

CHAPTER 10

FINANCIAL ANALYSIS

Summary of chapter 10

I. Presupposed conditions of the financial projection

(1) Basic calculation conditions

- ① Financial projection's project term = 1980--1999
 - Construction term 5 years
 - operating term 15 years
- ② Steelwork's operating scale = First stage 1.5^{mil.t} scale through the whole project term
- ③ Time of calculation = Mar. 1979 (consideration not given to commodity price fluctuation)
- ④ Study's basic case = Basic sales price (Mar. 79 est. price)
 - Tax exemptions based on I.I. Act

(2) Capital and long term loan conditions (unit million\$)

	Amount	Remarks
Capital	320.0	25% of facilities investments amount excluding interest during construction
Long term loan	959.6	Effective rate of 9%, deferred during construction. Repayment term 10 years
Sub-total	1,279.6	
Reborrowing of interest during construction	160.5	
Facilities investments	1,440.1	

(3) Working capital conditions

Short term loan interest rate = 16% (suitable for net working capital)

(4) Tax system conditions

Items	Ordinary tax levys		Tax incentives (I.I. Act.)
	(mil. \$/y)		
Customs duty	16.7	10% customs tax	Rate of exemption by year <ul style="list-style-type: none"> 0 ~ 5 = 100% 6 ~ 8 = 75% 9 ~ 10 = 50% 11 ~ 12 = 20% 13 ~ 15 = 10%
Specific tax	0.1	Tax on volume	
Advanced sales tax	12.1	10% tax rate	
Tax on imported raw materials	28.9		
Real property tax	14.6	2.25% tax rate	3 year tax exemption after starting operation for only machinery and equipment
Sales tax	36.9	10% tax rate	Yearly tax exemption
Corporate income tax	--	35% tax rate	--
Imported machinery and equipment	--	Customs duty 10% Compensating tax 10%	Tax exempt

II. Results of the calculation

Omitted (refer to III-(3))

III. Analysis of calculation results

(1) Profit-loss analysis by product type (average value in usual year) (Unit: \$/t)

Product	Sales price	Costs				Total cost	Profit
		Prod. cost	Trans. cost	General admin. exp.	Interest		
Billet	375.0	276.7	6.4	15.0	42.9	341.0	34.0
Hot coil	395.0	282.1	5.6	15.8	45.1	348.6	46.4

(Note) Production cost is the cost after tax adjustment.

(2) Profit-loss Break-even point analysis

Break-even point operation level = 1,116^{thous.t} (operation rate: 77.2%)

(3) Simulation analysis (Profit-loss and funds) (unit million\$)

Case pre- assumptions	Basic case		Simulation case 1		Simulation case 2		Simulation case 3	
	Profit-loss (after tax)	Funds (*1) balance accumulated	Profit-loss (after tax)	Funds balance accumulated	Profit-loss (after tax)	Funds balance accumulated	Profit-loss (after tax)	Funds balance accumulated
Year (After operation)								
1	-10	-34	-35	-63	7	-17	-32	-56
2	46	-12	38	-53	60	19	37	-43
3	62	26	41	-40	81	76	43	-24
4	63	64	42	-26	81	133	44	-4
5	69	109	49	-5	88	199	50	22
6	66	149	48	14	84	258	48	44
7	-40	44	-55	-108	-26	168	-54	-74
8	93	112	86	-51	106	249	80	-19
9	75	161	59	-21	93	319	56	12
10	82	217	67	17	100	397	64	50
11	79	378	66	172	96	575	61	193
12	79	539	66	327	96	753	61	336
13	74	696	63	479	92	927	57	475
14	-16	710	-24	491	-3	954	-29	475
15	74	1,080	63	863	91	1,340	57	828

(*1): Positive indicate funds surplus, while negative indicates funds deficiencies

(4) Analysis of investment efficiency (unit %)

	Basic case	Simulation case 1	Simulation case 2	Simulation case 3
ROI	8.16%	6.86	9.45	6.81
ROE	9.96%	6.78	13.17	6.72

(5) Analysis of effects on national economy (Basic case)

(1) Value added effects (unit million\$)

