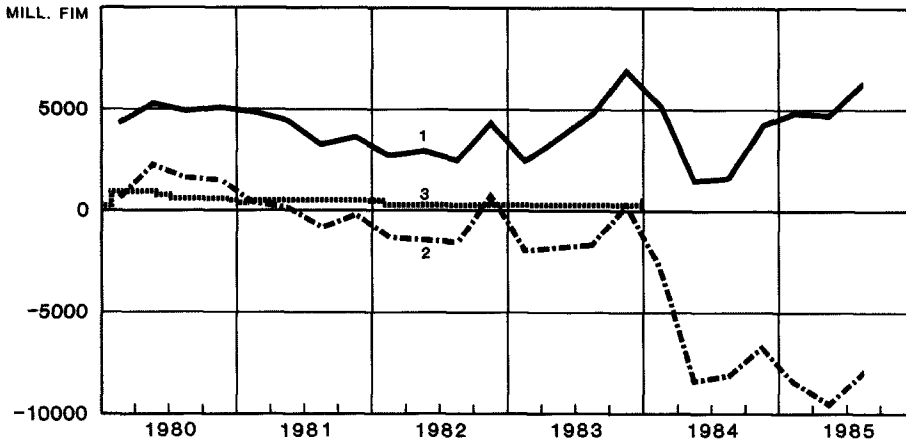
Vol. 59 No. 11

BANK OF FINLAND'S CONVERTIBLE AND TIED FOREIGN EXCHANGE RESERVES, 1980-85



- 1. Gold and convertible currencies
- 2. Tied currencies

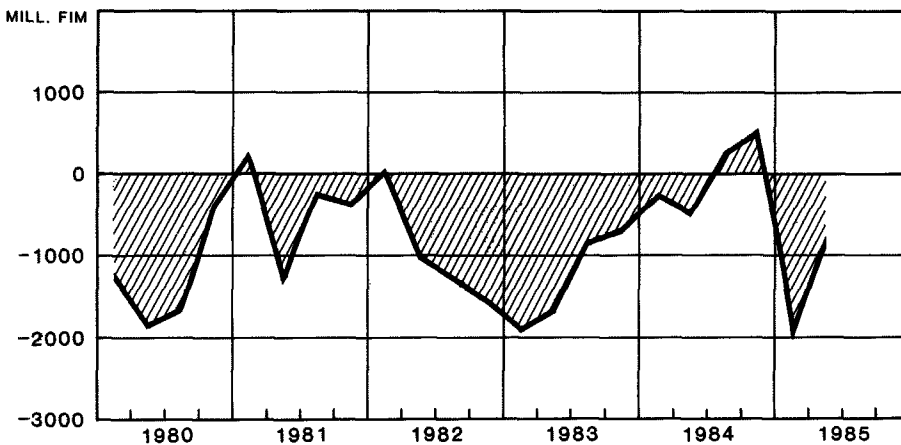
DEPOSIT BANKS' CENTRAL BANK POSITION, 1980-85



- 1. Gross central bank debt
- 2. Net central bank debt
- 3. Quotas

Quarterly average of daily amounts (1 and 2)

BALANCE OF PAYMENTS CURRENT ACCOUNT SURPLUS/DEFICIT, 1980-85



Seasonally adjusted quarterly figures

ECONOMIC SITUATION

by **Helvi Kinnunen**, M.Pol.Sc.
Economics Department
Bank of Finland

Last year, for the third year in succession, Finland experienced real GDP growth of 3 per cent. Preliminary estimates indicate that the growth of output accelerated in the first half of the current year to nearly 4 per cent at annual rate. Unlike last year, the main contribution came from domestic demand while the growth of export volumes slackened. Among the components of domestic demand, the emphasis has shifted to investment activity, thus compensating for the deterioration in exports so that GDP is expected to grow by about 3 per cent for the year as a whole. Inflation has continued to decelerate along with the weakening in foreign trade prices. Developments in Finland's current account have been favourable, supported in recent months by improved terms of trade.

The overall stance of economic policies has been relatively restrictive since the autumn of 1983. Nominal interest rates have, nevertheless, been adjusted broadly in line with the easing in inflation. The Bank of Finland has successively lowered the call money rate since early 1984, and in February this year the base rate was cut by 0.5 percentage point. Following a marked decrease in the central government's net borrowing requirement last year, fiscal policy has even been marginally tighter in the current year.

In comparison to the previous year, the volume of Finnish exports to western markets stagnated during the first half of this year. However, western exports were at an exceptionally high level at the end of last year owing to deliveries of large capital goods such as ships and oil rigs. In fact, when these items are excluded, developments in export volumes

were rather favourable in the first six months of the current year. Given the gloomier prospects for the forest industry, the volume of exports to western countries is unlikely to increase any further during the remaining months of this year. Exports to CMEA countries, mainly the Soviet Union, picked up during the first half of this year and are projected to accelerate further towards the end of the year.

For the year as a whole, growth in the total volume of merchandise exports is expected to amount to about 3.5 per cent. On the other hand, exports of services are likely to continue to fall as a result of a further decline in construction projects abroad and reduced freight earnings. All in all, the volume of exports of goods and services is estimated to increase by about 2 per cent on average this year.

After a slight contraction last year, investment activity has revived during the current year, with business fixed capital formation showing a particularly vigorous expansion. Industrial investment is projected to grow by some 10 to 15 per cent this year, thanks mainly to favourable developments in corporate profits. In addition, capacity utilization is likely to remain above its long-run average. The underlying downward trend in the ratio of stocks to sales is expected to continue, spurred in part by high real interest rates. However, in the forest industry, the decline in export deliveries will probably cause some unintended inventory investment. Hence stockbuilding should impart a positive contribution to total output this year.

The contribution of private consumption to the growth of output this year is expected to be

less than during comparable cyclical phases in the past. Despite favourable developments in real wages and salaries, a rise in the net tax burden will slow the growth of household disposable income. For the year as a whole, consumer spending is expected to rise by about 3 per cent from its 1984 level.

In the first half of the current year, GDP was 3.8 per cent higher than in the corresponding period last year. The slight acceleration in the growth rate was due to the strong revival in timber fellings, which got under way in the second half of 1984. The direct contribution of forestry output to GDP growth is estimated to have been 0.6 percentage point. Towards the end of this year, forestry output may make an equally large negative contribution to annual GDP growth. Total output is estimated to grow by 3 per cent for the year as a whole. The main contribution to growth this year will come from the metal and engineering industries and private services. Since output growth will be concentrated in the labour-intensive sectors, the demand for labour is expected to rise broadly in line with supply, thereby keeping the rate of employment unchanged at slightly above 6 per cent.

Apart from falling foreign trade prices, the easing in inflation has also been due to a weakening in domestic cost pressures. In September, the 12-month change in consumer prices dropped to 5.3 per cent and is expected to decelerate to the government's target rate of 5 per cent towards the end of the year. Although the inflation differential between Finland and OECD countries has narrowed, the rise in unit labour costs, as measured in a

common currency, is still expected to be somewhat higher than in competitor countries on average.

The current account was in approximate balance during the first six months of the year, with the surplus on the goods and services account covering the deficit on the investment income account. Improving terms of trade should help to keep the trade account surplus at a high level in spite of a shift towards a more import-sensitive structure of domestic demand. The current account is expected to show a slight deficit at the end of this year, reflecting the slowdown in the growth of earnings from services. Interest payments on Finland's foreign debt are expected to decline slightly from their 1984 level.

Overshadowing the prospects for the Finnish economy is the projected weakening in export demand. The fall in dollar will further weaken the competitive position of the forest industry vis-à-vis North American producers. At the same time, the expansion of Finland's bilateral exports will slacken in line with the lower price of imported oil. On the other hand, the improvement in the terms of trade caused by a decline in the prices of imported energy should strengthen domestic income formation. With fiscal policy also designed to support income developments in the private sector, the growth of domestic demand will therefore partly offset the slowdown in export volumes next year, and hence the growth of total output is estimated to decelerate only moderately from this year's level.

October 24, 1985

BANK OF FINLAND

Mill. FIM

	1984		1985			
	Oct. 31	Dec. 31	Oct. 8	Oct. 15	Oct. 23	Oct. 31
Assets						
Gold and foreign currency claims	18 406	19 302	20 793	21 131	21 088	21 919
Gold	1 383	1 732	1 732	1 732	1 732	1 732
Special drawing rights	858	936	934	931	929	925
IMF reserve tranche	778	859	801	798	808	805
Convertible currencies	15 066	15 387	17 085	17 429	17 375	18 208
Tied currencies	321	388	241	241	244	249
Other foreign claims	2 726	2 835	2 830	2 830	2 818	2 818
Markka subscription to Finland's IMF quota	2 726	2 835	2 830	2 830	2 818	2 818
Claims on financial institutions	6 345	9 166	11 621	11 628	10 668	9 665
Banks' cheque accounts	72	530	18	81	32	41
Call money market advances	3 045	5 018	7 932	7 908	6 968	5 950
Till-money credits	1 276	1 563	1 600	1 525	1 560	1 567
Bonds	1 899	1 999	2 028	2 065	2 059	2 058
Other claims on financial institutions	53	56	43	49	49	49
Claims on the public sector	1 998	1 951	1 297	1 266	1 266	1 269
Government promissory notes	1 000	1 000	280	280	280	280
Bonds	204	124	138	107	106	107
Total coinage	788	806	879	879	880	882
Other claims on the public sector	6	21	0	0	—	—
Claims on corporations	4 944	4 846	4 875	4 919	4 951	4 948
Financing of exports	1 852	1 786	1 700	1 738	1 770	1 773
Financing of domestic deliveries	2 858	2 860	3 016	3 022	3 022	3 016
Bonds	117	114	82	82	82	82
Other claims on corporations	117	86	77	77	77	77
Other assets	111	142	144	145	145	144
Total	34 530	38 242	41 560	41 919	40 936	40 763
Liabilities						
Foreign currency liabilities	1 399	809	538	554	384	566
Convertible accounts	53	84	31	35	35	34
Tied currencies	1 346	725	507	519	349	532
Other foreign liabilities	3 641	3 752	3 697	3 695	3 681	3 677
IMF markka accounts	2 739	2 835	2 830	2 830	2 818	2 818
Allocations of special drawing rights	902	917	867	865	863	859
Notes and coin in circulation	6 698	7 442	7 245	7 239	7 189	7 322
Notes	6 040	6 744	6 517	6 511	6 460	6 590
Coin	658	698	728	728	729	732
Liabilities to financial institutions	11 183	11 879	16 083	14 871	14 183	16 192
Banks' cheque accounts	4	147	161	21	26	69
Call money market deposits	3 658	2 216	5 226	4 136	3 454	5 381
Cash reserve deposits	7 385	8 696	9 982	9 981	9 981	10 019
Capital import deposits	51	745	625	627	622	617
Other liabilities to financial institutions	85	75	89	106	100	106
Liabilities to the public sector	1 552	4 277	2 359	3 858	3 859	1 559
Cheque accounts	0	1	1	0	1	1
Government deposit account	1 500	4 200	2 300	3 800	3 800	1 500
Export deposits	52	76	58	58	58	58
Capital import deposits	—	—	—	—	—	—
Other liabilities to the public sector	0	0	0	0	0	0
Liabilities to corporations	2 918	2 814	4 264	4 257	4 255	4 270
Deposits for investment and ship purchase	2 066	2 127	3 828	3 821	3 820	3 827
Capital import deposits	848	668	432	433	432	432
Other liabilities to corporations	4	19	4	3	3	11
Other liabilities	18	16	18	15	14	14
Valuation account and reserves	1 672	963	1 130	1 203	1 144	936
SITRA's capital	400	400	400	400	400	400
Capital accounts	5 049	5 890	5 826	5 827	5 827	5 827
Primary capital	3 000	5 000	5 000	5 000	5 000	5 000
Reserve fund	1 638	638	764	764	764	764
Undisposed profits	273	—	—	—	—	—
Net earnings	138	252	62	63	63	63
Total	34 530	38 242	41 560	41 919	40 936	40 763

BANK OF FINLAND

Mill. FIM

End of year or month	Foreign sector						Public sector			
	Gold, SDRs, IMF reserve tranche	Convertible currencies, net	Total convertible reserves (1 + 2)	Tied currencies, net	Other claims, net	Net claims (3 to 5)	Claims	Certificates of deposit and deposit account	Other liabilities	Net liabilities (8-7+9)
	1	2	3	4	5	6	7	8	9	10
1981	2 408	5 050	7 458	1 909	-991	8 376	1 236	1 600	578	942
1982	2 444	6 561	9 005	1 525	-1 447	9 083	1 040	1 700	50	710
1983	2 360	5 835	8 195	550	-794	7 951	2 178	3 000	0	822
1984	3 527	15 303	18 830	-337	-917	17 576	1 951	4 200	77	2 326
1984										
Oct.	3 019	15 013	18 032	-1 025	-915	16 092	1 998	1 500	52	-446
Nov.	3 095	16 237	19 332	-1 342	-905	17 085	2 000	2 200	65	265
Dec.	3 527	15 303	18 830	-337	-917	17 576	1 951	4 200	77	2 326
1985										
Jan.	3 542	17 438	20 980	-34	-924	20 022	1 952	1 200	85	-667
Feb.	3 631	18 254	21 885	-368	-965	20 552	1 958	2 800	93	935
March	3 540	17 366	20 906	-502	-910	19 494	2 021	1 400	100	-521
April	3 565	17 639	21 204	-321	-917	19 966	1 808	1 000	510	-298
May	3 537	18 128	21 665	62	-907	20 820	1 819	1 100	100	-619
June	3 547	18 743	22 290	253	-901	21 642	1 817	800	58	-959
July	3 498	18 842	22 340	269	-889	21 720	1 580	1 600	58	78
Aug.	3 468	18 032	21 500	-159	-873	20 468	1 575	1 500	58	-17
Sept.	3 463	17 391	20 854	-269	-865	19 720	1 297	1 500	58	261
Oct.	3 462	18 174	21 636	-283	-859	20 494	1 269	1 500	59	290

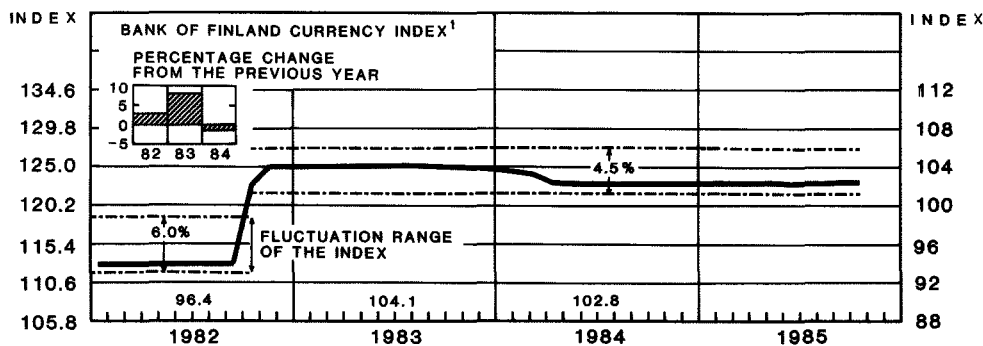
OFFICIAL FOREIGN EXCHANGE RESERVES

Mill. FIM

	Dec. 31, 1984	July 31, 1985	Aug. 30, 1985	Sept. 30, 1985	Oct. 31, 1985
Gold	1 732	1 732	1 732	1 732	1 732
SDRs	936	934	941	932	925
IMF reserve tranche	859	832	795	799	805
Convertible currencies, net	15 303	18 842	18 032	17 391	18 174
Total convertible reserves, net	18 830	22 340	21 500	20 854	21 636
Tied currencies, net	-337	269	-159	-269	-283
Total reserves, net	18 493	22 609	21 341	20 585	21 353

