

## Appendix B

# The present value of central government investments in and support to Norwegian banks

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*During the banking crisis at the end of the 1980s and beginning of the 1990s, the Government Bank Insurance Fund, the Government Bank Investment Fund and Norges Bank provided support and invested in Norwegian commercial and savings banks. Commissioned by Norges Bank, I have calculated the present value of the public sector's capital injections. The calculations have been made on the basis of purely commercial principles. The social consequences of enabling the banking system to maintain activities are not included. The net present value represents discounted revenues from the sale of state-owned shares, etc. less discounted gross costs of the support. The calculations show a net present value of the capital injections of a negative NOK 8.6 billion at end-1995 and NOK 5.7 billion at end-2001. A positive present value at end-2001 means that central government capital injections yielded a return in excess of the discount rate, partly reflecting favourable price movements for the state-owned shares.*

## 1 Introduction and summary

This appendix presents calculations of the present value of government investments in and support to Norwegian banks during the banking crisis. The calculations include the Government Bank Insurance Fund (GBIF), the Government Bank Investment Fund (SBIF<sup>1</sup>) and Norges Bank in addition to one case of direct support from the central government.

The calculations have been made by discounting all payment flows to the same date. In the main alternative the calculations are made as at 31 December 2001. On this date, central government investments had been sold, with the exception of a substantial ownership interest in Den norske Bank. This was valued at the stock exchange price on 31 December 2001.

In addition, calculations have been made as at 31 December 1995. The banking crisis is often considered to have ended in 1993. It may therefore be maintained that government commitments after this time may be looked upon as financial investments and not a crisis solution. On the other hand, the reason for continued government involvement in a number of banks (both as owner and lender) after 1993 was the banking crisis itself. There was also a thin market for bank shares and primary capital certificates in 1993, so it is uncertain whether the state could then have sold its large stakes at an acceptable price. This would indicate that the fact that the state used some time to sell off its ownership shares acquired during the banking crisis can be looked upon as part of the overall rescue operation.<sup>2</sup>

The present value is calculated for outgoing payments, incoming payments and net payment flows individually. The costs of support in the form of loans are based on the value of any subsidised borrowing rate and loan amounts written-off. The costs that accrued in connection with Norges Bank's support loans are further discussed in section 3.3.

In the main alternative, different interest rates are used for different types of support and investments. Moreover, the interest rate varies over time. The main principle has been that the interest rate selected should correspond to the alternative expected return on investments with more or less the same degree of risk. In addition, calculations have been made based on a risk-free interest rate (rate on one-year Treasury note).<sup>3</sup> The assumptions concerning interest rates

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<sup>1</sup> Abbreviation for the Norwegian name (Statens Bankinvesteringsfond). The Norwegian abbreviation is used to distinguish it from The Government Bank Insurance Fund which we throughout refer to as GBIF.

<sup>2</sup> A calculation date some time after the actual crisis was resolved is not unique internationally. For example, Swedish calculations evaluated the net present value of Swedish crisis costs as at 1 July 1997, i.e. about four years after the resolution of Sweden's banking crisis. This was motivated by the winding up of activities in the Swedish "bad bank" Securum on this date. See Jennergren and Näslund (1998).

<sup>3</sup> The interest rates applied in our calculations deviate from the interest rate applied in other contexts (see e.g. Report No. 39 (1993-1994) to the Storting). This is one reason why the discounted amounts deviate somewhat in different calculations. Deviations may also arise

are presented in greater detail in section 2. The various investment vehicles and the various types of support are reviewed in the following. The assumptions applying are presented case by case.

Table 1 shows estimated present values at end-2001. When payment flows are discounted forwards, they are higher than they were on the payment dates. As long as the same payment flows are applied, however, the relative difference between the figures is not influenced by the discounting date. For investments in ownership interests in banks, the sales amount and residual values on the calculation dates are recorded as incoming payments, i.e. positive values, in the analysis. For support measures like a subsidised borrowing rate, the subsidy amount is recorded net under outgoing payments, i.e. as a negative value.

Table 1: Present value 31.12.01

In NOK 1000	Outgoing payments	Incoming payments	Net
DnB	-20 889 524	31 544 867	10 655 343
Kreditkassen	-17 355 559	19 245 837	1 890 278
Fokus Bank	-2 578 393	2 590 308	11 916
Oslobanken	-253 371	2 476	-250 895
Sparebanken NOR	-2 050 065	3 022 882	972 817
Other banks	-346 162	427 717	81 555
Support loans to SBGF and CBGF	-90 941	0	-90 941
Adm. costs GBIF and SBIF	-101 009	0	-101 009
Support dir. from the state to SBGF	-1 886 240	0	-1 886 240
Special term deposits	-3 820 339	0	-3 820 339
Sparebanken Nord-Norge	-1 511 027	0	-1 511 027
Norion Bank	-218 039	0	-218 039
<b>Total</b>	<b>-51 100 668</b>	<b>56 834 088</b>	<b>5 733 419</b>

SBGF: Savings Banks' Guarantee Fund, CBGF: Commercial Banks' Guarantee Fund

From the top and down to "Support loans to SBGF and CBGF", the figures relate to investments and support measures from the GBIF and SBIF. The cate-  
 because our calculations are more complete and the dates for the calculations are different.

gory "Other banks" includes some smaller banks in which the Government Bank Investment Fund invested. The line "Adm. costs GBIF and SBIF" comprises the operating expenses of the two funds. However, direct selling costs, etc. in connection with the funds' investments are included in the line for each bank. The line "Support dir. from the state to SGBF" relates to a transfer of NOK 1 billion which the Savings Banks' Guarantee Fund received from the state in November 1991.