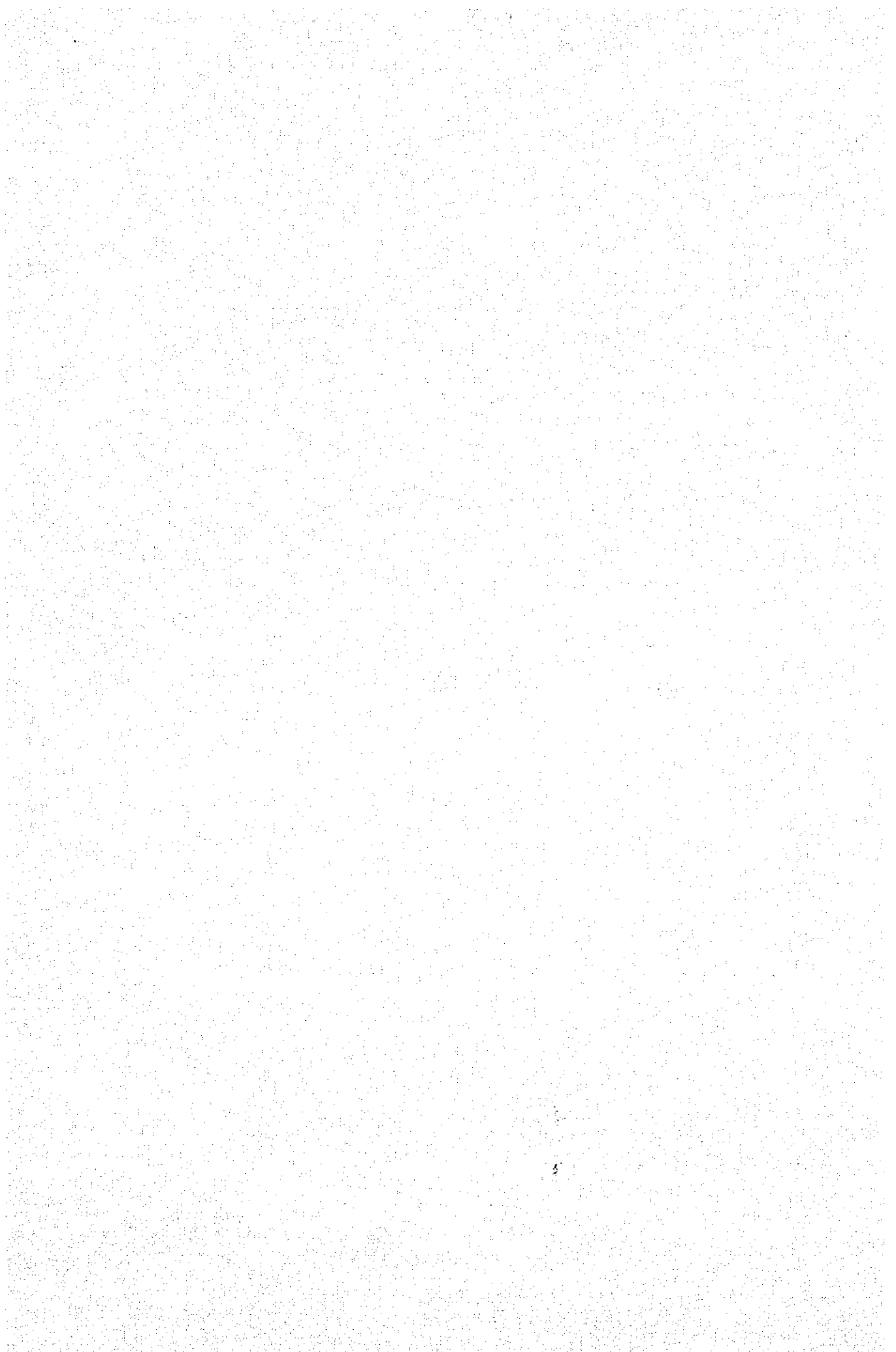
(Unit: mil. \$)

	6th year	13th year
Tax receipts effects	66.6	113.9
Compensation of employees	7.9	7.9
Capital consumption allowance	80.3	75.5
Operating profits	66.0	74.4
Total value added	220.8	271.7
Value added rate	39.4%	48.5%

(2) Balance of payments effects (unit billion\$)

(Effect on foreign exchange savings)

	Accumulated amount
Foreign import steel products substitution	6.0
Imported raw materials	2.4
Interest on loans	0.6
Foreign construction cost repayment	0.8
Total foreign exchange out flow	3.8
Net foreign exchange savings	2.2



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10-1 Basic presupposed conditions and output (Presupposed Conditions No. 1)

In this chapter the calculations were carried out based on the presupposed basic conditions hereunder in accordance with the objectives of this project.