End of year or month	Domestic financial sector						Corporate sector				
	Till-money credits	Claims on cheque accounts, net	Demand for call money by deposit banks	Supply of call money by deposit banks	Cash reserve deposits	Other liabilities, net	Net claims (1+2+3-4-5-6)	Permanent special financing schemes	Liabilities, net	Net claims (8-9)	Notes and coin in circulation
	1	2	3	4	5	6	7	8	9	10	11
1981	768	495	1 796	1 080	2 492	-406	-107	3 865	749	3 116	5 595
1982	889	163	3 126	1 470	3 132	-1 042	618	4 302	999	3 303	6 062
1983	942	443	5 785	610	5 039	-1 555	3 076	4 529	1 282	3 247	6 574
1984	1 563	383	5 018	2 216	8 696	-1 235	-2 713	4 646	2 614	2 032	7 442
1984											
Oct.	1 276	68	3 045	3 658	7 385	-1 816	-4 838	4 710	2 684	2 026	6 698
Nov.	1 170	22	4 819	4 153	8 029	-1 263	-4 908	4 735	2 602	2 133	6 897
Dec.	1 563	383	5 018	2 216	8 696	-1 235	-2 713	4 646	2 614	2 032	7 442
1985											
Jan.	1 382	110	2 868	5 738	8 799	-1 245	-8 932	4 765	2 632	2 133	6 881
Feb.	1 364	26	4 816	5 184	9 241	-1 197	-7 022	4 729	2 921	1 808	6 929
March	1 273	1	4 599	5 335	9 452	-1 173	-7 741	4 751	3 085	1 666	6 972
April	1 435	29	4 558	5 199	9 502	-1 170	-7 509	4 684	3 243	1 441	7 173
May	1 373	47	3 611	4 785	9 577	-1 175	-8 156	4 744	3 237	1 507	7 322
June	1 384	0	3 845	5 120	9 686	-1 163	-8 414	4 754	3 899	855	7 553
July	1 533	64	4 391	4 981	9 878	-1 203	-7 668	4 758	4 223	535	7 376
Aug.	1 371	52	5 553	4 692	9 928	-1 212	-6 432	4 734	4 040	694	7 342
Sept.	1 617	182	7 396	5 940	9 983	-1 352	-5 376	4 660	4 094	566	7 352
Oct.	1 567	-28	5 950	5 381	10 019	-1 384	-6 527	4 789	4 111	678	7 322

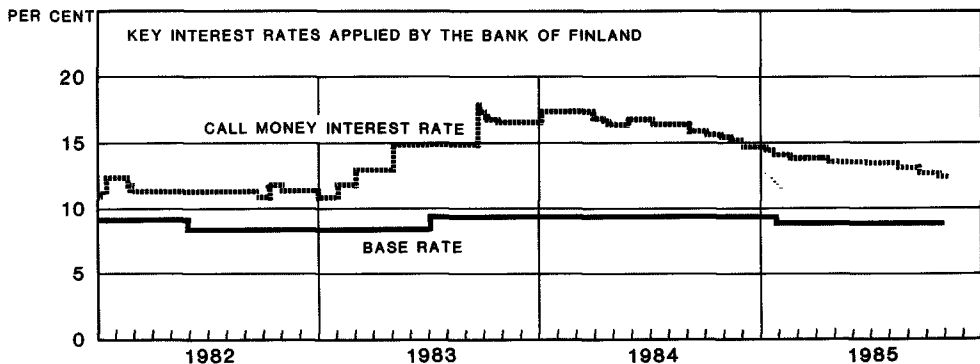
¹ The left-hand scale depicts movements in the external value of the markka under the index in use until December 31, 1983 (1974 = 100), and the right-hand scale movements in the external value of the markka under the revised index introduced on January 1, 1984 (1982 = 100).



MONETARY POLICY INDICATORS

Average for period	Gross central bank debt of the deposit banks mill. FIM	Net central bank debt of the deposit banks mill. FIM	Cash reserve deposits of the deposit banks mill. FIM	Cash reserve requirement %	Call money credit extended by the Bank of Finland	Call money interest rate %	Average cost of gross central bank debt %	Base rate %	Average lending rate of the commercial banks ¹ %
	1	2	3	4	5	6	7	8	9
1980	4 971	1 560	2 542	3.8	3 313	12.38	12.37	9.20	9.77
1981	4 095	-33	2 795	3.5	2 161	11.48	11.61	9.25	9.84
1982	3 201	-783	2 777	3.1	1 571	11.64	11.98	8.81	9.33
1983	4 539	-1 213	4 345	4.3	2 724	15.37	15.13	9.00	9.56
1984	3 176	-6 365	6 325	5.4	-39	16.53	16.53	9.50	10.49
1984									
Aug.	1 462	-8 136	6 598	5.6	-1 538	16.50	16.50	9.50	10.51
Sept.	2 127	-8 186	6 672	5.6	-1 515	16.10	16.04	9.50	10.56
Oct.	2 948	-6 801	6 755	5.6	-46	15.75	15.76	9.50	10.55
Nov.	4 181	-6 888	7 410	5.6	522	15.48	15.48	9.50	10.63
Dec.	5 650	-5 999	8 051	5.6	2 052	15.07	15.07	9.50	10.68
1985									
Jan.	4 713	-7 902	8 700	5.6	798	14.57	14.61	9.50	10.69
Feb.	4 414	-9 319	8 815	5.6	-504	14.18	14.18	9.00	10.30
March	5 727	-8 143	9 261	5.6	1 119	14.00	14.00	9.00	10.36
April	5 483	-8 901	9 453	5.6	552	13.96	13.96	9.00	10.38
May	4 691	-9 267	9 504	5.6	236	13.80	13.80	9.00	10.37
June	4 337	-10 150	9 588	5.6	-562	13.77	13.77	9.00	10.37
July	5 444	-8 711	9 695	5.6	984	13.60	13.60	9.00	10.40
Aug.	6 153	-7 843	9 881	5.6	2 038	13.43	13.43	9.00	10.43
Sept.	7 771	-6 928	9 930	5.6	3 002	13.11	13.11	9.00	10.42
Oct.	7 516	-7 079	9 982	5.6	2 904	12.78	12.78	9.00	..

¹ End of period.



FORWARD EXCHANGE MARKETS IN FINLAND

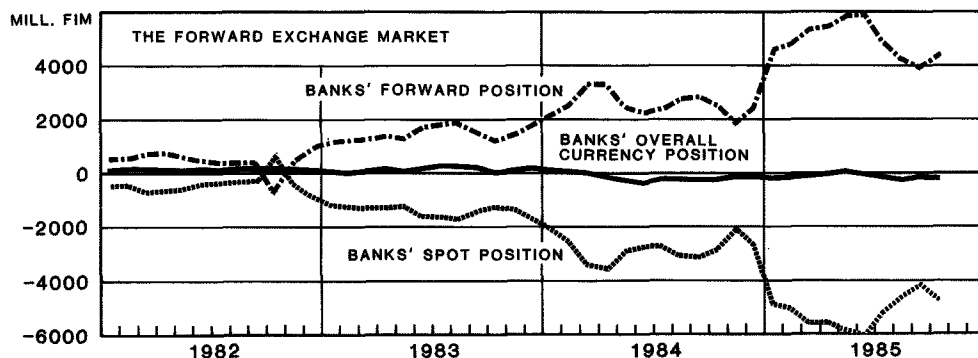
Period	Banks' forward positions in mill. FIM with						Banks' forward selling rates for USD		
	Domestic firms			Foreign banks	Bank of Finland	Overall	Deviation from spot rate, per cent per annum		
	Assets	Liabilities	Net	Net	Net	Net	1 month	3 months	6 months
1	2	3	4	5	6	7	8	9	
1983	7 541	1 227	6 314	-1 688	-2 290	2 373	5.6	5.3	4.8
1984	22 921	1 394	21 527	2 002	-19 962	3 746	5.6	5.5	5.1

1984

May	13 528	1 156	12 372	178	-10 041	2 529	4.9	4.5	4.1
June	15 547	1 145	14 402	1 389	-12 667	3 083	4.8	4.7	4.0
July	15 956	1 306	14 651	1 541	-13 011	3 240	4.1	3.9	3.3
Aug.	20 049	1 354	18 696	2 557	-17 217	4 089	3.8	4.0	3.7
Sept.	20 548	1 679	18 869	2 406	-18 362	3 056	3.2	3.4	3.2
Oct.	22 267	1 741	20 526	1 914	-19 419	3 138	4.2	4.0	3.5
Nov.	22 383	1 786	20 597	1 790	-20 139	2 460	5.3	5.2	4.9
Dec.	22 921	1 394	21 527	2 002	-19 962	3 746	5.6	5.5	5.1

1985

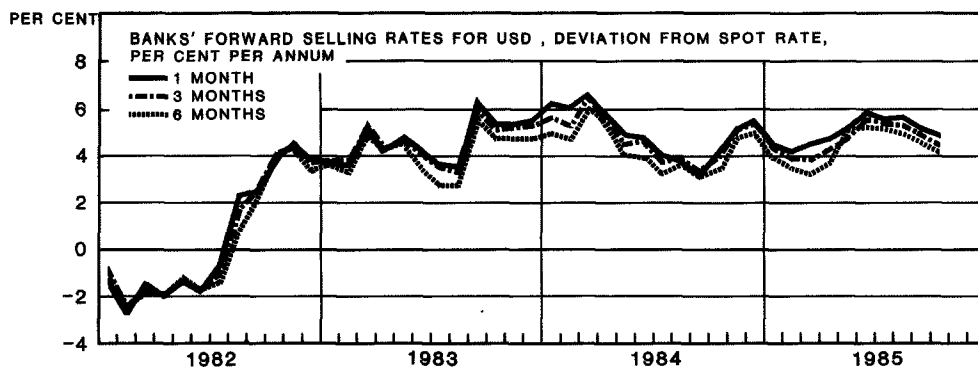
Jan.	23 207	1 450	21 757	2 949	-19 394	5 420	4.5	4.4	4.1
Feb.	22 602	1 592	21 010	2 971	-18 323	5 186	4.3	4.0	3.6
March	23 344	2 247	21 097	1 048	-16 848	5 575	4.6	4.0	3.3
April	22 987	2 219	20 769	1 640	-16 768	5 753	4.8	4.3	3.8
May	22 085	2 316	19 769	1 708	-15 704	5 865	5.3	4.9	4.5
June	21 221	2 259	18 962	1 941	-15 352	5 478	6.0	5.7	5.4
July	19 509	2 250	17 258	2 418	-14 224	5 533	5.7	5.6	5.3
Aug.	18 271	2 727	15 544	1 083	-12 493	4 164	5.8	5.4	5.1
Sept.	17 755	2 889	14 866	92	-11 101	3 811	5.3	5.0	4.7



FOREIGN EXCHANGE RATES

Average selling rates for foreign exchange, FIM

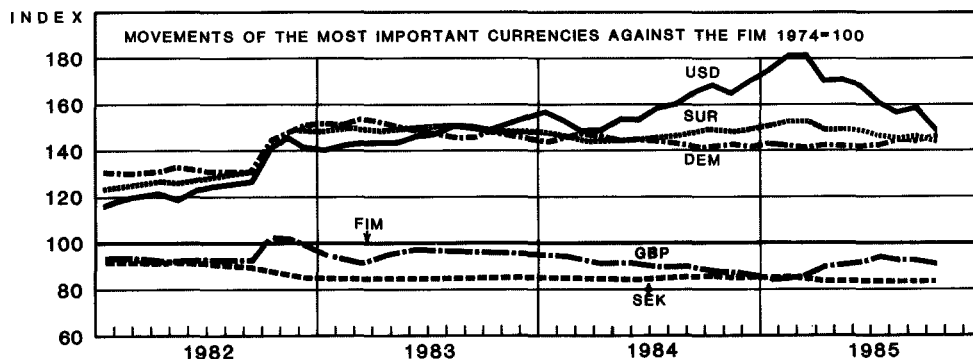
Period	New York 1 US \$ USD	Montreal 1 C \$ CAD	London 1 £ GBP	Dublin 1 Ir£ IEP	Stockholm 100 Skr SEK	Oslo 100 Nkr NOK	Copenhagen 100 Dkr DKK	Frankfurt 100 DM DEM	Amsterdam 100 Hfl NLG	Brussels 100 FB BEC BEL	
	1	2	3	4	5	6	7	8	9	10	11
1980	3.730	3.194	8.691	7.689	88.43	75.81	66.53	205.58	188.02	12.818	12.635
1981	4.315	3.602	8.731	6.976	85.74	75.54	60.96	191.31	173.43	11.688	11.095
1982	4.820	3.913	8.423	6.854	77.03	74.84	57.93	198.76	180.66	10.584	9.859
1983	5.570	4.524	8.456	6.957	72.75	76.44	61.07	218.61	195.66	10.934	10.742
1984	6.010	4.645	8.023	6.533	72.77	73.84	58.16	211.65	187.72	10.428	10.274
1984											
Sept.	6.278	4.787	7.919	6.451	73.36	73.05	57.40	208.01	184.46	10.320	10.236
Oct.	6.378	4.842	7.793	6.455	73.57	72.06	57.61	208.14	184.61	10.294	10.206
Nov.	6.261	4.762	7.792	6.507	73.13	72.08	58.07	209.79	186.02	10.400	10.346
Dec.	6.458	4.896	7.686	6.512	73.07	72.10	58.16	208.46	184.72	10.379	10.341
1985											
Jan.	6.640	5.023	7.510	6.548	73.38	72.53	58.75	209.90	185.81	10.489	10.455
Feb.	6.853	5.078	7.525	6.496	73.69	72.64	58.28	208.47	184.09	10.385	10.342
March	6.861	4.962	7.688	6.486	72.97	72.56	58.11	207.80	183.82	10.341	10.286
April	6.445	4.732	8.028	6.562	72.05	72.52	58.32	209.55	185.32	10.405	10.354
May	6.477	4.716	8.091	6.533	72.14	72.47	58.00	208.44	184.60	10.365	10.319
June	6.371	4.665	8.172	6.535	72.10	72.40	58.06	208.37	184.78	10.347	10.298
July	6.099	4.516	8.402	6.570	71.95	72.29	58.26	209.37	185.97	10.398	10.316
Aug.	5.942	4.387	8.253	6.653	71.70	72.30	58.93	213.31	189.63	10.547	10.425
Sept.	6.025	4.404	8.232	6.611	71.89	72.39	58.60	212.50	188.92	10.510	10.431
Oct.	5.690	4.168	8.106	6.676	71.63	72.10	59.41	215.47	191.11	10.633	10.556