The last three items relate to support from Norges Bank. The line "Special-term deposits" is the present value of an estimated interest rate subsidy for Norges Bank's deposits on special terms in Norwegian banks in the years 1991 to 1993. "Sparebanken Nord-Norge" includes in part the interest rate subsidy for loans from Norges Bank to the bank in the period 1991-1994 and in part the writing down of loans. Finally, "Norion Bank" relates to Norges Bank's losses on claims on the bank in connection with the winding up of the bank in 1989-1990.

The table shows that the total present value as at 31 December 2001 was NOK 5.7 billion. In principle, this means that even when the purpose of the support and investments is disregarded, government agencies recorded a commercial return which at that time had a value of NOK 5.7 billion more than could have been expected from other investments with comparable risk. In the calculations, direct support measures for which later repayment could not be automatically assumed are also included. Moreover, we see that the present value of the investment in Den norske Bank makes the largest contribution, whereas investments and support measures have a total negative present value of about NOK 4.9 billion.

Table 2 shows the present values at the end of 1995. The calculations have been made along the same lines as the calculations of present values at the end of 2001 (see above). However, in these calculations payment flows have only been taken into account up to 31 December 1995. For investments that were not sold at the time, an attempt has been made to apply a market value on this date. The banking crisis was then over, but there was a thin market for equities and it is uncertain what prices could have been obtained. Detailed assumptions are presented in the discussion of each bank.

The calculations show a net present value of a negative NOK 8.6 billion. This therefore indicates that it would have been considerably less favourable to dispose of equities owned by the state after the banking crisis as early as assumed here. For both incoming and outgoing payments, the present value is naturally reduced when the calculations are made for an earlier date, but for incoming payments the reduction in value is much greater in this case. This is particularly due to the higher payments that could be achieved for ownership interests by keeping them longer.

As noted, calculations of present values have also been made in which the risk-free interest rate alone is used as the discount rate (see section 4 for details).

Table 2: Present value 31.12.95

In NOK 1000	Outgoing payments	Incoming payments	Net
DnB	-9 120 185	9 974 510	854 325
Kreditkassen	-10 347 425	5 788 109	-4 559 315
Fokus Bank	-1 801 335	1 809 507	8 171
Oslobanken	-184 852	1 816	-183 035
Sparebanken NOR	-1 443 702	2 129 733	686 030
Other banks	-234 649	287 710	53 061
Support loan to SBGF and CBGF	-65 985	0	-65 985
Adm. costs GBIF and SBIF	-33 813	0	-33 813
Support dir. from the state to SBGF	-1 368 620	0	-1 368 620
Special term deposits	-2 771 988	0	-2 771 988
Sparebanken Nord-Norge	-1 096 373	0	-1 096 373
Norion Bank	-162 805	0	-162 805
<b>Total</b>	<b>-28 631 731</b>	<b>19 991 385</b>	<b>-8 640 346</b>

The same payment flows are used in these calculations as in the calculations described above. The net present value at 31 December 2001 then reaches NOK 13.7 billion, compared with NOK 5.7 billion in the other calculation where a higher discount rate was used (discount rate which reflected the risk associated with the investments). If the calculations are made for end-1995, the present value is still negative but the value is closer to zero.

## 2 Technical assumptions

The calculations cover the main items shown in Table 1 and 2. It is assumed that no other type of support of significance was provided.

The calculations extend from 1989, when Norion Bank was placed under administration and support loans of NOK 500 million were paid to Sparebanken Nord-Norge, until end-2001. The support measures were discontinued fairly early in the 1990s, and in the last half of the 1990s most of the government's

ownership interests in the banks were disposed of. At the end of 2001, however, the Government Bank Investment Fund still had a sizeable stake in Den norske Bank.

Discount rates represent an important set of assumptions when calculating present values. When calculating present values, we are most often looking at future expected cash flows. As a rule, analyses use a discount rate that reflects the uncertainty in the cash flow covered by the calculations and the time horizon. Alternatively (and more precisely), different discount rates are used for the different expected cash flows, depending on how far into the future they are. The interest rates will then reflect current market rates for the respective periods up until the time the expected cash flows take place.

When calculations are made retrospectively, the cash flows are known. Uncertainty therefore no longer exists. We should nevertheless take into account the uncertainty that existed at the time the investment decisions were taken. In these calculations, this is done by incorporating a risk premium in the discount rate. On the other hand, for those periods in which there was no uncertainty, it is not natural to incorporate this risk premium in the discount rate. This applies, for example, to support measures for which the scale of the support was stipulated in advance. This also applies to the period following the sale of e.g. shares that were purchased and up to the time of calculating the present value. If, for example, we look at investments in Fokus Bank, shares in the bank were sold in 1995. For the following period and up to the end of 2001 (the time for calculating present values), the risk-free rate is then used.

Inasmuch as different interest rates are used for different periods in the calculations, it was decided to apply a one-year risk-free rate (i.e. rate on Norwegian Treasury notes) when calculating present values. In principle, additional interest rates on government paper with both shorter and longer maturities could have been used. The one-year rate as at 31 December is a practical choice.<sup>4</sup> For equity instruments, the same risk premium is used for all investments and for all periods. A risk premium of 4 percentage points was used in this connection. This was close to the consensus for the risk premium used for the sum of listed companies in Norway in the 1990s. The sharp fall in prices in recent years may have resulted in differing perceptions concerning the risk premium, but what has occurred in more recent periods is deemed to be less relevant to this analysis.