Basic Presupposed Conditions

- ① Financial projection's project term = 1980—1999
(Construction term 5 years, operating terms 15 years)
- ② Time of calculation = March 1979
(consideration not given to commodity price movements)
- ③ Scale of steelworks = Stage I 1.5^{mil.t} scale through whole project term
- ④ Output of financial projection =

ment	{	Profit and loss statement
		Balance sheet
		Cash flow statement
- ⑤ Study basic case =

{	Basic sales price (March, 1979 est.)
	Tax exemptions based on I.I. Act
- ⑥ Study's simulation case = Using the basic case as the standard only the following factors change:

{	Simulation case 1 — Limitations on tax exemptions based on I.I. Act by P.D. No. 1352
	Simulation case 2 — 5% increase in basic sales price only
	Simulation case 3 — 5% decrease in basic sales price only

The projected project term is 20 years with 5 years for construction and 15 years for working period of main machines and facilities. If it is to cover a total of 20 years we think it is possible to measure the investment effectiveness of this project. Starting operation in 1985 as calendar year, after two years of starting up period full production of 1.5^{mil.t} capacity matches amount of demand in 1987 projected demand.

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10-2 Basic presupposed conditions in accounting profit and loss statement (Presupposed conditions No. 2)

10-2-1 Production sales plan

(1) Production plan

The year by year production plan matching growth of projected demand with the starting up plan of facilities, set up in section 4-2 the "The start up of production plan in stage I" for the first 2 years. For the third year full production will start at necessary demand amount of 1.5^{mil.t}, thereafter excluding decreases in the 7th and 14th years for BF-Relining, normal year production will progress at 1.5^{mil.t}. This plan is shown in *Table 10-2-1*.

(2) Sales plan

The *Table 10-2-2* sales plan was made with the above production plan as a base. For the convenience of calculation, shipments were presumed to equal production, although in reality it is necessary to have previously made a standard inventory amount. However, the problem with standard inventory amounts is consideration of required working capital calculation. Basically the production plan itself was based on matching, to the extent possible, the possible amount of sales based on projected demand. This is as noted before.

Table 10-2-1 Production plan

Products	Year after operation start															
	1985	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sinter	1,234	1,367	1,367	1,367	1,367	1,367	665.4	1,367	1,367	1,367	1,367	1,367	1,367	1,367	665.4	1,367
Coke	709	746	746	746	746	746	363.1	746	746	746	746	746	746	746	363.1	746
Molten pig iron	1,295	1,434	1,434	1,434	1,434	1,434	698.0	1,434	1,434	1,434	1,434	1,434	1,434	1,434	698.0	1,434
Liquid steel	1,071	1,485	1,569	1,569	1,569	1,569	763.7	1,569	1,569	1,569	1,569	1,569	1,569	1,569	763.7	1,569
Bloom	275	300	300	300	300	300	146.0	300	300	300	300	300	300	300	146.0	300
Billet	74	150	150	150	150	150	73.0	150	150	150	150	150	150	150	73.0	150
Slab	662	1,103	1,179	1,179	1,179	1,179	573.9	1,179	1,179	1,179	1,179	1,179	1,179	1,179	573.9	1,179
Hot Coil	534	976	1,052	1,052	1,052	1,052	512.1	1,052	1,052	1,052	1,052	1,052	1,052	1,052	512.1	1,052

(Unit: 1,000 t)

Table 10-2-2 Sales plan

Products	Year after operation starts															
	1985	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Cast-Pig Iron	292	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ingot	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bloom	198	144	144	144	144	144	70.1	144	144	144	144	144	144	144	70.1	144
Billet	74	150	150	150	150	150	73.0	150	150	150	150	150	150	150	73.0	150
Slab	100	100	100	100	100	100	48.7	100	100	100	100	100	100	100	48.7	100
Hot Coil	537	959	1,052	1,052	1,052	1,052	512.1	1,052	1,052	1,052	1,052	1,052	1,052	1,052	512.1	1,052
Total	1,277	1,393	1,446	1,446	1,446	1,446	703.9	1,446	1,446	1,446	1,446	1,446	1,446	1,446	703.9	1,446

(Unit: 1,000 t)

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(3) Sales price

Although the price of the iron ore has the greatest influence on profit-losses of the project, it is easily subject to the influences with balance of supply and demand and domestic and foreign economic conditions so that there are very large movements therein. Consequently, in conducting a study estimating price fluctuations several years in advance, it is not advisable to include in the study itself a thing of such extreme unreliability. Thus in this study we will make estimates based on current prices. In reference to price fluctuations, in the project plan we will substitute the usual most current price.

In construction of the steelworks, since a major objective is the replacement of imports, we will estimate the sales price of the steelworks via the current (March, 1979) Philippines import price for steel products. The process is, first estimating the average C&F price of steel products in the Philippines, then adding the current 10% customs duty and various other charges together with the Advanced sales tax as the cost it would cost to obtain the goods, (i.e. landed price), and then using that as the sales price.

However, as for semi-finished products, since the buyers thereof tend to concentrate on certain special consumers, the market is not perfect. Accordingly, since the market information is not sufficient, price estimates are difficult. In that area we will try to compensate partially therefor in our estimates by taking the differences in general production costs of the advanced countries.