Average selling rates for foreign exchange, FIM

Zurich 100 Sfr CHF	Paris 100 FF FRF	Rome 100 Lit ITL	Vienna 100 OS ATS	Lisbon 100 Esc PTE	Reykjavik 100 Ikr ISK	Madrid 100 Ptas ESB	Tokyo 100 Y JPY	Moscow 1 Cl Rbl SUR	I special drawing right SDR	Currency index ¹
12	13	14	15	16	17	18	19	20	21	22
222.87	88.65	0.440	28.90	7.60	0.81	5.25	1.662	5.741	4.842 55	113.6
220.34	79.92	0.385	27.17	7.17	60.35	4.72	1.967	5.986	5.071 40	113.1
237.79	73.65	0.358	28.31	6.13	40.79	4.41	1.943	6.624	5.305 63	115.9
265.70	73.53	0.369	31.11	5.14	23.25	3.91	2.351	7.491	5.943 25	125.1
256.42	69.07	0.344	30.13	4.14	19.39	3.75	2.534	7.357	6.147 39	102.8
251.64	67.93	0.338	29.64	4.03	19.44	3.71	2.565	7.435	6.272 79	102.5
253.02	68.01	0.337	29.66	3.97	19.35	3.72	2.588	7.486	6.323 99	102.5
254.59	68.52	0.339	29.87	3.91	17.78	3.75	2.578	7.447	6.268 66	102.5
252.66	68.18	0.340	29.71	3.92	16.38	3.77	2.609	7.516	6.366 57	102.5
250.36	68.70	0.343	29.92	3.90	16.54	3.81	2.619	7.582	6.470 31	102.5
245.43	68.34	0.339	29.70	3.83	16.72	3.79	2.636	7.652	6.582 22	102.5
244.48	68.14	0.331	29.61	3.81	16.62	3.76	2.660	7.654	6.601 66	102.5
249.89	68.78	0.329	29.85	3.77	16.02	3.76	2.568	7.487	6.380 70	102.5
247.90	68.50	0.328	29.68	3.71	15.73	3.71	2.578	7.496	6.399 94	102.5
248.20	68.49	0.328	29.67	3.69	15.52	3.67	2.564	7.455	6.344 84	102.4
252.74	68.98	0.323	29.82	3.64	15.07	3.64	2.529	7.359	6.211 68	102.5
259.72	69.98	0.319	30.40	3.63	14.77	3.64	2.509	7.319	6.131 58	102.5
258.26	69.77	0.318	30.25	3.57	14.57	3.59	2.550	7.366	6.183 31	102.6
262.81	70.80	0.320	30.69	3.52	13.85	3.54	2.653	7.262	6.051 77	102.6

¹ Until December 31, 1983 the base year was 1974=100.
Since January 1, 1984 the base year has been 1982=100.



DEPOSITS BY THE PUBLIC

Mill. FIM

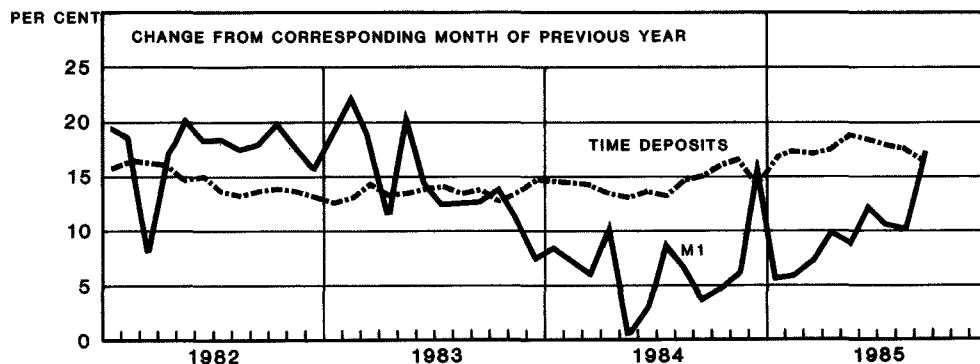
End of year and month	Demand deposits				Time deposits					Total (4 + 9)
	Commercial banks	Savings banks & Co-op. banks	Posti-pankki	All deposit banks (1 to 3)	Commercial banks	Savings banks	Co-op. banks	Posti-pankki	All deposit banks (5 to 8)	
	1	2	3	4	5	6	7	8	9	10
1981	5 791	2 879	2 952	11 622	26 094	22 937	18 598	7 448	75 077	86 699
1982	7 155	3 874	3 049	14 078	29 465	25 883	21 040	8 665	85 054	99 132
1983	7 057	4 567	3 676	15 300	34 302	29 273	24 175	9 938	97 689	112 988
1984*	8 470	5 268	4 463	18 201	39 354	33 333	27 900	11 266	111 852	130 053

1984*

July	7 091	4 458	4 638	16 187	35 505	31 608	26 315	10 524	103 952	120 139
Aug.	6 910	4 454	4 708	16 072	36 139	31 989	26 598	10 672	105 398	121 470
Sept.	6 488	4 400	4 826	15 715	36 626	32 141	26 882	10 593	106 242	121 956
Oct.	7 422	4 522	4 621	16 566	37 457	32 255	26 919	10 710	107 341	123 907
Nov.	7 532	4 315	3 876	15 723	38 240	32 459	27 193	10 815	108 706	124 430
Dec.	8 470	5 268	4 463	18 201	39 354	33 333	27 900	11 266	111 852	130 053

1985*

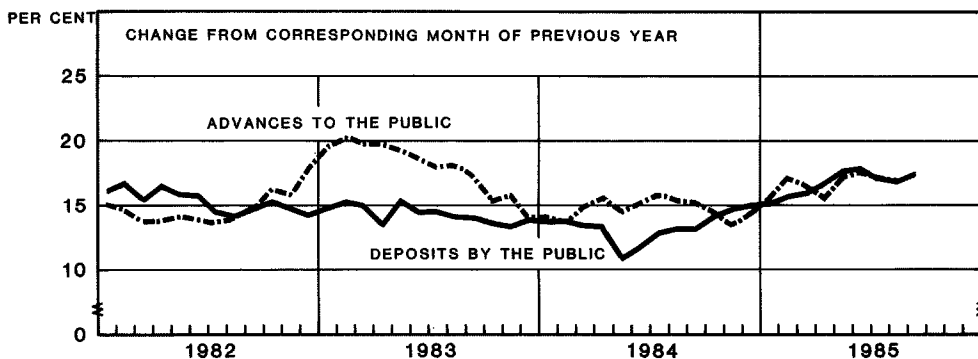
Jan.	7 742	4 442	4 655	16 839	40 372	34 040	28 637	11 762	114 811	131 650
Feb.	7 340	4 255	4 445	16 041	41 866	34 729	29 275	11 806	117 677	133 717
March	6 579	4 273	4 663	15 515	42 639	34 658	29 180	11 692	118 170	133 685
April	7 660	4 505	4 786	16 950	42 772	34 904	29 368	11 726	118 770	135 720
May	7 463	4 733	4 364	16 559	43 804	35 347	29 838	11 893	120 881	137 440
June	7 621	4 755	5 168	17 544	44 443	36 047	30 500	11 768	122 758	140 302
July	7 927	4 874	5 283	18 084	44 294	36 219	30 455	11 799	122 767	140 851



ADVANCES TO THE PUBLIC – MONEY SUPPLY

Mill. FIM

End of year and month	Advances granted by				Types of advances			Total (1 to 4) (5 to 7)	Money Supply	
	Commercial banks	Savings banks	Co-op. banks	Posti-pankki	Loans & bills in domestic currency	Cheque credits	Domestic credits in foreign currency		M ₁	M ₁ + Quasi-Money
	1	2	3	4	5	6	7		8	9
1981	40 461	22 009	20 059	11 135	80 817	2 877	9 971	93 665	17 186	94 577
1982	48 620	25 682	23 601	12 684	93 014	3 468	14 105	110 587	19 917	107 549
1983	56 162	29 276	27 322	13 471	104 627	4 350	17 253	126 231	21 427	121 906
1984*	65 965	32 705	31 164	14 687	118 924	5 233	20 363	144 520	24 945	141 658
1984*										
July	62 941	31 049	29 134	14 466	111 229	5 365	20 996	137 590	22 495	130 602
Aug.	63 398	31 479	29 648	14 406	112 850	5 345	20 736	138 931	22 460	132 019
Sept.	64 225	31 820	30 077	14 562	114 602	5 401	20 681	140 684	22 238	132 660
Oct.	64 242	32 223	30 465	14 536	116 238	5 398	19 829	141 466	22 832	134 162
Nov.	64 911	32 478	30 810	14 688	117 444	5 697	19 746	142 887	22 426	135 800
Dec.	65 965	32 705	31 164	14 687	118 924	5 233	20 363	144 520	24 945	141 658
1985*										
Jan.	68 756	33 087	31 445	15 369	120 263	6 014	22 380	148 658	23 357	143 069
Feb.	71 757	33 384	31 707	15 328	121 848	6 099	24 228	152 175	22 617	145 403
March	72 453	33 564	31 988	15 565	123 188	6 305	24 077	153 570	22 152	145 638
April	73 567	33 860	32 184	15 484	124 351	6 320	24 425	155 095	23 595	147 783
May	75 015	34 172	32 621	15 883	126 022	6 365	25 304	157 691	23 423	149 700
June	77 246	34 390	32 983	15 959	127 596	6 279	26 703	160 579	24 750	153 455
July	77 104	34 848	33 378	16 074	128 886	6 242	26 275	161 403	24 902	154 118



STATE FINANCES

Mill. FIM

Revenue	Jan.-Aug.		Expenditure	Jan.-Aug.	
	1984	1985		1984	1985
Income and wealth tax (net)	13 961	15 704	Wages, salaries, pensions etc.	8 840	9 692
Gross receipts	38 444	43 556	Repair and maintenance	1 113	1 224
Refunds & local authorities	-24 483	-27 852	Other consumption expenditure	4 858	5 554
Other taxes on income and wealth	356	391	Total consumption expenditure	14 811	16 470
Employers' child allowance payments	57	489	State aid to local authorities	12 178	14 061
Sales tax	14 499	16 015	State aid to industries	6 036	6 219
of which: agric. price subsidies			Child allowances	1 728	1 830
Customs duties and import charges and levies	1 122	1 077	Share in national pensions and sickness insurance schemes	1 773	1 570
Excise duties	7 101	7 289	Deficit of State enterprises	851	867
Excise duty on alcoholic bev.	2 574	2 619	Other transfer expenditure	7 180	8 161
Excise duty on tobacco	1 011	1 008	Total transfer expenditure	29 746	32 709
Excise duty on liquid fuel	2 596	2 557	Machinery and equipment	1 210	1 303
Other excise duties	920	1 105	Construction of buildings	750	676
Tax on autom. and motor-cycles	1 811	1 916	Land and waterway construction	1 395	1 413
Stamp duties	1 475	1 722	Total real investment	3 355	3 392
Special diesel etc. vehicles tax	248	274	Interest on State debt	2 792	3 333
Other taxes and similar revenue	1 407	1 383	Other expenditure	5	6
Total taxes	42 037	46 259	Total other expenditure	2 798	3 339
Miscellaneous revenue	3 558	3 560	Increase in inventories	177	363
Interest, dividends etc.	1 079	1 338	Lending	2 655	2 628
Surplus of state enterprises	1 258	1 305	Other financial investment	496	690
Redemptions of loans granted	901	1 128	Total expenditure	54 037	59 591
Total revenue	48 834	53 591	Redemption of foreign loans	1 446	1 240
Foreign borrowing	3 891	2 646	Redemption of domestic loans	2 850	3 972
Domestic borrowing	4 153	5 155	Total redemptions	4 296	5 212
Total borrowing	8 044	7 801			
Deficit (+) or surplus (-)	1 455	3 411			
Total	58 333	64 803	Total	58 333	64 803

State debt	1983	1984	1985			
	Dec.	Dec.	June	July	Aug.	Sept.
Foreign debt	21 723	24 946	25 567	25 269	25 654	25 787
Long-term debt	16 383	19 057	20 141	19 748	20 154	20 196
Short-term credit	18	266	323	323	314	314
Domestic debt	16 401	19 323	20 464	20 071	20 468	20 510
Total State debt	38 124	44 269	46 031	45 340	46 122	46 297
Total debt mill. \$	6 506	6 855	7 225	7 434	7 762	7 684

FOREIGN TRADE

Mill. FIM

Period	Value, mill. FIM		
	Exports f.o.b	Imports c.i.f.	Surplus of exports (+) or imports (-)
	1	2	3
1980	52 795	58 250	-5 455
1981	60 308	61 269	-961
1982	63 026	64 751	-1 725
1983	69 692	71 528	-1 836
1984	80 904	74 682	+6 222

1984			
Dec.	6 884	6 622	+262

1985*			
Jan.	6 905	7 085	-180
Feb.	6 586	4 787	+1 799
March	6 614	6 944	-330
April	7 090	7 073	+17
May	8 570	7 158	+1 412
June	6 844	7 060	-216
July	7 112	6 733	+379
Aug.	6 664	5 787	+877

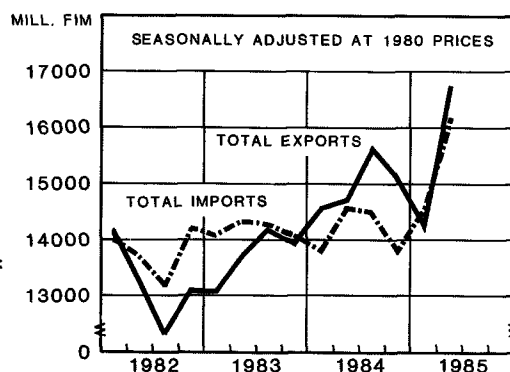
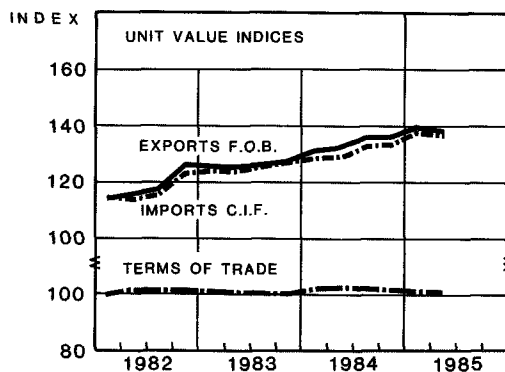
Jan.-Aug.			
1984	52 045	49 020	+3 025
1985*	56 385	52 627	+3 758

Period	Indices of exports and imports 1980 = 100				
	Volume		Unit value		Terms of trade
	Exports	Imports	Exports	Imports	
	1	2	3	4	5
1980	100	100	100	100	100
1981	103	94	111	112	99
1982	100	95	119	117	101
1983	104	98	127	125	101
1984	114	98	134	131	102