It is therefore assumed (somewhat imprecisely) that the risk associated with investments in these banks was approximately the same as the average risk associated with investments in the stock market in Norway. During the actual crisis, it is clear that the market considered the risk associated with the banks that received support to be very high. This indicates that a risk premium of 4 percentage points may be somewhat low, particularly for the Government Bank Insurance Fund's investments.

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<sup>4</sup>A one-year rate was also used in the calculations for Sweden., cf. Jennergren and Näslund (1998).

The same risk rate cannot be used for loans to banks. In order to take account of the risk associated with loans, NIBOR is used as the discount rate. In most cases, the one-year rate is used, but the semi-annual rate is also used when the loan periods have been semi-annual. Table 3 shows the risk-free rate that has been used, the rate plus a risk premium and one-year NIBOR.

Table 3: Discount rates in per cent

<b>Payment date</b>	<b>Risk-free rate One -year</b>	<b>Rate plus a risk premium</b>	<b>One-year NIBOR</b>
1989	11.40	15.40	12.25
1990	10.30	14.30	11.59
1991	10.10	14.10	10.57
1992	10.30	14.30	11.54
1993	5.25	9.25	5.25
1994	6.15	10.15	6.72
1995	5.20	9.20	5.24
1996	4.05	8.05	4.34
1997	4.14	8.14	4.43
1998	6.81	10.81	6.87
1999	5.67	9.67	6.04
2000	7.09	11.09	7.27
2001	5.93	9.93	6.17

The figures are based on Norges Bank's statistics. For the period prior to 1996, the figures are based on somewhat incomplete statistics, but the interest rates used here are nevertheless deemed to be those that best reflect the alternative rate for the period being examined.

### 3 Detailed calculations

A detailed description of the various items in the support from government agencies is presented below. The support from the Government Bank Insurance Fund and the Government Bank Investment Fund, which was decidedly the most extensive, is discussed first. This is followed by a discussion of a separate transfer directly from the central government and, finally, the support from Norges Bank.

### 3.1 Support from the Government Bank Insurance Fund (GBIF) and the Government Bank Investment Fund (SBIF)

#### Den norsk Bank (DnB) (now part of DnB NOR)

Table 4 shows the calculations of present values at the end of 2001 for DnB.

The first column "Payment date" shows the date for the various payment flows. These are partly approximate and thus not always exact. This is because exact dates have not always been available. This may have resulted in minor inaccuracies in the present value calculations, but the errors that may have arisen are not deemed to be of any significance.

The second column describes the payments that have taken place. For the sake of completeness, some important events that have not resulted in any payment at the time in question have also been included.

The third and fourth columns, "Number of shares", shows the number of shares subscribed, purchased or sold by the GBIF and the SBIF on the respective dates. Again, for the sake of completeness, the number of shares at the end of each year is also included.

The fifth column, "NOK per share", shows the price or dividend in NOK per share.

The sixth column, "Cash flow", shows the amount paid in thousands of NOK. A negative sign shows that this relates to payments from the respective funds.

The seventh column, "Cum. present value", shows the cumulative present value on the respective dates. The first line shows the cash flow which took place on 30 March 1992. The next line shows the same amount with the addition of the discount rate until the next payment date (10 April 1992) and the new cash flow that took place on this date. The same procedure has been used for all lines up to 31 December 2001.

The eighth column, "Only outgoing payments", shows the cumulative present value of outgoing payments alone, calculated in the same way.

The ninth column, "Discount rate", shows the interest rates that are used for each period. The interest rates are from Table 3.

As at 31 December 2001, the Government Bank Insurance Fund owned about 368.2 million shares in the bank. When calculating the present value on this date, the value of these shares has been added based on the share price at the time (see last line in table 4). The net present value was close to NOK 10.7 billion at the end of 2001.

The sum of the present values of the amounts paid-in, as presented in section 1, is calculated by deducting the present value of outgoing payments from the total present value.

As noted, when calculating the present value as at 31 December 1995, the market was thin and the assessment of the shares' value more difficult. In these