Table 10-2-3 Sales price estimate (Basic case)

(Unit: \$/t)

Product	Sales price	C&F imported good	Remarks
Cast pig iron	182	—	Fe merit assessment of imported scrap at \$192
Ingot	310	245	
Bloom	360	280	
Billet	375	295	
Slab	365	285	
Hot coil	395	310	

(4) Production cost for sales

Costs compared to sales, based on the profit-loss statement are calculated as shown below by item with the results of the costs calculation of Chapter 9 as the base.

Objects of and method of production cost for sales calculation

(Unit: mil. \$)

Objects	Calculation method
① Variable cost	Variable cost by products type x Shipment amount
② Production fixed cost	Term fixed costs excluding ③ & ④ below
③ Depreciation & amortization	• Changes by year
④ Provision of reserve for BF-relining	• As the 7th and 14th years are blast furnace relining years, there are not reserves.
⑤ Tax adjustment	<ul style="list-style-type: none"> • Changes by year • Supplementary tax exemption based on the I.I. Act from the usual tax levys on items ① and ② • Changes by year (refer to Item 10-3-2)
Production cost for sales	

(5) Transportation cost

In reference to selling conditions, since the study was conducted on C&F shipment at major ports to the consumers, the steelwork's portion of the C&F shipment costs were estimated thereon. The average per ton of transportation costs for all of the sales products are shown in *Table 10-2-4* by category of products.

As the basis for calculating the average transportation cost, a division was made between the primary destination of the sales products, Iligan (or Mindanao island) and Manila. The estimated ratios for each thereof is shown in *Table 10-2-4*. As for hot coil, it is forecast that a little part of it will be bound for Iligan (Mindanao). This is based on regional forecasts.

Namely, we investigated considerable demand of finished steel products produced by using hot coil as material in this area in future. Therefore we can expect that the factories consuming hot coil will be settled separately from Manila.

As in each case there is a large volume and constant flow of transport and since overland transport is fairly expensive, the calculation was based on marine transport.

Furthermore, for the same reason, estimated costs of special transport charges, on a discount basis, were used. However, as ingot and cast pig iron are spot, normal tariffs were used.

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Table 10-2-4 Transportation costs of sales products (unit 1,000¹)

Sales products	Iligan (Mindanao)		Manila		Total Shipments	Average transport unit cost
	(@ 2.08 \$/t)	%	(@ 7.14 \$/t)	%		
Cast pig iron	(thous. t)	0	(thous. t)	100	(thous. t)	8.60 \$/t
Ingot		100		0		2.50
Bloom	22	15	122	85	144	6.37
Billet	23	15	127	85	150	6.36
Slab	0	0	100	100	100	7.14
G. I. sheet use	192	80	48	20	240	
Tin plate use	0	0	192	100	192	
CR S/C use	154	70	66	30	220	
HR S/C use	51	20	205	80	256	
Pipe & tubes use	29	20	115	80	144	
Hot coil	426	40	626	60	1,052	5.57 \$/t

Site to Iligan 2.50 \$/t (Special rate 2.08 \$/t)

Site to Manila 8.60 (" 7.14)

(6) General administrative expenses

Head office expenses are estimated. Head office expense estimations are based on the head office organization and manning plan as explained in Chapter 7.

10-3 Tax system and tax adjustment (Presupposed conditions No.3)

10-3-1 Ordinary tax levies

The major taxes related to this project, excepting corporate income tax, is summarized as follows. Among those, the following 4 are included in the cost calculation for the usual operating year

- (a) Customs duty
 - (b) Specific tax
 - (c) Advanced sales tax
- } related to imported raw material costs
and
- (d) Real property tax — related to fixed assets

Since the sales tax on the sales products is not included in the costs calculation, it must be added to the profit-loss calculation. For the usual taxation year, the tax calculation (value of tax object, tax rate, tax amount) is shown in *Table 10-3-1*.

<u>Tax system (ordinary)</u>	
<u>1. Imported raw materials</u>	
1) Duties	Tariff & customs code (RA NO. 1937)
1-1) Tax standard	Home consumption value X 1.1
1-2) Duty rate (F/S related items)	
Fluorspar	20%
Bunker alumina	20%
Other imported raw materials	10%
2) Specific tax (F/S related items)	
Imported coal	4% $\text{C}/1$
3) Advanced sales tax (F/S related items)	
3-1) Tax standard	(Home consumption value X 1.1 + tax & charges) X 1.25
3-2) Tax rate	10%
<u>2. Real property tax</u>	
1) Tax standard	Assessed value of the fixed asset
2) Method of assessment	Current and fair market value
	* For F/S, learning from the example of an existing steel company, it is estimated at 50–60% of acquisition cost.
3) Tax rate	2.25%
<u>3. Sales tax</u>	
1) Tax standard	Gross selling amount
2) Tax rate	10%
3) Tax credit	(a) Advanced sales tax on imported raw materials (b) Sales tax on local purchases
4) Net sales tax	Sales tax liabilities (less) tax credit