1983					
Apr.-June	103	95	126	124	101
July-Sept.	97	97	127	127	100
Oct.-Dec.	115	108	128	128	100

1984					
Jan.-March	114	90	132	129	102
Apr.-June	113	99	133	130	103
July-Sept.	108	99	137	133	102
Oct.-Dec.	121	101	137	134	102

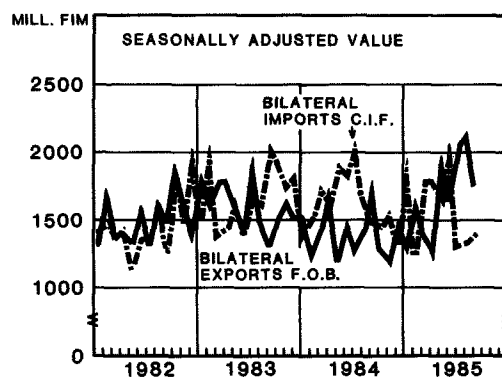
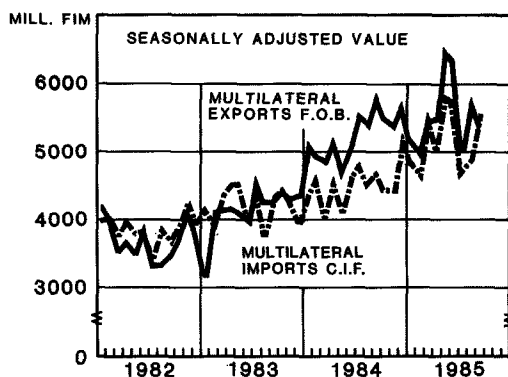
1985*					
Jan.-March	108	93	140	138	101
Apr.-June	121	106	139	137	101



FOREIGN TRADE BY MAIN GROUPS

Mill. FIM

Period	Exports, f.o.b.					Imports, c.i.f.				
	Agricultural and other primary products	Wood industry products	Paper industry products	Metal, engineering industry products	Other goods	Raw materials and intermediate goods	Fuels and lubricants	Finished goods		Other goods
								Investment goods	Consumer goods	
1	2	3	4	5	6	7	8	9	10	
1980	1 403	7 742	15 751	11 546	16 353	38 622	4 088	7 989	7 440	111
1981	2 036	6 852	17 127	14 858	19 435	39 156	5 115	8 877	8 015	106
1982	1 676	6 278	17 502	18 908	18 662	41 144	4 869	9 195	9 130	413
1983	1 723	6 944	19 327	20 211	21 487	44 757	5 006	10 860	10 572	333
1984	2 865	7 145	23 573	22 998	24 323	47 028	5 034	10 993	11 454	173
1984										
Dec.	229	604	2 020	1 531	2 500	4 319	227	1 059	1 006	11
1985*										
Jan.	282	622	2 050	1 834	2 117	4 740	273	878	1 013	181
Feb.	393	482	1 991	1 860	1 860	2 740	218	788	1 025	16
March	295	465	2 157	1 586	2 111	4 251	248	1 082	1 214	149
April	287	590	2 221	1 885	2 107	4 376	436	1 049	1 203	9
May	293	620	2 352	2 869	2 436	4 779	395	930	1 047	7
June	212	680	1 856	2 008	2 088	4 524	601	1 020	911	4
July	151	506	2 218	2 265	1 972	4 185	637	884	997	30
Aug.	142	507	2 254	1 832	1 929	3 434	491	833	1 020	10
Jan.—Aug.										
1984	2 161	4 622	15 150	14 453	15 659	30 922	3 306	7 235	7 419	138
1985*	2 055	4 472	17 099	16 139	16 620	33 029	3 299	7 464	8 429	406



FOREIGN TRADE BY COUNTRIES

Mill. FIM

Area and country	Exports, f.o.b.				Imports, c.i.f.			
	January–Aug.				January–Aug.			
	1984*		1985*		1984*		1985*	
	%	Mill. FIM	%	Mill. FIM	%	Mill. FIM	%	Mill. FIM
OECD countries in Europe	57.3	29 814	56.1	31 658	53.7	26 313	56.4	29 673
Austria	0.7	390	0.7	375	1.1	531	1.1	589
Belgium and Luxembourg	1.5	779	1.4	789	1.9	941	2.0	1 055
Denmark	4.2	2 161	3.9	2 187	2.4	1 195	2.5	1 300
France	4.1	2 142	4.0	2 264	3.1	1 543	3.5	1 820
Federal Republic of Germany	10.2	5 323	9.2	5 176	13.8	6 760	14.9	7 860
Italy	2.2	1 138	1.9	1 097	3.3	1 624	3.4	1 812
Netherlands	3.6	1 897	3.2	1 830	2.7	1 316	2.9	1 546
Norway	4.6	2 395	4.1	2 323	2.0	1 003	2.6	1 381
Portugal	0.2	111	0.3	173	0.7	355	0.8	415
Spain	0.7	365	0.8	467	0.8	414	1.0	532
Sweden	11.7	6 093	12.7	7 153	11.8	5 798	11.5	6 047
Switzerland	1.3	662	1.6	884	1.6	786	1.6	864
United Kingdom	10.9	5 665	10.8	6 091	7.5	3 677	7.6	4 015
Other	1.3	693	1.5	849	0.8	370	0.8	437
OECD countries outside Europe	11.4	5 949	10.5	5 898	11.4	5 588	11.5	6 044
Canada	0.8	422	1.3	706	0.6	285	0.7	374
Japan	1.4	723	1.5	858	5.7	2 813	5.3	2 768
United States	8.1	4 205	6.5	3 668	4.8	2 349	5.2	2 763
Other	1.2	599	1.2	666	0.3	141	0.3	139
CMEA countries	21.6	11 219	23.6	13 281	27.3	13 381	23.8	12 548
Czechoslovakia	0.4	204	0.3	194	0.4	203	0.5	242
German Democratic Republic	0.5	251	0.5	297	0.5	253	0.5	256
Poland	0.3	165	0.5	267	1.5	714	1.4	751
Soviet Union	19.8	10 307	21.5	12 147	24.4	11 969	20.9	10 993
Other	0.6	292	0.7	376	0.5	242	0.6	306
Latin America	0.9	455	1.6	926	2.6	1 285	2.6	1 397
Argentina	0.1	44	0.1	45	0.1	76	0.2	80
Brazil	0.2	82	0.2	96	1.0	470	0.9	471
Colombia	0.1	65	0.2	91	0.6	275	0.6	330
Other	0.5	264	1.2	694	0.9	464	1.0	516
Other	8.8	4 608	8.2	4 622	5.0	2 453	5.6	2 965
GRAND TOTAL	100.0	52 045	100.0	56 385	100.0	49 020	100.0	52 627
of which								
EFTA countries	18.7	9 721	19.5	10 998	17.4	8 558	17.8	9 372
EEC countries	37.8	19 650	35.5	20 003	35.3	17 306	37.5	19 737
OECD countries	68.7	35 763	66.6	37 556	65.0	31 901	67.9	35 717

BALANCE OF PAYMENTS

Period	Exports f.o.b.	Imports c.i.f.	Trade account (1-2)	Transport, net	Travel, net	Other services, net	Goods and services account (3 to 6)	Invest- ment income, net	Un- requited transfers, net	Other, net	Current account (7 to 10)
	1	2	3	4	5	6	7	8	9	10	11
1981	60 243	61 703	-1 460	+3 088	+405	+1 049	+3 082	-4 423	-498	+107	-1 732
1982	62 867	65 147	-2 280	+2 856	-277	+1 732	+2 031	-5 447	-643	+161	-3 898
1983	69 368	72 139	-2 771	+3 200	-748	+1 610	+1 291	-5 817	-797	+96	-5 227
1984*	80 607	75 099	+5 508	+3 919	-1 212	-163	+8 052	-6 781	-997	-274	0

1982

July-Sept.	13 308	15 419	-2 111	+789	+151	+478	-693	-1 359	-139	+75	-2 116
Oct.-Dec.	17 904	19 494	-1 590	+668	-191	+319	-794	-1 328	-150	+42	-2 230

1983

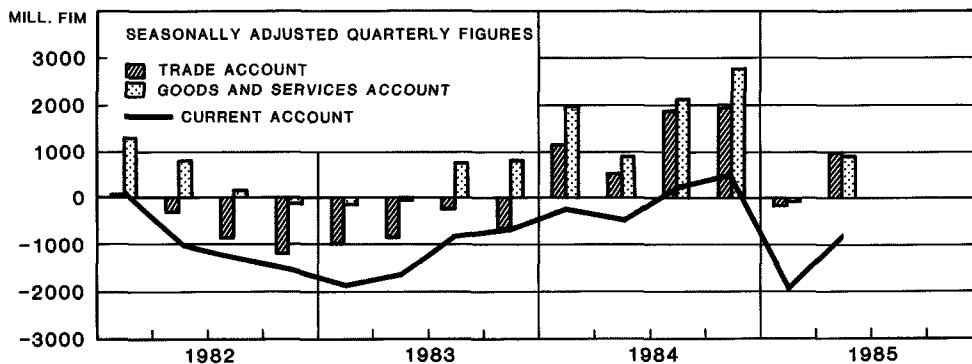
Jan.-March	16 740	16 469	+271	+744	-292	+142	+865	-1 557	-243	+5	-930
Apr.-June	17 098	17 538	-440	+753	-229	+288	+372	-1 492	-176	+42	-1 254
July-Sept.	16 180	17 970	-1 790	+888	+45	+487	-370	-1 463	-174	+53	-1 954
Oct.-Dec.	19 350	20 162	-812	+815	-272	+693	+424	-1 305	-204	-4	-1 089

1984*

Jan.-March	19 678	17 066	+2 612	+967	-370	-61	+3 148	-2 010	-272	-72	+794
Apr.-June	19 701	18 846	+855	+984	-326	-181	+1 332	-1 219	-190	-44	-121
July-Sept.	19 395	19 324	+71	+1 105	-123	-104	+949	-1 593	-267	-51	-962
Oct.-Dec.	21 833	19 863	+1 970	+863	-393	+183	+2 623	-1 959	-268	-107	+289

1985*

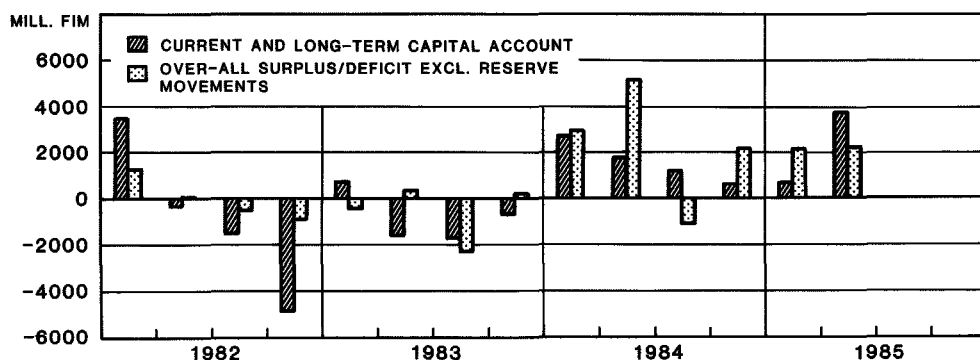
Jan.-March	20 106	18 933	+1 173	+887	-489	-280	+1 291	-1 578	-350	-135	-772
Apr.-June	22 564	21 410	+1 154	+961	-433	-209	+1 473	-1 502	-303	-61	-393



Drawings of long-term loans	Amortizations of long-term loans	Long-term export credits, net	Miscellaneous long-term capital items, net	Long-term capital account (12 to 15)	Current and long-term capital account (11 + 16)	Prepayments and liabilities related to imports	Prepayments and receivables related to exports	Short-term capital of authorized banks, net	Miscellaneous, short-term capital items, incl. errors and omissions	Over-all surplus deficit excl. reserve movements (17 to 21)	Bank of Finland foreign exchange reserves
12	13	14	15	16	17	18	19	20	21	22	23
+8 312	-4 643	-518	-826	+2 325	+593	-148	+723	-421	+1 056 ¹	+1 803	-1 803
+10 213	-4 721	-1 239	-3 642	+611	-3 287	-914	+771	+1 493	+1 811	-126	+126
+10 112	-7 273	+423	-1 388	+1 874	-3 353	+3 273	-3 380	+1 266	+32	-2 162	+2 162
+14 087	-7 538	-1 682	+1 428	+6 295	+6 295	+695	+3 308	+2 086	-3 109	+9 275	-9 275
+1 859	-883	-127	-246	+603	-1 513	-277	-143	-620	+1 909	-544	+544
+2 385	-1 477	-670	-2 930	-2 692	-4 922	-328	-429	+3 701	+1 039	-939	+939
+2 985	-1 271	+100	-182	+1 632	+702	-115	+654	-1 220	-503	-482	+482
+2 435	-2 895	+273	-204	-391	-1 645	+1 261	-343	+699	+425	+397	-397
+1 479	-1 269	+142	-129	+223	-1 731	+1 197	-1 662	-593	+476	-2 313	+2 313
+3 213	-1 838	-92	-873	+410	-679	+930	-2 029	+2 380	-366	+236	-236
+4 075	-1 887	-235	-47	+1 906	+2 700	-1 002	+1 135	+2 443	-2 290	+2 986	-2 986
+3 858	-2 351	+89	+276	+1 872	+1 751	+1 087	+162	+2 531	-309	+5 222	-5 222
+2 495	-1 185	-603	+1 475	+2 182	+1 220	+332	+6	-2 186	-512	-1 140	+1 140
+3 659	-2 115	-933	-276	+335	+624	+278	+2 005	-702	+2	+2 207	-2 207
+2 977	-1 738	+336	-49	+1 526	+754	+568	-1 156	+1 748	+239	+2 153	-2 153
+3 355	-2 709	+354	+3 111	+4 111	+3 718	+956	-2 342	+1 488	-1 592	+2 228	-2 228

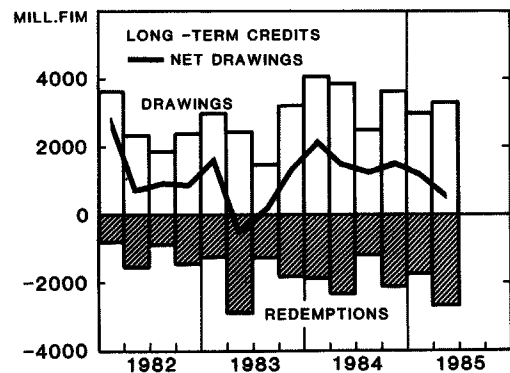
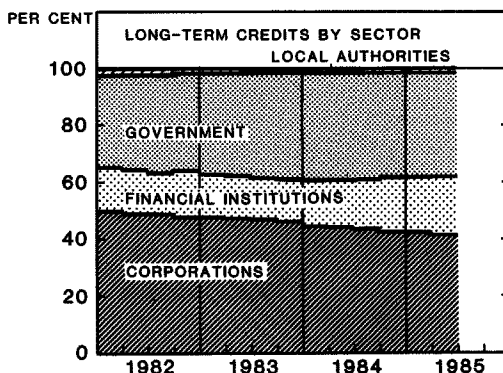
Assets: increase -, decrease +. Liabilities: increase +, decrease -

¹ Including allocations of special drawing rights totalling FIM 131 million.