Table 4: Den norske Bank

Payment date	In NOK 1000	No. of shares GBIF	No. of shares SBIF	NOK per share	Cashflow	Cum. present value	Only outgoing payments	Disc. rate
30.03.92	Underwriting effectuated		163 872	10.00	-1 638 717	-1 638 717		14.3 %
10.04.92	Supplied preference capital				-3 250 000	-4 895 331		14.3 %
31.12.92	No. of shares 31.12.92		163 872		0	-5 394 178		14.3 %
31.03.93	Supplied preference capital				-1 500 000	-7 074 912	-7 074 912	9.3 %
31.12.93	No. of shares 31.12.93		163 872		0	-7 562 558	-7 562 558	9.3 %
27.01.94	Conv. pref.cap. to shares	350 000			0	-7 612 212	-7 612 212	10.2 %
31.05.94	Public offering	-53 000		16.75	887 750	-6 978 615	-7 866 365	10.2 %
31.05.94	Costs assoc. with sale				35 043	-6 943 572	-7 866 365	10.2 %
31.12.94	No. of shares 31.12.94	297 000	163 872		0	-7 348 497	-8 325 104	10.2 %
15.05.95	Dividend received			1.25	576 090	-7 039 912	-8 628 159	9.2 %
31.12.95	No. of shares 31.12.95	297 000	163 872		0	-7 441 367	-9 120 185	9.2 %
29.04.96	Sales from GBIF to SBIF	-66 128	66 128	19.20	0	-7 659 829	-9 387 934	8.1 %
30.06.96	Public offering	-126 872		19.30	2 448 625	-5 312 607	-9 512 214	8.1 %
30.06.96	Costs assoc. with sale				-71 716	-5 384 323	-9 512 214	8.1 %
15.05.96	Dividend received			1.50	691 308	-4 640 733	-9 419 850	8.1 %
31.12.96	No. of shares 31.12.96	104 000	230 000		0	-4 872 758	-9 890 817	8.1 %
15.05.97	Dividend received			1.75	584 500	-4 429 812	-10 178 148	8.1 %
31.12.97	No. of shares 31.12.97	104 000	230 000		0	-4 653 732	-10 692 637	8.1 %
15.05.98	Dividend received			1.75	584 500	-4 205 899	-11 006 649	10.8 %
30.06.98	Costs assoc. with planned sale				-2 932	-4 263 593	-11 149 959	10.8 %
31.12.98	No. of shares 31.12.98	104 000	230 000		0	-4 490 022	-11 742 105	10.8 %
15.05.99	Dividend received			1.35	450 900	-4 212 864	-12 196 467	9.7 %
30.06.99	Costs assoc. with planned sale				-441	-4 262 600	-12 339 178	9.7 %
31.12.99	No. of shares 31.12.99	104 000	230 000		0	-4 465 635	-12 926 915	9.7 %
31.01.00	Increase in capital (Postbk.)		138 158	30.10	-4 158 553	-8 659 334	-17 187 209	11.1 %
15.05.00	Dividend received			1.75	826 276	-8 099 045	-17 715 145	11.1 %
31.12.00	No. of shares 31.12.00	104 000	368 158		0	-8 653 969	-18 928 936	11.1 %
15.05.01	Dividend received			2.25	828 355	-8 168 874	-19 679 755	9.9 %
10.04.01	Sale remaining shares GBIF	-104 000		41.50	4 316 000	-3 779 050	-19 501 905	9.9 %
10.04.01	Costs assoc. with sale				-90 242	-3 869 292	-19 501 905	9.9 %
31.12.01	Value of remainder 31.12.01	0	368 158	40.20	14 799 947	10 655 343	-20 889 524	

calculations, the value per share is estimated as follows:

Price achieved per share at public offering 30.06.96	19.30
Costs, 2.65%	0.51
Value 30.06.96	18.79
Discounted per 31.12.95, ca.	18.00

The estimated present value in thousands of NOK was therefore as follows:

	<b>Total present value</b>	<b>Only outgoing payments</b>
Present value at 31.12.95	-7 441 367	
460 872 shares à NOK 18	8 295 691	
<b>Total</b>	<b>854 325</b>	<b>-9 120 185</b>

It is seen that in the case of DnB there was already a small net present value at that time.

### **Christiania Bank (now Nordea Norge)**

For the other banks, the present values have been calculated in the same way as for DnB. The main figures for Christiania Bank are shown in Table 5.

It is seen that the present value is also positive for Christiania Bank, but it is far lower than for DnB. This is particularly because the Government Bank Insurance Fund covered a substantial negative net asset value in Christiania Bank in 1991. As the sale took place at the end of 2000, there was no longer any risk associated with this investment in the year 2001. For that year, the risk-free interest rate has therefore been used to calculate the present value.

When calculating the present value at the end of 1995, the value per share is calculated as follows:

Price achieved per share at public offering 15.12.95	14.20
Costs, 2.80%	0.40
Value 15.12.95	13.80
Discounted per 31.12.95, ca.	13.85

Table 5: Christiania Bank

Payment date	In NOK 1000	GBIF	Number SBIF	NOK per share	Cashflow	Cum. present value	Only outgoing payments	disc. rate
20.12.1991	Fully paid share capital	110 000		46.73	-5 140 300	-5 140 300	-5 140 300	14.1 %
15.07.1992	Sales of shares to priv.	-2 476		16.00	39 618	-5 501 960	-5 541 578	14.3 %
15.07.1992	Costs assoc. with sale				-7 310	-5 509 270	-5 541 578	14.3 %
21.12.1992	Fully paid pref. shares	150 000		7.00	-1 050 000	-6 889 557	-6 923 802	14.3 %
21.12.1992	Convertible subord. loan				-850 000	-7 739 557	-7 773 802	14.3 %
31.12.1992	No. of shares 31.12.92	257 524	0		0	-7 767 950	-7 802 321	14.3 %
26.03.1993	Sale from GBIF to SBIF	-228 829	228 829	6.56	0	-8 013 533	-8 048 991	9.3 %
31.12.1993	Interest subord. loan				114 401	-8 461 861	-8 614 209	9.3 %
30.06.1993	Loan conv. to shares	121 429			0	-8 092 771	-8 238 474	9.3 %
31.12.1993	No. of shares 31.12.93	150 124	228 829		0	-8 461 861	-8 614 209	9.3 %
22.07.1994	Sale from GBIF to SBIF	-46 671	46 671	13.00	0	-8 888 624	-9 048 655	10.2 %
31.12.1994	No. of shares 31.12.94	103 452	275 500		0	-9 278 307	-9 445 354	10.2 %
15.05.1995	Dividend received			0.90	341 057	-9 275 005	-9 789 190	9.2 %
01.10.1995	Sales of shares to SBIF	-5 500	5 500	14.90	0	-9 591 138	-10 122 850	9.2 %
15.12.1995	Public offering shares	-97 952		14.20	1 390 924	-8 375 242	-10 307 581	9.2 %
15.12.1995	Costs assoc. with public offering				-43 381	-8 418 623	-10 307 581	9.2 %
31.12.1995	No. of shares 31.12.95	0	281 000		0	-8 451 165	-10 347 425	9.2 %
15.05.1996	Dividends received			1.10	309 100	-8 423 799	-10 692 374	8.1 %
31.12.1996	No. of shares 31.12.96	0	281 000		0	-8 844 967	-11 226 964	8.1 %
15.05.1997	Dividends received			1.55	435 550	-8 666 365	-11 553 110	8.1 %
31.12.1997	No. of shares 31.12.97	0	281 000		0	-9 104 436	-12 137 101	8.1 %
15.05.1998	Dividends received			1.20	337 200	-9 034 607	-12 493 533	10.8 %
31.12.1998	No. of shares 31.12.98	0	281 000		0	-9 638 293	-13 328 342	10.8 %
31.03.1999	Public offering shares		-90 000	30.60	2 754 000	-7 131 353	-13 669 990	9.7 %
31.03.1999	Costs assoc. with public offering				-65 000	-7 196 353	-13 669 990	9.7 %
15.05.1999	Dividends received			1.50	286 500	-6 992 217	-13 826 445	9.7 %
31.12.1999	No. of shares 31.12.99	0	191 000		0	-7 410 981	-14 654 512	9.7 %
15.05.2000	Dividends received			3.00	573 000	-7 097 304	-15 167 297	11.1 %
31.12.2000	Sale to MeritaNordbanken		-191 000	49.00	9 359 000	1 775 410	-16 206 517	7.1 %
31.12.2000	Costs assoc. with sale				-10 279	1 765 131	-16 206 517	
31.12.2001	Present value					<b>1 890 278</b>	<b>-17 355 559</b>	