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Table 10-3-1 Usual year tax amount calculation

1. In relation to imported raw materials

	Usual tax levy	Remarks	
		Tax/Variable cost	
Customs duty	16,659 thous. \$	6.516 %	
Specific tax	48	0.019	
Advanced sales tax	12,150	4.753	
Total	28,857	11.288	

2. Real property tax

	Fair market value ^{*1}	Assessed Value	Assessed rate	Real ^{*2} property tax	
	thous. \$	thous. \$	%	thous. \$	
Land	31,600	15,800	50	360	
Building & structures	380,800	190,400	50	4,280	
Machinery & equipment	725,500	435,300	60	9,790	
Vehicles	17,700	8,850	50	200	{ railroad (15 yrs = 12,500) { trucks (5 yrs = 5,200)
Total	1,155,600	650,350		14,630	

*1 IDC and engineering fees excluded from the acquisition cost of fixed assets.

*2 Real property tax rate is 2.25%.

3. Sales tax

	Debit or (Credit)	Amount	Remarks
Gross sales tax	Debit	50,921 ^{thous. \$}	
Less			
Adv. sales tax	Credit	(12,150)	Imported material
Sales tax	Credit	(1,853)	Domestic material
Net sales tax	Debit	36,918	

10-3-2 Tax incentives

In contrast to the ordinary tax in the previous paragraph the tax incentives thought related to this project are summarized below.

① Tax incentive provisions are all noted in the Investment Incentive Act (R.A. No. 5186). We have assumed that this project will be recognised as a "registered enterprise and pioneer enterprise" of this I.I. Act and will receive the special tax exemptions thereunder. The study was based on this assumption. Based on the tax exemptions, yearly tax adjustment and sales taxes are shown in *Table 10-3-2*.

② On April 21, 1978, Presidential Decree No. 1352 partially amending and restricting the I.I. Act was issued. Furthermore, one month later as an amendment thereto Presidential Decree No. 1395 was issued to amend the earlier decree. Based on these, importation of machinery and facilities by registered enterprises will not receive tax exemption and will be assessed with a 5% tax to the old exemption portion. In addition, a 5% tax was also levied on the tax exempted portion related to imported raw materials. The case where the tax exemptions of the I.I. Act were restricted in this way by Presidential Decree 1395 we made simulation case 1.

③ Section 5 of Presidential Decree No. 1395 has the provisions providing for the restoration of the tax exemptions. Based on that, the President of the Philippines can, upon the advice of the Fiscal Incentive Review Board, when found in the interests of the national economy, restore the tax exemptions. Accordingly, the Basic Case of this study is made with the assumption that authorization for restoration of the tax exemptions will be received.

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Tax incentives estimates (Summary)

It is assumed that authorization as a "registered enterprise and pioneer enterprise" as provided for in the I.I. Act (R.A. No. 5186) will be received.

1. Investment incentive act

1) Tax exemptions for imported machinery, facilities and spare stores

From the day of registration of the enterprise 7 years thereafter, there is a 100% tax exemption from duties and compensating tax for amounts used in the project.

2) Tax exemptions from the duties and national taxes except for income taxes

First 5 year	100 tax exemption
Years 6 ~ 8	75% "
Years 9 ~ 10	50% "
Years 11 ~ 12	20% "
Years 13 ~ 15	10% "

2. Real property tax

Machinery and equipmnt tax exemption for 3 years from start of operations

3. Presidential decrees No. 1352 & 1395 (April 21, 1978; May 31, 1978)

1) Abolishment of tax exemption on imported goods

All imported goods currently enjoying tax exemptions from duties and national taxes (excluding volume taxes) were each given a 5% tax levy.

* This was handled in this financial study as Simulation Case 1.

2) Abolishment of tax exemption on imported machinery, facilities and spare stores

Machinery imported after Dec. 31, 1981 by a registered enterprise before April 21, 1978 will not receive the application of the exemption.

* In this financial study for the basic case, we assumed that the tax exemption provisions as used previously would specially be used in this case. (The case where there is not tax exemption is handled as Simulation Case 1.)