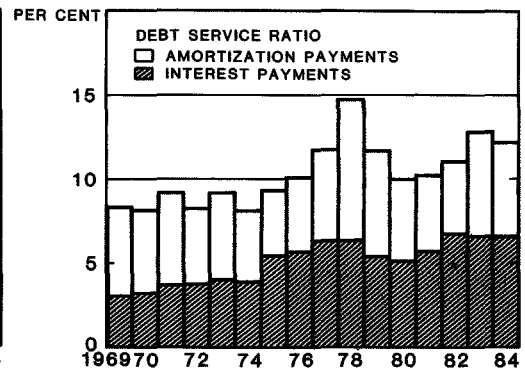
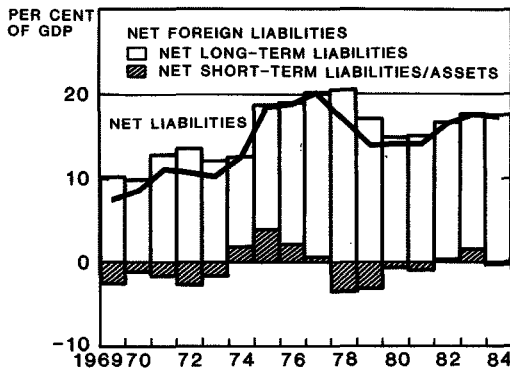


FINLAND'S FOREIGN ASSETS AND LIABILITIES

End of year and month	Long-term assets				Long-term liabilities						Net long-term liabilities (10-4)
	Export credits	Direct investment	Other	Total (1 to 3)	Financial loans	Import credits	Direct investment	Portfolio investment	Other	Total (5 to 9)	
	1	2	3	4	5	6	7	8	9	10	11
1981	4 673	3 426	1 317	9 416	35 536	4 444	2 183	..	391	42 554	33 138
1982	6 628	4 626	3 796	15 050	47 547	4 608	2 223	..	752	55 130	40 080
1983	6 612	6 166	3 932	16 710	53 118	4 472	2 317	848	763	61 518	44 808
1984*	8 920	8 689	1 915	19 524	63 958	3 865	2 646	2 013	805	73 287	53 763
1982											
Sept.	5 556	4 084	1 466	11 106	41 198	4 515	2 345	..	687	48 745	37 639
Dec.	6 628	4 626	3 796	15 050	47 547	4 608	2 223	..	752	55 130	40 080
1983											
March	6 672	5 003	3 892	15 567	49 897	4 759	2 288	..	846	57 790	42 223
June	6 458	4 998	3 956	15 412	49 921	4 462	2 306	..	812	57 501	42 089
Sept.	6 411	5 392	3 935	15 738	50 705	4 566	2 303	..	798	58 372	42 634
Dec.	6 612	6 166	3 932	16 710	53 118	4 472	2 317	848	763	61 518	44 808
1984*											
March	6 658	6 687	3 539	16 884	54 014	4 225	2 354	987	731	62 311	45 427
June	6 827	7 435	3 230	17 492	57 198	3 937	2 393	1 640	729	65 897	48 405
Sept.	7 767	7 834	1 839	17 440	60 497	3 951	2 410	1 957	834	69 649	52 209
Dec.	8 920	8 689	1 915	19 524	63 958	3 865	2 646	2 013	805	73 287	53 763
1985*											
March	8 504	9 408	2 071	19 983	64 798	3 616	2 631	2 900	778	74 723	54 740
June	8 080	9 824	2 195	20 099	65 273	3 350	2 763	6 317	873	78 576	58 477



Short-term assets				Short-term liabilities				Net short-term liabilities (19-15)	Net liabilities (11+20)	Debt service, flow	Of which amortization payments, flow
Bank of Finland	Authorized banks and other foreign exchange holders	Corporate sector	Total (12 to 14)	Bank of Finland	Authorized banks and other foreign exchange holders	Corporate sector	Total (16 to 18)				
12	13	14	15	16	17	18	19	20	21	22	23
11 362	13 781	14 176	39 319	2 427	20 218	14 743	37 388	-1 931	31 207	7 994	3 494
12 737	22 899	13 858	49 494	5 348	31 331	13 782	50 461	967	41 047	9 069	3 464
11 842	29 263	15 915	57 020	5 705	39 443	16 180	61 328	4 308	49 116	11 591	5 621
22 912	43 319	12 491	78 722	4 562	55 695	17 922	78 179	-543	53 220	12 878	5 896
12 456	17 474	13 531	43 461	4 097	21 737	14 859	40 693	-2 768	34 871	2 040	662
12 737	22 899	13 858	49 494	5 348	31 331	13 782	50 461	967	41 047	2 542	1 185
12 365	22 166	14 580	49 111	4 637	29 530	15 112	49 279	168	42 391	2 535	942
12 905	23 008	14 878	50 791	4 705	31 137	16 563	52 405	1 614	43 703	3 788	2 243
10 556	23 605	15 681	49 842	4 737	31 289	16 805	52 831	2 989	45 623	2 542	1 049
11 842	29 263	15 915	57 020	5 705	39 443	16 180	61 328	4 308	49 116	2 726	1 387
14 740	25 724	15 522	55 986	3 657	37 966	15 617	57 240	1 254	46 681	3 523	1 452
20 705	31 935	15 083	67 723	3 775	47 084	16 884	67 743	20	48 425	3 260	1 987
21 064	34 621	14 700	70 385	4 815	47 882	17 388	70 085	-300	51 909	2 448	821
22 912	43 319	12 491	78 722	4 562	55 695	17 922	78 179	-543	53 220	3 647	1 636
24 785	44 978	13 876	83 639	4 535	59 101	18 427	82 063	-1 576	53 164	3 237	1 688
26 206	46 672	16 054	88 932	3 729	62 283	19 197	85 209	-3 723	54 754	3 662	2 108



PRICE INDICES

Period	Wholesale price index 1949 = 100	Basic price index for domestic supply 1980 = 100						Building costs 1980 = 100		
		Total	Origin		Purpose			Total	Wages in building trade	Building materials
			Domestic goods	Imported goods	Raw materials	Consumer goods	Investment goods			
	1	2	3	4	5	6	7	8	9	10
1983	1 189	127.6	128.8	124.2	126.0	130.8	128.5	128.7	124.4	129.2
1984	1 261	134.5	136.0	130.0	132.6	137.5	135.8	136.5	133.7	136.1
1985										
Feb.	1 321	140.4	141.5	137.0	139.5	143.3	139.4	140.8	138.0	140.1
March	1 332	141.4	142.2	138.9	140.6	144.6	139.9	143.3	144.0	141.8
April	1 334	141.5	143.4	135.6	139.8	145.2	141.5	144.1	145.1	142.5
May	1 335	141.6	144.2	133.9	139.3	146.2	142.5	144.2	145.4	142.3
June	1 332	141.3	143.9	133.4	138.6	146.0	142.9	144.6	145.6	142.7
July	1 330	141.1	144.2	131.4	137.7	146.9	143.2	144.9	145.8	143.1
Aug.	1 324	140.2	143.7	129.4	136.1	146.8	143.5	145.6	146.0	144.0
Sept.	1 326	140.8	143.6	132.3	137.0	146.7	143.9	145.8	146.2	144.2

Period	Consumer prices 1981 = 100									
	Total	Food	Beverages and tobacco	Clothing and footwear	Rent, heating and lighting	Household goods and services	Health and medical services	Transport and communication	Education and recreation	Other goods and services
	1	2	3	4	5	6	7	8	9	10
1983	118.7	120.0	125.1	112.8	118.4	114.3	126.6	117.4	116.9	120.7
1984	127.1	129.1	132.5	119.5	124.6	123.0	145.2	125.4	126.4	130.8
1985										
Feb.	131.7	134.9	139.7	121.4	126.9	127.4	153.6	129.7	130.2	137.9
March	133.0	137.9	139.7	123.7	127.2	128.0	153.6	131.5	130.7	138.2
April	133.7	139.3	139.7	125.9	127.2	128.5	153.6	132.2	131.2	138.9
May	135.0	140.0	139.7	126.6	132.6	129.2	154.7	130.6	131.8	139.9
June	135.3	141.1	139.7	126.4	132.6	129.4	154.4	130.8	132.0	140.3
July	135.4	141.3	139.7	125.2	132.6	129.6	154.4	131.1	132.2	140.4
Aug.	135.6	141.4	139.7	126.4	132.6	130.4	157.1	129.8	133.1	141.7
Sept.	135.8	140.0	141.4	128.0	132.8	131.1	157.2	130.1	134.0	142.1

WAGES

Index of wage and salary earnings 1980 = 100

Period	By industries			By institutional sectors			All salary earners	All wage earners	All employees	
	Wage earners in			Employees in services	State employees	Municipal employees				Employees in private sector
	Agriculture	Industry	Construction							
1	2	3	4	5	6	7	8	9	10	
1982	124.1	125.1	124.3	124.8	123.8	125.5	124.8	124.9	124.6	124.8
1983	132.1	137.3	138.2	138.8	137.3	140.0	137.3	138.4	136.9	137.8
1984*	148.5	149.9	152.8	152.2	146.4	154.7	150.5	151.2	149.7	150.7
1984*										
Apr.-June	147.2	152.2	151.1	152.5	146.8	155.1	151.2	151.6	150.8	151.3
July-Sept.	150.9	151.1	153.0	153.3	146.8	155.9	152.0	152.6	150.8	152.0
Oct.-Dec.	154.6	152.7	158.0	154.5	148.2	156.6	154.2	154.1	153.4	153.8
1985*										
Jan.-March	150.3	157.0	164.3	159.6	153.1	162.5	157.3	158.0	157.2	157.7
Apr.-June	165.0	164.4	169.6	165.4	158.1	167.2	165.3	164.6	164.9	164.7

PRODUCTION

Volume indices of production 1980 = 100

Period	Gross domestic product	Industrial production	Agriculture	Forestry	Construction of buildings	Land and waterway construction	Transport and communication	Commerce	Public sector services	Others
1983										
Apr.-June	107	111	80	90	90	103	105	109	111	115
July-Sept.	108	99	206	41	119	103	108	105	112	113
Oct.-Dec.	117	116	88	101	148	104	121	117	114	121
1984*										
Jan.-March	104	110	75	89	82	93	103	98	114	113
Apr.-June	109	114	83	90	84	104	109	108	114	121
July-Sept.	110	102	199	45	114	104	107	110	115	119
Oct.-Dec.	121	123	94	118	141	106	121	119	117	128
1985*										
Jan.-March	108	111	78	101	83	89	107	101	117	117
Apr.-June	114	120	83	107	91	105	112	111	117	127

PRODUCTION

Index of industrial production 1980 = 100

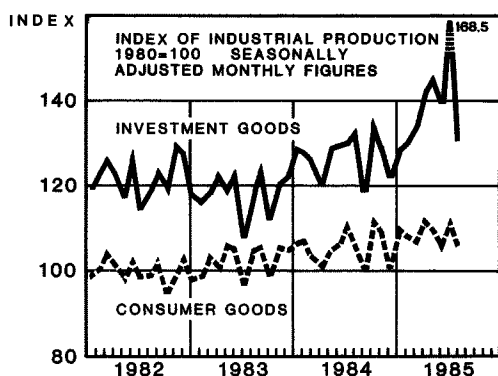
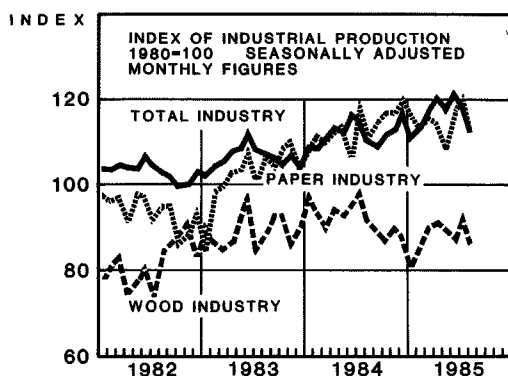
Period	Total	Investment goods	Consumer goods	Other producer goods	Special indices of manufacturing						Total adjusted for seasonal variations
					Food industry	Wood industry	Paper industry	Chemical industries	Non-metallic mineral industry	Metal industry	
	1	2	3	4	5	6	7	8	9	10	11
1982	103.6	122.9	100.5	101.5	106.0	82.4	94.7	98.8	110.0	113.9	103.8
1983*	107.1	118.9	102.6	107.1	108.9	89.9	103.5	106.2	115.0	114.5	107.1
1984*	112.4	127.8	106.0	112.5	110.1	92.4	114.3	110.8	109.2	121.6	112.7

1984*

Aug.	116.2	130.5	109.2	116.8	116.3	90.5	118.9	113.4	126.1	123.9	110.7
Sept.	111.7	125.6	103.5	113.0	107.4	99.7	112.5	113.4	129.1	121.3	109.6
Oct.	127.7	143.4	123.6	126.6	142.9	104.8	125.7	122.7	138.3	138.9	112.3
Nov.	125.7	143.7	123.6	123.2	134.2	95.0	124.4	122.1	118.2	138.4	113.4
Dec.	104.8	120.7	98.5	104.8	104.3	65.4	110.8	103.5	94.7	116.6	117.9

1985*

Jan.	118.9	132.7	116.1	117.4	103.3	78.6	119.3	108.8	109.2	129.3	111.8
Feb.	109.9	127.6	105.7	108.6	89.9	77.1	110.6	107.1	88.2	120.9	113.8
March	121.5	146.2	113.0	120.9	105.5	97.7	123.5	123.2	113.1	136.1	118.0
April	119.9	147.7	110.8	119.1	106.7	107.6	105.9	128.7	103.9	139.6	121.0
May	128.1	172.3	116.8	125.6	114.1	115.9	108.2	126.1	125.3	158.5	118.6
June	114.9	152.9	103.1	113.7	102.8	92.4	106.9	106.7	116.1	138.3	122.4
July	81.3	67.6	72.1	88.0	102.5	40.4	127.5	78.3	71.6	68.3	118.9
Aug.	115.6	128.8	109.1	116.2	112.6	82.3	119.7	122.5	132.3	124.9	112.8



LABOUR – TIMBER FELLINGS – INTERNAL TRADE

Period	Population of working age, 1 000 persons	Total labour force, 1 000 persons	Employed, 1 000 persons	Un-employed, 1 000 persons	Unemployment, % of total labour force	Commercial timber fellings, 1 000 solid cu. m	Retail sales volume index 1980 = 100	Wholesale volume index 1980 = 100
	1	2	3	4	5	6	7	8
1983	3 681	2 546	2 390	156	6.1	39 324	107	110
1984*	3 700	2 572	2 414	159	6.2	41 288	109	109
1984*								
July	3 700	2 761	2 614	147	5.3	1 323	113	93
Aug.	3 700	2 598	2 454	144	5.6	1 649	113	120
Sept.	3 703	2 549	2 395	154	6.0	2 353	106	117
Oct.	3 706	2 520	2 370	150	6.0	3 561	113	121
Nov.	3 704	2 517	2 358	159	6.3	4 269	111	117
Dec.	3 705	2 544	2 386	158	6.2	5 134	130	113
1985*								
Jan.	3 706	2 531	2 360	171	6.8	4 241	99	103
Feb.	3 707	2 534	2 363	171	6.7	4 581	97	101
March	3 706	2 528	2 355	173	6.8	6 031	107	110
April	3 707	2 565	2 394	171	6.6	5 882	107	114
May	3 709	2 611	2 461	150	5.7	4 598	118	120
June	3 708	2 761	2 594	167	6.1	2 407	113	104
July	3 708	2 780	2 621	159	5.7	1 121	119	97
Aug.	3 712	2 631	2 481	150	5.7	1 212