The estimated present value in thousands of NOK on this date was thereby:

	<b>Total Present value</b>	<b>Only outgoing payments</b>
Present value of payments until 31.12.1995	-8 451 165	
281 000 shares à kr. 13.85	3 891 850	
<b>Total</b>	<b>-4 559 315</b>	<b>-10 347 425</b>

It is seen that the total present value for Christiania Bank on this date was clearly negative.

### **Fokus Bank**

The calculations of present value for Fokus Bank are presented in Table 6. The Government Bank Investment Fund had no ownership interests in the bank and only shares held by the Government Bank Insurance Fund are shown in the table.

At the end of 1995, all the shares in Fokus Bank had been sold. As settlement of a disputed case, the Government Bank Insurance Fund received 130 000 shares from the Commercial Banks' Guarantee Fund in 1997. The shares were sold and provided revenues of NOK 7.2 million. When calculating the present value as at 31 December 1995, this amount has been discounted and added to the present value. The present value on this date is therefore (in thousands of NOK):

	<b>Total Present value</b>	<b>Only outgoing payments</b>
Present value at 31.12.95 of previous cashflows	1 853	
Present value of shares from CBGF	6 318	
<b>Total</b>	<b>8 171</b>	<b>-1 801 335</b>

Table 6: Fokus Bank

Payment date	In NOK 1000	No. GBIF	NOK per share	Cashflow	Cum. present value	Only outgoing payments	Discount rate
20.12.1991	Fully paid share capital	19 000	25.00	-475 000	-475 000		14.1 %
23.11.1992	Fully paid share capital	24 000	25.00	-600 000	-1 136 906		14.3 %
31.12.1992	No. of shares 31.12.92	43 000		0	-1 152 837		14.3 %
	Fully paid share capital						
27.04.1993	(Samvirkebk.)	1 818	11.00	-20 000	-1 223 302		9.3 %
20.12.1993	Fully paid share capital	18 182	11.00	-200 000	-1 495 631	-1 495 631	9.3 %
31.12.1993	No. of shares 31.12.93	63 000		0	-1 499 623	-1 499 623	9.3 %
31.12.1994	No. of shares 31.12.94	63 000		0	-1 638 339	-1 638 339	10.2 %
15.10.1995	Public offering	-63 000	29.00	1 827 000	58 801	-1 768 199	9.20 %
15.10.1995	Costs assoc. with sale			-56 982	1 819	-1 768 199	9.20 %
31.12.1995	No. of shares 31.12.95	0		0	1 853	-1 801 335	9.20 %
31.12.1996	No. of shares 31.12.96	0		0	2 024	-1 967 533	4.05 %
30.06.1997	Shares from CBGF	130		0	2 064	-2 006 652	4.14 %
30.06.1997	Sales of shares	-130	55.59	7 209	9 273	-2 006 652	4.14 %
31.12.1997	No. of shares 31.12.97	0		0	9 465	-2 048 110	4.14 %
31.12.1998					9 857	-2 132 902	6.81 %
31.12.1999					10 528	-2 278 153	5.67 %
31.12.2000					11 127	-2 407 688	7.09 %
31.12.2001					<b>11 916</b>	<b>-2 578 393</b>	<b>5.93 %</b>

It is seen that the total present value is positive, but the amount is no higher than about NOK 12 million.

### Oslobanken

The Government Bank Investment Fund participated in a share issue, and with a smaller amount in a subordinated loan to the bank in 1992. The Government Bank Insurance Fund contributed share capital when it was decided to wind up the bank in 1993. Table 7 shows the calculations of the present value.