Table 10-3-2 Tax adjustment calculation statement (Basic case)

(Unit: thous. \$)

Year of production	Customs duty, Specific tax & Advanced sales tax			Real property tax			Sales tax		
	Tax amount at usual rate	Tax adjustment	Reduced tax rate	Tax amount at usual rate	Tax adjustment	Tax payment	Tax amount at usual rate	Tax payment	%
1	23,026	-23,026	100%	14,634	-9,796	4,838	27,969	0	0
2	27,474	-27,474	100	14,634	-9,796	4,838	34,977	0	0
3	28,857	-28,857	100	14,634	-9,796	4,838	36,918	0	0
4	28,857	-28,857	100	14,634	0	14,634	36,918	0	0
5	28,857	-28,857	100	14,634	0	14,634	36,918	0	0
6	28,857	-21,643	75	14,634	-64	14,570	36,918	9,231	25
7	14,047	-10,536	75	14,634	-64	14,570	17,971	4,494	25
8	28,857	-21,643	75	14,634	-64	14,570	36,918	9,231	25
9	28,857	-14,429	50	14,634	-64	14,570	36,918	18,462	50
10	28,857	-14,429	50	14,634	-64	14,570	36,918	18,462	50
11	28,857	-5,771	20	14,634	-64	14,570	36,918	29,536	80
12	28,857	-5,771	20	14,634	-64	14,570	36,918	29,536	80
13	28,857	-2,886	10	14,634	-64	14,570	36,918	33,227	90
14	14,047	-1,405	10	14,634	-64	14,570	17,971	16,175	90
15	28,857	-2,886	10	14,634	-64	14,570	36,918	33,227	90

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10-4 Non-operating business profits and losses (Presupposed conditions No. 4)

Outside of steel products, the primary business of the new steelworks, the external sales of by-products and surplus electric power are added to the non-operating profit-loss calculation.

In *Table 10-4-1* the non-operating profit-loss statement is shown. Since in these cases the selling price is equal to deduction for by-products (expense deduction in the case of electric power), the profit-loss is zero.

Table 10-4-1 Non-operating revenues & expenses

	Shipment	Revenues		Expenses	Profit or loss
		Unit price	Amount	Amount	Amount
Tar & pitch oil	42 ^{thous. t}	71.0 \$/t	2,982 ^{thous. \$}	2,982 ^{thous. \$}	0
Light oil	11 "	106.0 "	1,166	1,166	0
Coke breeze	130 "	50.6 "	6,578	6,578	0
Lime stone (fines)	21 "	6.5 "	136	136	0
Burnt lime (fines)	2 "	6.5 "	13	13	0
Electricity	51,714 ^{thous. kWh}	0.018 \$/kWh	931	931	0
Total			11,806	11,806	0

10-5 Suppositions in the calculation of cash flow table (Presupposed conditions No. 5)

10-5-1 Corporate organization of the new steelworks

As an assumption of this study we assumed that a new company would be established which would take the form of a limited liability corporation.

10-5-2 Equity and raising of required investment funds

The funds necessary for the new steelworks were estimated in chapter 8. The timing and method of raising the funds is forecasted as below:

(1) Timing and amount of necessary funds

In reference to the timing of the necessary funds, first we had to presuppose a construction schedule and then predict the time of payment and the rate of payment.

As for purchases of equipment, we had to make an estimate taking into consideration the time of contract, the time for fabricating the machinery, shipment time, inspection time etc.

As for civil, erection and installation works, we considered the contract time, construction time, inspection time etc. In reference to the amount required, it is as shown in *Table 10-5-1*.

Table 10-5-1 Raising of funds and payment forecasts during construction

(Unit: mil. \$)

Items	Year	Construc- tion term -5	-4	-3	-2	-1	Start operations 1	Total
(Required investment funds)								
Imported facilities & engineering fees		4.0	151.0	126.0	330.0	123.0	37.0	771.0
Educational, training and operational guidance expenses						18.0	17.0	35.0
Expenses for reserve stocks spare stores						36.0		36.0
Domestic construction		8.3	65.3	97.0	114.0	133.0	10.0	427.6
Initial organization expenses		0.3	0.7	2.0	3.0	4.0		10.0
Sub total		12.6	217.0	225.0	447.0	314.0	64.0	1,279.6
Interest during construction		0.1	8.2	23.9	49.1	79.2		160.5
Total required investment funds		12.7	225.2	248.9	496.1	393.2	64.0	1,440.1
Capital (paid in)		10.0	40.0	70.0	90.0	100.0	10.0	320.0
Long-term loan		2.7	185.2	178.9	406.1	293.2	54.0	1,120.1
Accumulated long term loan		2.7	187.9	366.8	772.9	1,066.1	1,120.1	(1,120.1)

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(2) Capital

From the above noted required funds, about 25% of the amount, excluding the interest during construction, is regarded as capital. That amount is \$320^{mil}. This comes to cover a large part 3/4, of domestic construction costs. As to what the equity ratio will be, external factors such as the possibilities of obtaining loans and the project owner's management policies will have a great influence thereon. Here, as a supposition of this study, the 25% minimum basis will be used as recommended in the guidelines for use by the Board of Investment at the time of corporation's registration to it and the guidelines used by the Development Bank of the Philippines when it guarantees loans. The payment of capital has been made to correspond with the estimates of payments of domestic construction costs.