CONSTRUCTION OF BUILDINGS

Period	Building permits granted					Buildings completed					Building-works under construction
	Total	Residential buildings	Farm buildings	Industrial and business buildings	Public buildings	Total	Residential buildings	Farm buildings	Industrial and business buildings	Public buildings	
Million cubic metres											
	1	2	3	4	5	6	7	8	9	10	11
1983	51.77	19.67	6.43	18.33	3.64	47.37	18.43	5.91	16.32	3.53	51.44
1984*	49.68	19.93	5.65	17.44	3.13	44.24	17.65	5.13	15.75	2.83	52.13
1984*											
Jan.-March	9.17	3.87	1.12	3.10	0.61	9.35	3.89	0.75	3.38	0.70	46.23
Apr.-June	17.32	7.77	2.44	5.01	0.77	10.79	4.26	0.75	4.63	0.58	51.59
July-Sept.	12.91	4.85	1.28	4.68	1.03	9.70	3.66	1.67	2.74	0.90	55.86
Oct.-Dec.	10.28	3.44	0.81	4.65	0.72	14.40	5.84	1.96	5.00	0.65	52.13
1985*											
Jan.-March	9.15	3.44	1.09	3.17	0.86	8.46	3.77	0.54	2.87	0.73	48.36
Apr.-June	16.63	7.04	3.03	4.65	0.74	9.25	3.75	0.61	3.19	1.00	54.14

EXPLANATIONS RELATING TO THE STATISTICAL SECTION

BANK OF FINLAND

Page 4. *Public sector*: Claims = Government promissory notes + Bonds + Total coinage + Other claims on the public sector. Other liabilities = Cheque accounts + Counter cyclical reserves + Counter-cyclical deposits + Capital import deposits + Other liabilities to the public sector. Certificates of deposit are interest bearing, freely transferable term liabilities of the Bank of Finland sold to the government. Their maturities range from one week to one year. As from November 1, 1983, certificates of deposit were replaced by the government deposit account.

Page 5. *Domestic financial sector*: Other liabilities, net = Capital import deposits + Other liabilities to financial institutions - Bonds - Other claims on financial institutions.

Corporate sector: Permanent special financing schemes = Foreign bills + New export bills + Financing of suppliers' credits. Liabilities, net = Deposits for investment and ship purchase + Counter-cyclical withholdings + Capital import deposits + Import levy deposits + Export deposits + Other liabilities to corporations - Bonds - Other claims on corporations.

MONETARY POLICY INDICATORS

Page 6. All the figures except the average lending rate of the commercial banks are mean values of daily figures for the month or year in question. The average lending rate of the commercial banks is the mean value of the end of the month lending rates weighted by credit outstanding. The annual figure for the average lending rate is an unweighted average of the weighted average monthly rates.

Gross central bank debt of the deposit banks = The commercial banks' and Postipankki's cheque account overdrafts + Call money credit. Prior to January 1984 the average monthly amount of cheque account overdrafts at base rate was restricted by the quota granted to each bank. The banks could obtain central bank credit in excess of the quota by borrowing on the Bank of Finland's call money market. As from January 1984, the quotas were abolished and the only source of central bank debt is now the call money market. There is no longer any absolute ceiling on call money credit. However, banks' borrowing is monitored and a bank whose borrowing exceeds a certain limit comes under the special surveillance of the central bank. The interest charged on call money credit, the call money rate, is adjusted by the central bank in line with monetary policy objectives at the time.

Net central bank debt of the deposit banks = Gross central bank debt of the deposit banks - The commercial banks' and Postipankki's deposits on the call money market - All deposit banks' cash reserve deposits at the Bank of Finland.

Cash reserve deposits of the deposit banks equal the total amount of cash reserve deposits at the Bank of Finland made by the deposit banks under the Cash Reserve Agreement of March 8, 1983. The deposit banks consist of the commercial banks, co-operative banks, savings banks and Postipankki.

The cash reserve requirement is set each month by the Bank of Finland as the percentage of each bank's stock of deposits which must be deposited at the central bank. Deposits are to be made one month after the close of the month to which the coefficient applies.

Call money credit extended by the Bank of Finland = Demand for call money by the deposit banks - Supply of call money by the deposit banks.

Average cost of gross central bank debt = Costs of borrowing paid to the Bank of Finland by the deposit banks, as a percentage of their gross central bank debt, per annum.

FORWARD EXCHANGE MARKETS IN FINLAND

Page 7. The figures for columns 1-6 are calculated by the Bank of Finland on the basis of monthly reports from the banks on their outstanding forward exchange positions at the end of each month. The figures for columns 7-9 are based on monthly averages of daily representative quotations, as reported by the banks to the Bank of Finland.

The banks' foreign currency positions shown in the chart at the bottom of page 7 are monthly averages of daily spot and forward positions vis-à-vis the markka as reported by the commercial banks to the Bank of Finland. The spot position includes all foreign currency-denominated assets and liabilities of the banks, excluding their outstanding forward contracts.

FOREIGN EXCHANGE RATES

Pages 8-9. *Exchange rates* are annual and monthly averages of the Bank of Finland's daily quotations. *Currency index* is annual and monthly average of daily index numbers. The chart at the bottom of page 8 shows the banks' forward selling rates for the US dollar as deviations from the spot rate.

DEPOSITS BY THE PUBLIC - ADVANCES TO THE PUBLIC - MONEY SUPPLY

Figures for deposits and advances are supplied by the Central Statistical Office.

Page 10. *Deposits by the public*. The central government and the financial institutions are mainly excluded from the public. From 1974 deposits include domestic deposits denominated in foreign currency.

Page 11. *Advances to the public*. The central government and the financial institutions are not included in the public. Postipankki's advances do not include loans granted by the State Investment Fund (INRA). Domestic credits in foreign currency are mainly granted by the commercial banks and the rest by Postipankki.

Money Supply M₁ = Finnish notes and coins in circulation - Finnish notes and coins held by the banks + Demand deposits held by the public (incl. Demand deposits at the Bank of Finland). Quasi-Money = Time deposits held by the public (incl. Time deposits at the Bank of Finland).

Note: Domestic deposits in foreign currency included in money supply since 1974. In the money supply the public includes non-monetary financial institutions.

STATE FINANCES

Page 12. Official figures computed by the Economics Department of the Ministry of Finance. Revenue and expenditure: Extra-budgetary funds and the aggregated net current deficit of State enterprises are included. Figures are reported on a cash payment basis.

FOREIGN TRADE

Pages 13-15. Figures supplied by the Board of Customs. *Indices* (p. 13): The volume indices are calculated according to the Paasche formula and the unit value indices according to the Laspeyres formula. *Terms of trade*: the ratio of export indices to import indices. *Foreign trade by countries*: (p. 15): from January 1980 imports by countries of origin, exports by countries of consignment.

BALANCE OF PAYMENTS

Pages 16-17. Figures are calculated by the Bank of Finland.

Columns 1-7. The figures for the trade and goods and services accounts are in accordance with the System of National Accounts.

Columns 12-13. Long-term loans comprise financial loans and import and leasing credits.

Column 15. Miscellaneous long-term capital items, net = direct investment, net + portfolio investment by foreigners + financial loans and development credits to abroad + Finland's subscriptions to international financial institutions, net.

Column 23. Changes in the foreign exchange reserves of the Bank of Finland exclude changes in the markka value of the reserves caused by changes in exchange rates.

FOREIGN ASSETS AND LIABILITIES

Pages 18-19. Figures calculated by the Bank of Finland.

Long-term assets: Other = financial loans + development credits + Finland's subscriptions to international financial institutions. Long-term liabilities: Portfolio investment = the outstanding amount of share issues by Finnish companies on foreign stock exchanges and of securities sold to foreign buyers through the Helsinki Stock Exchange. Other = Leasing credits + subscriptions to international financial institutions paid in the form of bonds.

Column 22. Debt service = Net investment income of short-term and long-term assets and liabilities + net amortisation payment of long-term foreign assets and liabilities, excl. amortisation payments of the Bank of Finland's reserve and oil credits.

Columns 22 and 23 during the year and the quarter.

Chart Debt service ratio: Debt service as a per cent of current account earnings. Debt service does not include amortisation of the Bank of Finland's reserve and oil credits.

PRICE INDICES

Page 20. All indices calculated by the Central Statistical Office.

WAGES - PRODUCTION

Pages 21-22. Figures supplied by the Central Statistical Office.

Page 22. *Index of industrial production* calculated by the Central Statistical Office. The grouping, by branches of industry is in accordance with the Standard Industrial Classification (SIC) which is a version of the 1968 edition of the ISIC. The SIC facilitates international comparisons between Finnish statistics and corresponding data from countries which use the ISIC. The seasonally adjusted series is calculated by the Bank of Finland on the basis of the index of industrial production per working day according to a method resembling the U.S. Bureau of Census Method II.

LABOUR - TIMBER FELLINGS - INTERNAL TRADE - CONSTRUCTION OF BUILDINGS

Page 23. *Labour* figures supplied by the Central Statistical Office. *Commercial timber fellings* compiled by the Forest Research Institute, *Retailers' and Wholesalers' volume indices* supplied by the Central Statistical Office. *Construction of buildings* figures calculated by the Central Statistical Office.

Owing to rounding, the figures in statistical tables do not necessarily add up to the totals shown.

SYMBOLS USED: * Preliminary, r Revised, 0 Less than half the final digit shown, . . Logically impossible, . . Not available, - Nil, S affected by strike, - Break in series.

SOME PARTICULARS ABOUT FINLAND

FORM OF GOVERNMENT

From 1155 to 1809 Finland formed a part of the kingdom of Sweden. Connected from 1809 with Russia, Finland was an autonomous country with the Emperor as Grand Duke until December 6, 1917, the date of Finland's declaration of independence. The republican constitution was adopted in 1919. The legislative power of the country is vested in Parliament and the President. The highest executive power is held by the President, elected for a period of 6 years. The President for the current term, January 27, 1982, to March 1, 1988, is Mauno Koivisto.

Parliament, comprising 200 members is elected by universal suffrage for a period of 4 years. The number of seats of the different parties in Parliament elected in 1983 is as follows: Social Democratic Party of Finland 57, National Coalition Party 44, Centre Party 38, Democratic League of the People of Finland 27, Finnish Rural Party 17, Swedish People's Party 11, Christian League of Finland 3, The Greens 2 and Finnish People's Constitutional Party 1.

Finland is divided into 461 self-governing municipalities. Members of the municipal council are elected by universal suffrage for a period of 4 years.

INTERNATIONAL ORGANIZATIONS

Finland became a member of BIS 1930, IMF 1948, IBRD 1948, GATT 1950, UN 1955, IFC 1956, IDA 1960, EFTA 1961, ADB 1966, OECD 1969, IDB 1977 and AfDB 1982.

LAND

THE AREA is 338 000 square kilometres (Great Britain's area is 244 000 sq. km and Italy's area 301 000 sq. km). Of the total, inland waters form 9.4 %. Of the land area (1980) 2.5 mill. ha (8.2 %) are cultivated and 19.7 mill. ha (64.5 %) are covered by forests.

OWNERSHIP OF LAND (1979). The total land area was distributed among different classes of owners approximately as follows: private 58.7 %, State 31.4 %, joint stock companies etc. 7.4 %, municipalities and parishes 2.5 %.

POPULATION

NUMBER OF INHABITANTS (1983): 4.9 million. Sweden 8.3, Switzerland 6.4, Denmark 5.1, and Norway 4.1 million.

DENSITY OF POPULATION (1983): In South Finland 47.4, in East and Central Finland 14.3, in North Finland 4.2 and in the whole country an average of 16.0 inhabitants to the square kilometre.

DISTRIBUTION BY AREA (1983): 40 % of the population inhabit the rural areas, 60 % towns. The largest towns are: Helsinki (Helsingfors), the capital, 484 471 inhabitants, Tampere (Tammerfors) 167 344, Turku (Åbo) 163 002.

EMPLOYMENT (1984): Agriculture and forestry 12 %, industry and construction 33 %, commerce 14 %, transport and communication 7 %, financing, insurance, real estate and business services 6 %, community and personal services 28 %.

LANGUAGE (1983): Finnish speaking 93.6 %, Swedish speaking 6.1 %, others 0.3 %.

EDUCATION (1985): Practically all persons over 15 years of age are literate. There are 8 universities (the oldest founded in 1640) and 12 colleges of university standard.

CHANGE OF POPULATION (1983): births 13.8 ‰, deaths 9.3 ‰, change + 5.8 ‰, net immigration + 1.4 ‰. Deaths in France 10.3 ‰ and Great Britain 11.7 ‰.

TRADE AND TRANSPORT

NATIONAL INCOME (1984), in million FIM: Gross domestic product at factor cost by industrial origin: agriculture and fishing 12 849 (5 %), forestry 10 004 (4 %), manufacturing 82 263 (30 %), construction 21 786 (8 %), trade, restaurants and hotels 30 337 (11 %), transport and communication 21 419 (8 %), banking and insurance 11 676 (4 %), ownership of dwellings 17 688 (6 %), other services 65 583 (24 %), total 273 606. Index of real domestic product 111 (1980 = 100).

FOREST RESOURCES (1982). The growing stock comprised of 1 658 million m³ (solid volume with bark) of which 45 % was pine and 37 % spruce the remaining 18 % being broad-leaved trees chiefly birch. Of the growing stock 667 million m³ was up to the standard required for logs, 52 % of these being pine. The annual growth was 67 million m³ and the total drain calculated on the basis of roundwood consumption was 48.5 million m³.

AGRICULTURE (1983). Cultivated land 2.4 million hectares. Number of holdings 208 229 of which 146 465 are of more than 5 ha. Measure of self-sufficiency in bread cereals 93 %.

INDUSTRY (1982). Gross value of industrial production FIM 205 471 mill., number of workers 409 499, salaried employees 145 997, motive power 8.2 mill. kW. Index of industrial production 103.6 for 1982 (1980 = 100).

STATE RAILWAYS (Dec. 31, 1984): Length 6 069 km.

MERCHANT FLEET (Sept. 30, 1985): Passenger vessels 160 (245 176 gross reg. tons), tankers 39 (938 995 gross reg. tons), dry cargo vessels 147 (666 773 gross reg. tons), other vessels 102 (21 163 gross reg. tons), total 448 (1 872 107 gross reg. tons).

MOTOR VEHICLES (Dec. 31, 1984): Passenger cars 1 473 975, lorries and vans 173 784, buses 9 069, others 11 159, total 1 667 987.