The bottom line in Table 7 shows that the present value of the capital injections of the two funds combined amounted to a negative NOK 250.9 million at the end of 2001. This negative value was slightly lower than the direct payments, reflecting repayment with interest of the Government Bank Investment Fund's subordinated loan. This payment took place in 1996. When calculating the present value at the end of 1995, this subsequent repayment has been taken into account. The present value in thousands of NOK as at 31 December 1995 is then:

	<b>Total Present value</b>	<b>Only outgoing payments</b>
Present value at 31.12.95 of previous cashflows	-184 152	
Present value of repaid subordinated debt	1 816	
<b>Total</b>	<b>-183 035</b>	<b>-184 852</b>

Table 7: Oslobanken

Payment date	In NOK 1000	Cashflow			Cum. present value	Only outgoing payments	Discount rate
		GBIF	SBIF	Total			
23.11.1992	Participation in offering		-62 500	-62 500	-62 500		14.3 %
23.11.1992	Subordinated loan		-1 250	-1 250	-63 750		14.3 %
27.04.1993	Fully paid share capital.	-88 330		-88 330	-155 803	-155 803	9.3 %
31.12.1993					-165 456	-165 456	5.3 %
31.12.1994					-174 142	-174 142	6.2 %
31.12.1995					-184 852	-184 852	5.2 %
02.07.1996	Interest subordinated loan		603	603	-189 033	-189 636	4.1 %
02.07.1996	Redemption subord. loan		1 250	1 250	-187 783	-189 636	4.1 %
31.12.1996					-191 538	-193 428	4.1 %
31.12.1997					-199 295	-201 262	4.1 %
31.12.1998					-207 546	-209 594	6.8 %
31.12.1999					-221 680	-223 867	5.7 %
31.12.2000					-234 285	-236 596	7.1 %
31.12.2001					<b>-250 895</b>	<b>-253 371</b>	

**Sparebanken NOR (now part of DnB NOR)**

The Government Bank Investment Fund participated in issues of convertible subordinated loan capital in 1992. This loan capital was converted to primary capital certificates (PCC) in Sparebanken NOR in 1993. Other types of support were not given to the bank. The calculations of present values are shown in Table 8.

The value of NOK 166 per PCC is calculated as follows:

Achieved per PCC by sale 15.04.96	176.00
Costs, 3.30%	5.80
Value 15.04.96	170.20
Discounted pr. 31.12.95, ca.	166.00

The present value at the end of 1995 is then:

	<b>Total Present value</b>	<b>Only outgoing payments</b>
Present value at 31.12.95 of previous cashflows	-973 970	
10 000 PCC à NOK 166	1 660 000	
<b>Total</b>	<b>686 030</b>	<b>-1 443 702</b>

**Other banks**

These relate to the investments of the Government Bank Investment Fund in the small to medium sized banks Sparebanken Vest, Sparebanken Møre, Samvirkebanken, and Bergens Skillingsbank. The combined total present value for these banks as at 31 December 2001 was NOK 81.6 million. As at 31 December 1995 the present value is NOK 53.1 million. Details of the calculations are shown in Moen (2003).

Table 8: Sparebanken NOR  
In NOK 1000

Payment date	In NOK 1000	No. SBIF	NOK per PCC	Cashflow	Cum. present value	Only outgoing payments	Discount rate
30.06.1992	Convertible subord. loan			-1 000 000	-1 000 000	-1 000 000	14.3 %
30.06.1992	Interest subord. loan			73 189	-926 811	-1 000 000	14.3 %
30.06.1993	Loan converted to primary capital certificates	10 000	100.00	0	-1 059 345	-1 143 000	9.3 %
01.01.1994		10 000		0	-1 107 927	-1 195 419	10.2 %
30.06.1994	Dividends received		18.00	180 000	-982 026	-1 253 790	10.2 %
30.06.1995	Dividends received		15.00	150 000	-931 702	-1 381 050	9.2 %
31.12.1995					-973 970	-1 443 702	9.2 %
15.04.1996	Primary capital certificates sold	-10 000	176.00	1 760 000	760 815	-1 481 078	8.1 %
15.04.1996	Costs assoc. with sale			-58 000	702 815	-1 481 078	8.1 %
31.12.1996					742 665	-1 565 056	4.1 %
31.12.1997					772 743	-1 628 441	4.1 %
31.12.1998					804 735	-1 695 858	6.8 %
31.12.1999					859 537	-1 811 346	5.7 %
31.12.2000					908 410	-1 914 339	7.1 %
31.12.2001					<b>972 817</b>	<b>-2 050 065</b>	5.9 %

The last line in the table shows a total present value of almost NOK 1 billion at the end of 2001.

### Support loans to the Savings Banks' Guarantee Fund and the Commercial Banks' Guarantee Fund

These relate to loans from the Government Bank Insurance Fund to the two guarantee funds for financing their support to member banks. This type of support was provided in 1991 and 1992 at the same interest rate that the central government received on its sight deposit account in Norges Bank. The interest was capitalised annually in the account and repayment took place gradually as the two guarantee funds received contributions from member banks. The loans were fully repaid with interest during 1994.

Table 9 shows payment transactions (cash flows) and estimated present values when one-year NIBOR is used when discounting. The payments to the various banks have been combined here. The repayment dates are approximate.

Table 9: Support loans to SBGF and CBGF

<b>Support loan from GBIF to SBGF and CBGF, in NOK 1000</b>					
<b>Payment date</b>	<b>Payment</b>	<b>Cashflow</b>	<b>Cum. present value</b>	<b>Year</b>	<b>Discount rate</b>
30.08.1991	Loan, paid out	-2 770 000	-2 770 000	1991	10.57 %
31.12.1991	Loan instalment	741 960	-2 123 438	1991	10.57 %
30.06.1992	Instalment	486 907	-1 745 629	1992	11.54 %
	payment				
15.08.1992	Loan, paid out	-234 000	-2 003 822	1992	11.54 %
30.06.1993	Instalment	752 663	-1 451 847	1993	5.25 %
	payment				
31.05.1994	Instalment	849 135	-672 521	1994	6.72 %
	payment				
30.06.1994	Instalment	615 969	-60 157	1994	6.72 %
	payment				
31.12.1994			-62 162	1994	6.15 %
31.12.1995			<b>-65 985</b>	1995	5.20 %
31.12.1996			-69 426	1996	4.05 %
31.12.1997			-72 238	1997	4.14 %
31.12.1998			-75 228	1998	6.81 %
31.12.1999			-80 351	1999	5.67 %
31.12.2000			-84 920	2000	7.09 %
31.12.2001			<b>-90 941</b>	2001	5.93 %

From 1994 the risk-free interest rate is used as the discount rate as the loans had then been repaid and there was no longer any risk associated with them.