(3) Loans

The difference between the necessary amount and the amount of paid in capital will be raised via long term borrowings.

The amount of interest incurred during the construction term will be calculated as an addition to borrowings.

In reference to the raising of these amounts, various methods have been given consideration. For basic infrastructure facilities such as electric power development, fishing industry development, waterworks, etc., low interest financing from the International Bank for Reconstruction and Development (I.B.R.D.) and the Asian Development Bank (A.D.B.) etc. are possibilities. In the case of industrialization projects, generally for the imported machinery and the engineering services related thereto, there are financing possibilities from government related export financing institutions of the exporting country. Also, since there are situations where the 15—20% of contract amount down payment is not eligible for such government related financing from the exporting country, then there are situations where the amount may be borrowed from foreign city banks. On the contrary, in the limit of down payment portion, there are also situations where it is possible to bring in financing from the government related institutions of the exporting country for the domestic installation of the imported machinery. These foreign borrowings are extremely difficult to forecast as to which country and which financial institution to borrow from. Of course with the world interest movements in this age of violently changing exchange rates the problem of what currency do you borrow, and for various other reasons, the standard of interest rates has been in extreme flux. Consequently, since the raising of the funds is at a pending stage, there is nothing left but to think about in a general way. The average conditions for the raising of funds is summarized as below:

Conditions for the procurement of long-term loans

Usage:	Necessary funds for capital investments
Average effective interest rate	9%
Deferment term	Until the commencement of business (interest during the term of construction will be reborrowed)
Repayment method	Equal payments of principal
Borrowing timing	Mid-term
Repayment	End of term

CHAPTER 10

10-5-3 Conditions of raising working capital

(1) Forecast for necessary working capital

When the new steelworks starts operations, there will be a need for working capital to support current assets. A portion of these necessary funds will be raised by current liabilities. However, for that portion for which these financial resources will be insufficient, in other words the portion called net working capital, will be raised in principle via short term borrowings. The forecasts of the necessary working capital for the new steel works are shown in *Table 10-5-2*. Since normal operating situations will be entered from the 3rd year of operation, the third year was taken as the forecast year.

Based on *Table 10-5-2* the necessary working capital (in other words the net working capital) is \$51.9 million.

Table 10-5-2 Working capital forecast (third year)

(Unit: thous. \$)

Item	Amount	Forecast assumptions
Current assets		
Cash on hand and in banks (Corresponding to min. liquidity on hands)	4,668	Estimated at 0.1 of one month's sales
Accounts receivable	46,678	One month of sales
Other liquid assets	23,339	½ of one month's sales (accounts due, suspense payments etc.)
Inventory	(85,360)	
Raw materials	55,214	Estimated at 2.5 months of average raw material costs (pymts)
Semi-finished products	19,925	Estimated as at ½ months average operating cost of semi-finished products
Finished products	10,221	Estimated at 0.3 months average production cost for sales
Sub total	160,045	
Current liabilities		
Accounts payable	52,307	3 months of imported raw materials, 1 month domestic raw materials, 1 month supplies
accrued expenses	3,815	Average one month expenses
Other liquid liabilities	18,671	Estimated at 0.4 months of sales (suspense accounts etc.)
Reserve for taxes	33,309	Taxes corresponding to the previous term's profits
Sub total	108,102	
Net working capital	51,943	

Note: Cash on hands and in banks (min. liquidity on hands) is non-interest earning accounts.

(2) Condition for raising short-term borrowings

Short term loans will be made from the Philippines' city banks. Interest will be the ceiling rate set by the Philippines Central Bank. The suppositions of this case about the conditions for raising short term loans are as summarized below.

Conditions for raising short-term borrowings:

Interest rate: 16% (From domestic city banks, unsecured, including 2% service charge).

Loan terms are estimated as one year rolled over yearly.

CHAPTER 10

10-5-4 Corporate income tax

A 5% corporate development tax on corporate income has been added to the existing 25–35% levy of corporate income tax. However, in this study's basic case the prior method is utilized. Changes in the tax system are handled in special calculations as simulation case 1. The suppositions of this case about the Philippines corporate tax system are summarized below.

Philippines corporate income tax system (Summary)

1) Loss carry overs

- 1-1) I.I. Act authorized enterprises can carry over losses
- 1-2) I.I. Act (R.A. No. 5186)

For a period of 10 years after commencement of business, it is possible to carry over losses for 6 years from the time that they occurred.