FINNISH AIRLINES (Feb. 28, 1985). Finnair has in use 1 DC-8-62, 3 DC-9-10, 5 DC-9-41, 12 DC-9-51, 3 DC-9 Super 82, 3 DC-10-30, 1 DC-10-30 ER and 3 Fokker F-27 Friendship MK. The company has scheduled flights to 34 foreign and 21 domestic destinations.

FINANCE AND BANKING

CURRENCY. Since 1860. Finland has had its own monetary system. From 1877 until 1914 the country was on the gold standard, and returned to it in 1926. In 1931, the Central Bank's duty to redeem bank notes in gold was suspended and at the end of 1962 was entirely cancelled. The monetary unit is the markka (plural: markkaa), which is divided into 100 penniä (singular: penni). The abbreviation used for the markka is FIM. The last par value of the markka was set on Oct. 12, 1967 and was 0.21159 grams of fine gold per markka (equivalent, at the time, to 4.20 markkaa per U.S. dollar). Since Nov. 1, 1977 the external value of the markka has been officially expressed in terms of a currency index. This index is tradeweighted and as from Jan. 1, 1984 indicates the average change in the convertible currencies which are important in Finnish foreign trade. The present currency weights are SEK 18.3, DEM 19.4, GBP 15.6, USD 9.5, other currencies 37.2. The permissible range of fluctuation is about 2.25 per cent on either side of the theoretical arithmetic mean. The fluctuation limits are 106.0 and 101.3.

THE CENTRAL BANK. The Bank of Finland (estab. 1811) functions under the guarantee and supervision of Parliament. Its Board of Management is appointed by the President of the Republic; the Bank Supervisors, nine in number, are elected by Parliament. The Bank has a head office in Helsinki and 12 branches in other towns.

OTHER CREDIT INSTITUTIONS (Dec. 31, 1984). There are two big and eight small commercial banks with in all 942 offices, 263 savings banks, 370 co-operative banks, five mortgage banks, Postipankki and three development credit institutions. The co-operative stores accept deposits from their members. The Social Insurance Institution and 48 private insurance companies also grant credits.

RATES OF INTEREST (Feb. 1, 1985). The Bank of Finland's base rate is 9 %. The interest rates for domestic lending other than bank financing by the Bank of Finland vary between 6 ½ % and 11 ½ %. Other credit institutions: time deposits 4 %; 6 month deposits 6 %; 12 month deposits 7 ½ %; 24 month deposits 8 % and sight deposits 1 %. The highest lending rate is 13 ½ %.

THE BOF3 QUARTERLY MODEL OF THE FINNISH ECONOMY

by **Alpo Willman**, Lic.Pol.Sc.

and **Juha Tarkka**, M.Pol.Sc.

Bank of Finland

The construction of macroeconomic models for forecasting and policy analysis has a long tradition at the Bank of Finland. The largest, oldest and most regularly used macroeconomic model at the Bank is the BOF3 quarterly model of the Finnish economy, which is operated and developed by a model group in the Research Department of the Bank. This article presents a brief survey of the structure and properties of the model.

HISTORY AND PURPOSE OF THE MODEL

The construction of quarterly BOF (*Bank of Finland*) models, the third generation of which BOF3 represents, was begun in 1970, and the first version, BOF1, was completed in 1972. Since then, the development of the model has continued with varying intensity. At present, the model group consists of four persons. The BOF3 version has been operational since 1981. In recent years, the development of the model has concentrated on the improved modelling of exports, and, in particular, on the revision of the monetary-financial block of the model.

The model is designed to simulate the functioning of the Finnish economy in an aggregative way and to produce quantitative information on the responses of the economy to various kinds of impulses originating from, e.g., foreign trade and economic policy. The model has been used regularly as an aid for short- and medium-run forecasting and policy analysis at the Bank of Finland. Occasionally, policy simulations have also been made at the request of other research units and committees, both Finnish and international.

As well as at the Bank of Finland, the BOF3 model is also run at the coordination centre of Project LINK at the University of Pennsylvania

as a part of the Project's world econometric model. This consists of macroeconomic models of different countries and groups of countries (79 models are included at present, including most of the industrialized economies) linked together to form a global model for forecasting and policy evaluation purposes. The first BOF version was installed in the LINK world model in 1973 and the BOF3 version in 1982.

MAIN CHARACTERISTICS

BOF3 is a medium-sized quarterly model consisting of 189 equations, of which 90 may be classified as behavioural and the rest as identities or definitions. In addition to endogenous variables, the number of which equals the number of equations, the model includes 56 exogenous variables. Typically, exogenous variables, which are the inputs of the model, are monetary, fiscal and foreign exchange policy instruments, or variables determined abroad such as import prices and measures of foreign competitors' prices and the growth of export markets.

The model uses its own quarterly economic data base in which most of the time series are recorded from the year 1960 onward. For the most part the data of the model are based on the revised national accounts, but the data on financial markets are compiled mainly from the balance-of-payments and the banks' balance sheet statistics. The parameters of the model are mostly estimated over the period 1962 I - 1981 IV.

The model is dynamic owing to the use of lagged values of variables in many of the equations and the definitional linkages between the stock and flow variables included

in the model. The model is also non-linear to some extent since the equations include logarithmic transformations, products and quotients of the variables.

The model contains simplified balance sheet or budget constraints for the following sectors of the economy: central government, local government, the central bank, other banks, the foreign sector (i.e. the rest of the world) and the consolidated private non-banking sector. The separation between firms and households is not extended to the financial side because of the difficulties of measuring the financial position of firms vis-à-vis households in a meaningful way. Production is disaggregated into four sectors in the model: manufacturing, forestry, agriculture and services (including government and construction). Pricing, incomes and employment are also explained at this level of disaggregation.

The theoretical starting point adopted in constructing BOF3 was the so-called neoclassical synthesis. By this we mean that in the short run, owing to the relative rigidity of wages and prices, production, income and employment are determined by aggregate demand. The short-run properties of the model are thus Keynesian. In the course of time, however, wages and prices respond to possible discrepancies between demand and supply, and consequently the product and labour markets tend asymptotically towards equilibrium. Hence, in the long run the model has classical properties, such as a tendency towards a natural rate of unemployment and purchasing power parity between domestic and foreign currencies.

MODELLING THE MONETARY MECHANISM

In building the monetary-financial block of the BOF3 model, it was necessary to take into account the special characteristics of the Finnish financial markets. Normally in economic models, market rates of interest are the major channel through which the impact of financial conditions is transmitted to invest-

ment, consumption, the demand for money and other variables. In Finland, however, the most important interest rates, particularly the bank lending rate, have for decades been institutionally controlled. Excess demand for bank loans has therefore been a salient feature for long periods of time. The broad regulation of interest rates has also created a data problem: a good measure of the relevant cost of funds to firms and households has become directly available only very recently with the growth and organization of the markets outside the scope of interest rate regulation.

In BOF3, the problem of the missing market rate of interest is dealt with by means of a disequilibrium model of bank lending. Within this model, a measure of excess demand for bank loans is estimated. Since the excess demand for loans at the controlled rates reflects the gap between the implicit market rate and the controlled rate of interest, the estimate of excess demand for bank loans is used to supplement the controlled bank loan rate in equations where the market rate of interest is needed.

The monetary-financial equations concentrate on explaining the demand for and supply of money. *The demand for broad money* (M3), which is the money concept used in the model, depends on nominal GDP, interest rates and, for the reasons stated above, also on the excess demand for bank loans.

In *the supply of money*, three components are endogenized: bank credit, the balance of payments and money market deposits at the banks. The most important monetary policy instrument in the model is the call money rate of the Bank of Finland. It influences the supply of money through the banks' supply of credit and the demand for money through the changes in money market deposits.

Changes in the domestic components of money supply are partly neutralized by the balance of payments. Similarly changes in the demand for money are partly satisfied by inflows of foreign short-term capital. Ac-

ording to the present capital flow equation of the model, the "offset coefficient" of monetary policy is about 60 per cent.

MODELLING THE DEMAND SIDE

The short-run Keynesian character of the model stresses the importance of aggregate demand equations, since the properties of these largely determine the magnitude of multiplier effects on production and employment generated when the economy is subject to a shock emanating from, say, fiscal policy or export markets. Indeed, aggregate demand is treated in some detail in BOF3: altogether 13 different demand categories are distinguished, 11 of which are endogenous and thus have their own equation in the system. In the standard use of the model, *central government consumption and investment* are the only exogenous demand categories.

Exports of goods to western markets are specified to depend on the growth of markets and on relative export prices in the conventional way. The significant share of bilateral trade with the U.S.S.R. in Finnish exports (approx. 20 per cent recently) has led to a perhaps novel specification in respect of this trade. Finnish bilateral exports are assumed to be constrained by Finland's demand for Soviet imports (mostly energy). Exports follow imports with a time lag of 1-2 years, reflecting the flexible nature of the bilateral trade constraint in the short run.

Private consumption depends on the real disposable income of the household sector, the interest rate on bank loans, the rate of inflation and stocks of liquid wealth. After solving for private consumption as a whole, the model then subdivides it into three consumption categories on the basis of relative prices and the level of consumption.

The consumption and investment expenditures of the local government sector are both endogenous within the model. They are determined on the basis of the tax base of the

local authorities and the income transfers to them from the central government.

The equation for non-residential *private fixed investment* links investment to production, the existing capital stock and the cost of capital, which depends, among other things, on the real rate of interest on bank loans, the excess demand for bank credit and corporate tax parameters. The form of the equation is derived from the assumptions concerning production technology which are employed in the model. For this reason and because the stock of productive capital is built up from investments, the investment equation belongs to the supply side of the model as well as to the demand side.

MODELLING THE SUPPLY SIDE

In constructing BOF3, one of the primary concerns was with the modelling of the supply side of the economy. Given the aim of constructing a model which would display classical, or supply-determined, long-run properties, it was essential to make explicit assumptions on production technology, labour supply and wage-price behaviour and to try to take into account the implications of these assumptions throughout the entire model.

The supply side in BOF3 consists of two types of equations. First, there are the import, production and employment equations, which directly determine how the demand for goods and services is satisfied by imports and domestic output. Second, there are the wage and price equations, which bring about the long-run equilibrium properties of the model by generating price movements in response to goods market disequilibria and wage movements in response to labour market disequilibria.

Imports are divided into five categories in the model. The share of imports in aggregate supply depends on the composition of aggregate demand, on relative prices of imports and on the degree of capacity utilization in domes-

tic industries. The composition of aggregate demand less imports is fed into a small input-output table to yield the sectoral composition of *domestic production*. Labour requirements are solved from the *employment equations*. In BOF3, the demand for labour depends negatively on real wage costs and positively on output. The strong influence of real wages on the demand for labour is a consequence of the assumption of Cobb-Douglas production technology in all of the four production sectors: in this type of technology, labour and capital can be substituted for each other in production with relative ease.

The difference between the demand for and supply of labour is reflected in the unemployment rate, which in turn influences wages through the *wage equations*. Since wages react over time to unemployment and the demand for labour is sensitive to real wages, labour markets tend slowly towards an equilibrium rate of unemployment.

Within the wages block of the model, manufacturing is assumed to be the wage leader in the economy so that wage developments in the other sectors follow those in manufacturing with certain lags. As was mentioned above, wages in manufacturing depend negatively on unemployment. In addition, they respond directly to deviations of actual wages from equilibrium wages, the latter being measured by the nominal productivity of labour. Income policy has only transitory effects on wages in BOF3.

A standard property of theoretical models of small open economies is that the *prices of goods* produced in the open sector of the economy equal the prices of foreign substitutes. In BOF3, this holds asymptotically in the long run, but not necessarily in the short run, since in the open sectors of the model (manufacturing and forestry) domestic costs have a strong, if temporary, impact on prices. As open sector prices converge towards the relevant world-market prices, the form of the export equation ensures that in the long run

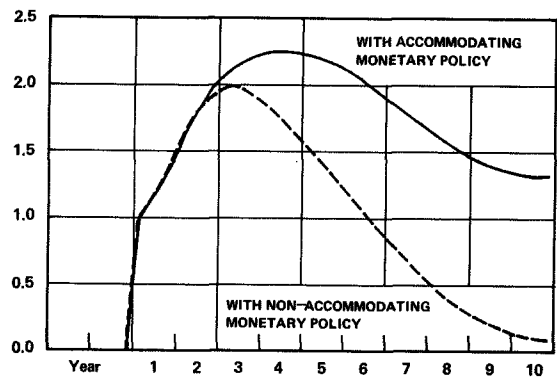
open sector output is at its profit-maximizing level.

In the closed sectors (agriculture and services), pricing is assumed to be based solely on domestic costs. In evaluating the cost structure of the different sectors, input-output tables are used.

SIMULATION PROPERTIES

The short-run Keynesian and long-run classical properties of the BOF3 model become apparent in model simulations. In simulation studies the behaviour of the model is investigated by considering the changes in model forecasts resulting from changes in the exogenous variables, which serve as inputs to the model.

CHART 1. GDP MULTIPLIER FOR AN INCREASE IN CENTRAL GOVERNMENT CONSUMPTION



The demand-orientated, or Keynesian, nature of the model can perhaps be best illustrated by examining the effects of a permanent increase in central government consumption on gross domestic product. In Chart 1 these effects are presented in multiplier form, i.e. relative to the size of the fiscal stimulus. Two cases are presented: the case of accommodating and the case of non-accommodating monetary policy. In both cases, the increase in government spending is financed through domestic bond issues. The exchange rate is assumed to be fixed in both experiments.

The solid line depicts the time path of the multiplier when monetary policy is accommodating. In this solution money supply adjusts to variations in the demand for money and there is no crowding-out effect. As a result of a rather strong accelerator-multiplier process, the effect on GDP after two years is more than twice the size of the original stimulus. Later, however, losses in multilateral exports and a slackening in capital formation diminish the size of the multiplier.

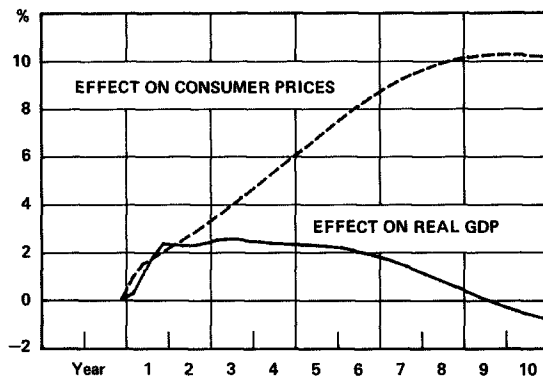
In Chart 1 the broken line depicts the time path of the multiplier in the case of non-accommodating monetary policy. Cumulative losses of foreign reserves, which in the previous case resulted from fiscal expansion, are prevented through monetary policy actions. At least from the long-run point of view this is a more realistic way of simulating the effects of fiscal policy, because depletion of the foreign exchange reserves resulting from fiscal expansion with accommodating monetary policy would force a devaluation of the exchange rate.