### **Administrative costs in the Government Bank Insurance Fund and the Government Bank Investment Fund**

The administrative costs for the two funds amounted to a negative NOK 101.0 million as at 31 December 2001. This amount does not include the direct costs of selling shares, etc. These are included in the calculations for each bank. At the end of 1995 the estimated present value of costs up to that time was a negative NOK 33.8 million.

### **3.2 Direct support from the central government to the Savings Banks Guarantee Fund**

This relates to one single payment and the calculations of the present value are therefore simple. Only the risk-free interest rate has been used for calculating the present value, and at the end of 2001 it was a negative NOK 1 886.2 million. At the end of 1995 it was a negative NOK 1 368.6 million.

### **3.3 Support from Norges Bank**

#### **Deposits on special terms**

Deposits on special terms were provided by Norges Bank at a lower interest rate than the market rate from December 1991 to December 1993. They were provided for six months at a time and initially the interest rate was 4 per cent, but was reduced to 2 per cent per annum in 1992. The interest rate subsidy is estimated as six-month NIBOR less the interest that was paid for the period in question. Calculations of the present value of this interest rate subsidy are shown in Table 10

While the lines for 1st, 2nd, 3rd and 4th special-term deposits show the deposits placed with banks on the respective dates, the lines for repayment show the same amount plus the agreed interest rate. The 2.16 per cent shown in the line for the repayment of the 2nd special-term deposits is a weighted average of the interest rate in this period.

This table shows explicitly how the risk-free interest rate from 1 December 1993 is used for discounting. The present value as at 31 December 2001 is a negative NOK 3 820.3 million, while the present value as at 31 December 1995 is a negative NOK 2 772.0 million.

#### **Sparebanken Nord-Norge**

Sparebanken Nord-Norge received support from Norges Bank in the period 1989 to 1994, partly in connection with mergers with other savings banks. The support was given in the form of loans which were partly written off and which also carried an interest rate that was lower than the market rate. A subsidy of

Table 10: Support from Norges Bank

Payment date		Interest rate Per cent	In NOK 1000	Cum. present value	Disc. rate 6m NIBOR	Risk-free rate
02.12.1991	First special term deposit		-15 091 601	-15 091 601	10.72 %	
01.06.1992	Repayment	4.00 %	15 392 606	-505 689	10.36 %	
01.06.1992	Second special term deposit		-15 091 766	-15 597 455	10.36 %	
01.12.1992	Repayment	2.16 %	15 255 506	-1 152 110	12.82 %	
01.12.1992	Third special term deposit		-15 031 794	-16 183 904	12.82 %	
01.06.1993	Repayment	2.00 %	15 181 700	-2 036 750	6.77 %	
01.06.1993	Fourth special term deposit		-15 229 611	-17 266 361	6.77 %	
01.12.1993	Repayment	2.00 %	15 382 324	-2 470 104		5.43 %
31.12.1993				-2 481 128		5.25 %
31.12.1994				-2 611 388		6.15 %
31.12.1995				-2 771 988		5.20 %
31.12.1996				-2 916 526		4.05 %
31.12.1997				-3 034 645		4.14 %
31.12.1998				-3 160 280		6.81 %
31.12.1999				-3 375 495		5.67 %
31.12.2000				-3 567 410		7.09 %
31.12.2001				-3 820 339		5.93 %

5.5 percent per annum was stipulated in the period to 26 August 1992 and 6 per cent per annum thereafter.

"Paid interest rate" in Table 11 shows the interest rate that was paid on the semi-annual payment dates. This appears to have been set as the existing overnight lending rate less the above-mentioned subsidy. "Loan amount" shows the outstanding loan amount at any point in time, while "Subsidy" shows the estimated subsidy amount on the payment date. Inasmuch as these investments in the bank related to loan capital and not equity capital, one-year NIBOR was used as the discount rate until the loan was repaid. The risk-free interest rate was used thereafter.

The last line shows a present value of this support of a negative NOK 1 511.0 million as at 31 December 2001. In the line for 31 December 1995, we see a present value of a negative NOK 1 096.4 million.

### **Norion Bank**

Norion Bank was placed under administration in the latter part of 1989. Norges Bank's claims amounted to NOK 183.5 million. A dividend was paid on several occasions, as shown in Table 12.

## **4 Calculations with a risk-free interest rate**

In Table 13 present values are calculated using a risk-free interest rate as the discount factor. As noted, the risk-free interest rate is set as the interest rate on one-year Treasury notes.

When compared with Table 1 for end-2001, we see that the net present value is considerably higher when the lower risk-free rate is used.

Table 14 shows corresponding present values at end-1995 when the risk-free interest rate is used as the discount rate.

When compared with Table 2 for end-1995, we see that when the risk-free interest rate is used as the discount rate, the net present value is also higher (less negative) at end-1995.