In the first two or three years following the shock, non-accommodating monetary policy does not seem to matter much. In the medium run, however, the crowding-out effect begins to be felt. As one would expect, in the long run the non-accommodating monetary policy nullifies all fiscal policy effects on the overall level of economic activity, since the current account balance must be redressed by the central bank. This requires that the level of activity be brought back to where it would have been without the fiscal policy stimulus. The remaining effect of the increase in government spending is then an equivalent decrease in private investment.

The long-run classical properties of the model are revealed by the effects of devaluation on domestic prices and activity. Chart 2 presents the effects of a ten per cent devaluation on consumer prices (the broken line) and the volume of gross domestic production (the solid line). The effects are expressed as percentage deviations from the baseline forecasts. The

calculations were performed assuming that income tax schedules and government transfers were indexed so that devaluation would affect neither tax rates nor the real value of transfers. This prevents the automatic tightening of fiscal policy which would otherwise take place as a result of accelerating inflation in the wake of a devaluation.

CHART 2. EFFECTS OF A TEN PER CENT DEVALUATION



It can be seen that within three years about half and within six years about 90 per cent of the size of the devaluation has passed through to the domestic price level. The convergence of the domestic price level towards the long-run equilibrium is slightly cyclical, which shows up in Chart 2 as a small overshooting of consumer prices during the ninth and tenth years after devaluation.

In the short and medium run, devaluation also has considerable real effects. Two years after a ten per cent devaluation, GDP is about 2.5 per cent higher than it would have been without devaluation. However, in the longer run the positive real effects start to diminish and turn slightly negative during the ninth year after devaluation as a response to the overadjustment of domestic prices. Accordingly, in the long run devaluation is transmitted in full to domestic prices and there are no permanent effects on economic activity. This is also consistent with classical theory.

SOME REFLECTIONS ON THE FURTHER DEVELOPMENT OF THE MODEL

Any macroeconomic model, if it is to retain its practical relevance, must be continually developed. In part, this is necessary because of changes in economic statistics and the structure of the economy. But at least equally important is the fact that the use of models is very fruitful in revealing new directions for research.

The work currently being done on the development of the BOF3 model is concerned with making the model more consistent and complete within its present framework of the neo-classical synthesis. For instance, public activity is being separated from other services to form a sector of its own. This will make the analysis of the supply side in the model more accurate. It is also planned to extend the financial block of the model to include, for example, the forward market for foreign exchange.

However, there are also reasons for reconsidering the theoretical foundations of the model. With the rapid increase in the practical use of economic computer models all over the world, the models have lately been sharply criticized by the so-called "new classical" school of economists. They claim that the current practice of macroeconomic model building is deficient in its treatment of expectations and, in particular, that the convergence of the models towards a general equilibrium in all markets is much too slow. In its extreme form, characterized by insistence on perpetual general equilibrium, the "new classical" view leads to the complete denial of any need for stabilization policy in general, and to scepticism about the usefulness of mainstream macroeconomic models in particular.

This critique should not be disregarded. However, if the need for discretionary stabilization policy is accepted, as it seems to be in practically all countries, the models intended to serve this policy cannot be built on an a priori assumption of continuous equilibrium in all

markets (including full employment etc.). The fruitful side of the critique is that it has attracted attention to the treatment of expectations in the existing models, which certainly is a weak point in most of them.

Consequently, the consistent treatment of expectations will be emphasised in future research and development work on the BOF models. The areas in most urgent need of improvement are inflation and exchange rate expectations in, for example, the wage and investment equations. A minimal goal would be to achieve the explicit inclusion of expectational variables and their coherent treatment throughout the model. A more ambitious research programme would aim at the possibility of also being able to use the model on the assumption of rational expectations. This would, however, call for much effort in developing new model solution programs.

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MONETARY AND FOREIGN EXCHANGE POLICY MEASURES FROM DECEMBER 1984 TO NOVEMBER 1985

1984

December

Banks' foreign lending activities and transactions in foreign securities. Through permits entering into force at the beginning of December, the Bank of Finland increases the banks' opportunities to engage in foreign lending activities and dealings in foreign securities, particularly shares. These permits require that the credits granted to non-residents and the security purchases are refinanced mainly by resorting to foreign credit.

Call money market. The Bank of Finland lowers the call money rate from 15.2 to 14.8 per cent as from December 21.

1985

January

Arrangement for the financing of short-term export credits. On January 1, 1985, the Bank of Finland raises the rate of interest on short-term export credits so that, irrespective of the credit period, it is the same as the Bank of Finland's base rate at any one time. At the same time, the Bank of Finland decides to reduce the maximum annual average amount of the Bank's financing of short-term export credits from FIM 30 to FIM 20 million.

Call money market. The Bank of Finland lowers the call money rate from 14.8 to 14.6 per cent as from January 11 and further to 14.2 per cent as from January 25.

Export deposits. The Council of State decides to discontinue the collection of export deposits on pulp as from January 31, 1985.

February

Interest rate policy. The Bank of Finland lowers its base rate from 9.5 to 9.0 per cent as from February 1. The banks are required to lower, in general, the rates of interest on their outstanding loans by 0.5 percentage point from the same date. The upper limit on the banks' lending rates is also lowered to 13.5 per cent. In addition, the rates of interest on the banks' tax-exempt deposit accounts fall, on average, by 0.5 percentage point.

Domestic foreign-currency-denominated loans. As from February 1, 1985, the Bank of Finland limits the amount of domestic foreign currency loans granted by an authorized bank which do not require the prior approval of the Bank of Finland to no more than the amount of domestic non-bank foreign currency deposits with the bank.

Payments agreement between Finland and Hungary. Under an agreement concluded between the Finnish and Hungarian authorities in October 1984, the payments agreement between the two countries terminates on January 31, 1985. As from February 1, 1985, payments between the two countries are to be effected in convertible currencies.

Call money market. The Bank of Finland lowers the call money rate from 14.2 to 14.0 per cent as from February 26.

March

Currency options. The Bank of Finland decides to entitle the authorized banks to conclude option contracts as from March 1, 1985. However, these contracts may not concern rates of exchange quoted against the Finnish markka.

Amendments to Foreign Exchange Regulations. The Bank of Finland revises the Foreign Exchange Regulations in certain respects as from March 1, 1985. The main details of the amendments are as follows:

Dividend receipts from foreign direct investment in Finland can be transferred abroad through an authorized bank without the Bank of Finland's special permission.

Obtaining collateral security on behalf of a non-resident is allowed without the Bank of Finland's special permission. Similarly, granting collateral security to a non-resident on behalf of a resident is allowed without special permission.

April

Payments Agreement between Finland and Bulgaria. In keeping with an agreement concluded between the Finnish and Bulgarian authorities in November 1984, the US dollar clearing account between the two countries is replaced by a Finnish markka clearing account as from April 1, 1985.

Export deposits. On April 3, the Council of State decides to repay export deposits. The export deposits collected on sawn wood are to be repaid during June and those on pulp during November.

Call money market. The Bank of Finland lowers the call money rate from 14.0 to 13.8 per cent as from April 26.

June

Investment reserves. On June 13, the Council of State decides to release, as from October 1, 1985, investment reserves made by companies for accounting periods ending in 1983 or earlier. In the Greater Helsinki area, such reserves may not be used until April 1, 1986. The utilization period is to expire on December 12, 1987.

Sale of Finnish bonds abroad. The Bank of Finland prohibits, until further notice, the sale abroad of bonds and debentures quoted on the Helsinki Stock Exchange as from June 24.

Call money market. The Bank of Finland lowers the call money rate from 13.8 to 13.6 per cent as from June 26.

August

Call money market. The Bank of Finland lowers the call money rate from 13.6 to 13.3 per cent as from August 15.

September

Forward market. The Bank of Finland issues new guidelines on operations in the forward market. Under these guidelines, firms are granted the right to hedge against the foreign exchange risk arising from the difference between their foreign currency claims and liabilities. Firms and private persons may still hedge against foreign exchange risks on an individual transactions basis as before. The new guidelines are to enter into force on September 1, 1985.

Personal credit guidelines. On September 6, the Bank of Finland issues the financial institutions new guidelines on the granting of personal credits.

Call money market. The Bank of Finland lowers the call money rate from 13.3 to 12.9 per cent as from September 17.

Local government counter-cyclical deposits. On September 19, the Council of State makes a decision according to which local authorities are allowed to make counter-cyclical deposits between October 1, 1985 and May 2, 1986. The funds are to be deposited with the Bank of Finland and they can be drawn as from October 1, 1986 and by August 31, 1987 at the latest. The Bank of Finland is to pay interest on the deposits at a rate which is 2.5 percentage points below the base rate. In addition,

supplementary interest at a rate of 5.5 per cent is to be paid from central government funds on deposits of more than one year.

October

Call money market. The Bank of Finland lowers the call money rate from 12.9 to 12.6 per cent as from October 18.

November

Call money market. The Bank of Finland lowers the call money rate from 12.6 to 12.4 per cent as from November 5.

ITEMS

Publication of the Bank of Finland. The following publication has appeared in series B:38: Heikki Koskenkylä, Investment behaviour and Market Imperfections with an Application to the Finnish Corporate Sector, doctoral dissertation presented to the Faculty of Social Sciences of the University of Helsinki, Helsinki 1985, 279 pp. + appendices. ISBN 951-686-110-5, ISSN 0357-4776.

The dissertation comprises a theoretical and empirical examination of the investment behaviour of firms in different market conditions. The theoretical part of the study investigates factors affecting the optimal capital stock in the long run and causing variations in investment activity in the short run. Special attention is attached to financial factors, such as rates of interest, profits and credit availability, and taxes.

The empirical part of the study examines the investment activity of manufacturing firms and other enterprises in the Finnish corporate sector. Variations in investment by Finnish firms have been large by international standards. The main factor influencing investment activity has been expected demand or output, although factor costs, such as wage and capital costs, and profits have also played a significant role. The rate of interest has had a relatively small effect on investment behaviour, and credit availability has had hardly any influence at all. The study includes a comprehensive analysis of the variables affecting the capital costs of firms. The results suggest that the rate of inflation has a greater impact on capital costs than taxation factors. Of the taxation factors, the most important are corporate taxation and various kinds of investment incentives, which have been used on a fairly large scale in Finnish fiscal policy to stimulate investment. By contrast, the taxation of shareowners has had only a minor effect on investment decisions.

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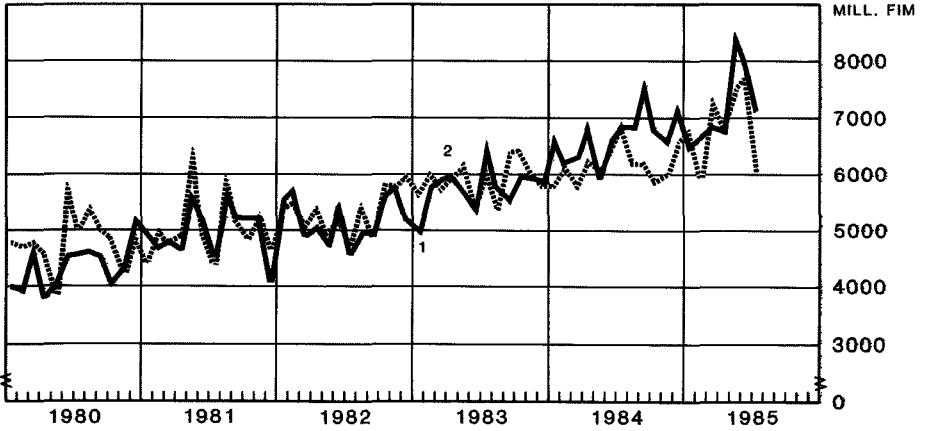
Markus Fogelholm
Foreign Financing

FOREIGN TRADE, 1980-85

1. Exports f.o.b.

2. Imports c.i.f.

Seasonally adjusted monthly figures



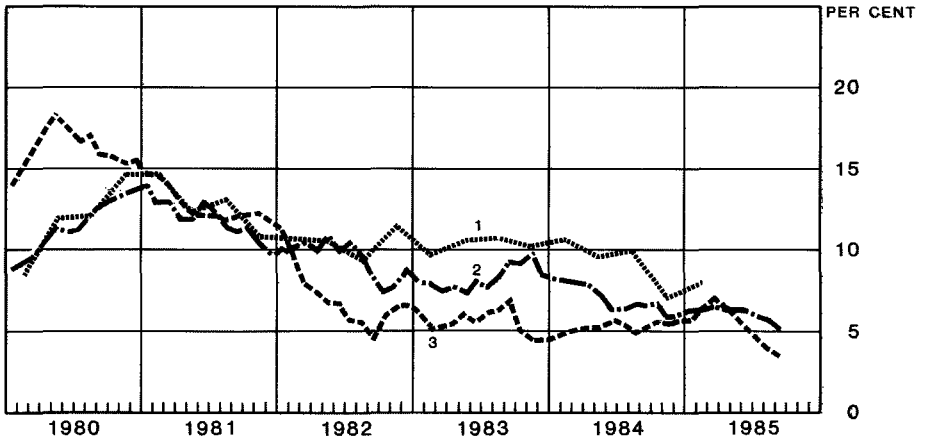
PRICES AND WAGES, 1980-85

1. Index of wage and salary earnings 1975 = 100, quarterly figures

2. Consumer price index 1981 = 100, monthly figures

3. Basic price index for domestic supply 1980 = 100, monthly figures

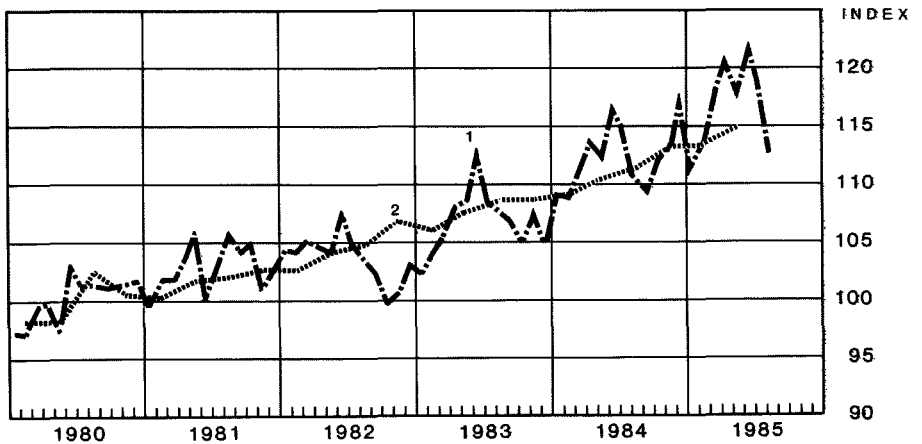
Percentage change on previous year



PRODUCTION, 1980-85

1. Total index of industrial production 1980 = 100, seasonally adjusted monthly figures

2. Volume index of gross domestic product 1980 = 100, seasonally adjusted quarterly figures



Bank of Finland Monthly Bulletin
Suomen Pankki — Finlands Bank
P.O. Box 160, SF-00101 Helsinki, Finland
Telephone: Helsinki 1832629
Telex: 121224 spfb sf
Cables: SUOMENPANKKI Helsinki

EDITOR-IN-CHIEF Antero Arimo
EDITOR Marja Hirvensalo