Table 11: Sparebanken Nord-Norge

Payment date	In NOK 1000	Interest paid	Loan amount	Subsidy	Cum. present value	Only outgoing payments	NIBOR/ risk-free
08.10.1989	Loan which is written down		-500 000	-500 000	-500 000		12.3 %
01.12.1989	Subsidised loan	5.50	1 500 000		-508 622		12.3 %
01.03.1990	Repaid loan	5.50	1 350 000	-20 342	-543 665		11.6 %
01.09.1990	Repaid loan	5.00	1 200 000	-37 430	-611 996		11.6 %
01.03.1991	Repaid loan	5.00	1 050 000	-32 729	-678 927		10.6 %
01.09.1991	Repaid loan	4.00	900 000	-29 112	-743 314		10.6 %
01.03.1992	Repaid loan	4.50	750 000	-24 682	-806 186		11.5 %
26.08.1992	Subsidy rate increased to 6%		750 000	-20 116	-870 404		11.5 %
01.09.1992	Repaid loan	4.00	600 000	-740	-872 708		11.5 %
01.03.1993	Repaid loan	3.25	450 000	-17 852	-939 127		5.3 %
01.09.1993	Repaid loan	1.50	300 000	-13 611	-977 277		5.3 %
01.03.1994	Repaid loan	0.75	150 000	-8 926	-1 011 318		6.7 %
01.09.1994	Repaid loan		0	-4 537	-1 049 562		6.2 %
31.12.1994					-1 070 535	-1 070 535	6.2 %
31.12.1995	Repayment		40 000	40 000	<b>-1 096 373</b>	<b>-1 136 373</b>	5.2 %
31.12.1996					-1 153 544	-1 195 630	4.1 %
31.12.1997					-1 200 263	-1 244 053	4.1 %
31.12.1998					-1 249 954	-1 295 557	6.8 %
31.12.1999					-1 335 076	-1 383 784	5.7 %
31.12.2000					-1 410 987	-1 462 466	7.1 %
31.12.2001					<b>-1 511 027</b>	<b>-1 566 155</b>	5.9 %

Table 12: Norion Bank

Payment date	In NOK 1000	Loss	Cum. present value	Year	Disc. rate
30.10.1989	Norges Bank's claim	-183 522	-183 522	1989	15.4 %
28.12.1990	Dividend	82 585	-134 160	1990	14.3 %
15.12.1991	Dividend	22 940	-129 676	1991	14.1 %
21.12.1992	Dividend	16 517	-131 818	1992	10.3 %
28.02.1995	Dividend	7 341	-156 030	1995	5.2 %
31.12.1995			<b>-162 805</b>	1995	5.2 %
08.12.1999	Dividend	6 812	-191 981	1999	5.7 %
31.12.1999			-192 650	1999	5.7 %
31.12.2000			-203 604	2000	7.1 %
31.12.2001			<b>-218 039</b>	2001	5.9 %

The present value of Norges Bank's losses was a negative NOK 218.0 million as at 31 December 2001. It was a negative NOK 162.8 million as at 31 December 1995.

Table 13: Present value at 31.12.01, risk free interest rate

<b>Present value 31.12.01</b>			
<b>In NOK 1000</b>	<b>Outgoing payments</b>	<b>Incoming payments</b>	<b>Net</b>
DnB	-15 834 913	29 405 831	13 570 918
Kreditkassen	-12 530 942	18 234 488	5 703 546
Fokus Bank	-2 197 566	2 476 014	278 448
Oslobanken	-245 424	2 476	-242 948
Sparebanken NOR	-1 736 013	2 898 926	1 162 912
Other banks	-284 432	383 758	99 326
Support loans to SBGF and CBGF	-36 051	0	-36 051
Adm. costs GBIF and SBIF	-101 009	0	-101 009
Support direct from the state to SBGF	-1 886 240	0	-1 886 240
Special term deposits	-3 203 843	0	-3 203 843
Sparebanken Nord-Norge	-1 466 976	0	-1 466 976
Norion Bank	-179 421	0	-179 421
<b>Total</b>	<b>-39 702 830</b>	<b>53 401 493</b>	<b>13 698 663</b>

Table 14: Present value at 31.12.95, risk free interest rate

<b>Present value 31.12.95</b>			
<b>In NOK 1000</b>	<b>Outgoing payments</b>	<b>Incoming payments</b>	<b>Net</b>
DnB	-8 010 039	9 899 178	1 889 139
Kreditkassen	-9 002 672	5 762 205	-3 240 467
Fokus Bank	-1 593 818	1 795 730	201 912
Oslobanken	-179 054	1 816	-177 238
Sparebanken NOR	-1 269 520	2 102 813	833 293
Other banks	-207 907	275 692	67 785
Support loan to SBGF and CBGF	-26 158	0	-26 158
Adm. costs GBIF and SBIF	-33 813	0	-33 813
Support dir. from state to SBGF	-1 368 620	0	-1 368 620
Special term deposits	-2 324 666	0	-2 324 666
Sparebanken Nord-Norge	-1 064 410	0	-1 064 410
Norion Bank	-134 957	0	-134 957
<b>Total</b>	<b>-25 215 635</b>	<b>19 837 435</b>	<b>-5 378 200</b>

## 5 Conclusion

In conclusion, we would point out that calculations of present value include both equity capital contributions, which were more like investments, and pure support measures. When the total present value is positive, it is because the present value of the actual investments is sufficient to cover the negative present values of the support measures. The social benefits of enabling the banking system to maintain its activities are not included in the calculations.

## References

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## Glossary of abbreviations

Sparebankens sikringsfond	Savings Banks' Guarantee Fund (SBGF)
Forretingsbankens sikringsfond	Commercial Banks' Guarantee Fund (CBGF)
Statens banksikringsfond	Government Bank Insurance Fund (GBIF)
Statens bankinvesteringsfond	Government Bank Investment Fund (SBIF)