2) Corporate tax

2-1) Step corporate income tax rate

Up to and including 100,000 Pesos	25%
Over 100,000 Pesos	35%

* In this financial study for convenience sake a 35% rate is used.

2-2) Enactment of new Corporate development tax

i) Taxable corporations

- i-i) Closed corporations (5 or fewer owners) or
- i-ii) Net taxable income exceeds 10% of net worth

ii) Tax rate 5%

* In this financial study this corporate development tax is handled in simulation case 1.

10-6 Results of the financial forecast calculations

Based on the various suppositions relating to the financial forecast explained up to the previous paragraph the EDP output of the results of the financial forecast calculations calculated on a year by year basis have been collected and recorded as in the following with respect to the basic case.

Table 10-6-1 Profit and loss statement

Table 10-6-2 Cash flow table

However, in reference to Balance Sheet output, different kinds of suppositions about the policy for profit disposition of the management are necessary to make the calculations. Accordingly, in this study they were collected, recorded and given separate treatment in 10-11 Appendix. The EDP output of the various Simulations Cases are recorded in the "Financial forecast detail" in Chapter 15.

Table 10-6-1 Profit and loss statement (Basic case)

(B) PROJECTED PROFIT & LOSS
 PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)
 CASE NO. : PAGE 3-1
 DATE: JUL/11/1979

CALENDAR YEAR PROJECT YEAR	1980 --5	1981 --1	1982 --3	1983 --2	1984 --1	1985 --1	1986 --2	1987 --3	1988 --4	1989 --5
SALES	0	0	0	0	0	424349	530675	560130	560130	560130
VARIABLE COST	0	0	0	0	0	209991	243399	255644	255644	255644
PRODUCTION FIXED COST	0	0	0	0	0	61438	81438	81438	81438	81438
DEPRECIATION & AMORTIZ. (X1)	0	0	0	0	0	61438	81438	81438	81438	81438
PROV. OF RESERVE FOR EF ETC.	0	0	0	0	0	32353	37279	37279	37279	37279
TAX ADJUSTMENT	0	0	0	0	0	9377	9377	9377	9377	9377
PRODUCTION COST FOR SALES	0	0	0	0	0	9377	9377	9377	9377	9377
LONG TERM LOAN INTEREST	0	0	0	0	0	8138	8138	8138	8138	8138
INTEREST INTER.	0	0	0	0	0	8138	8138	8138	8138	8138
SHORT-TERM LOAN & DEPOSIT	0	0	0	0	0	3940	3940	3940	3940	3940
TRANSPORTATION COST	0	0	0	0	0	43809	43809	43809	43809	43809
SALES TAX	0	0	0	0	0	10460	10460	10460	10460	10460
GENERAL ADMN. EXPENSES	0	0	0	0	0	10662	11806	11806	11806	11806
TOTAL COST	0	0	0	0	0	10460	11806	11806	11806	11806
OPERATING INCOME	0	0	0	0	0	10662	11806	11806	11806	11806
NON-OPERATING REVENUES	0	0	0	0	0	10662	11806	11806	11806	11806
NON-OPERATING EXPENSES	0	0	0	0	0	10662	11806	11806	11806	11806
ORDINARY INCOME	0	0	0	0	0	10662	11806	11806	11806	11806
EXTRAORDINARY PROFITS	0	0	0	0	0	10662	11806	11806	11806	11806
EXTRAORDINARY LOSSES	0	0	0	0	0	10662	11806	11806	11806	11806
NET INCOME BEFORE TAXES	0	0	0	0	0	10662	11806	11806	11806	11806
(LOSS FORWARD)	0	0	0	0	0	10662	11806	11806	11806	11806
(TAXABLE INCOME)	0	0	0	0	0	10662	11806	11806	11806	11806
RESERVE FOR TAXES	0	0	0	0	0	10662	11806	11806	11806	11806
NET INCOME AFTER TAXES	0	0	0	0	0	10662	11806	11806	11806	11806
PROV. OF LEG. RETAINED EARNINGS	0	0	0	0	0	10662	11806	11806	11806	11806
DISPOSABLE INCOME AFTER TAXES	0	0	0	0	0	10662	11806	11806	11806	11806
APPROPRIATION OF RET. EARN.	0	0	0	0	0	10662	11806	11806	11806	11806
DISPOSABLE INCOME AFTER TAXES	0	0	0	0	0	10662	11806	11806	11806	11806
RET. EARN. BROUGHT FORWARD	0	0	0	0	0	10662	11806	11806	11806	11806
UNAPPROPRIATED RET. EARNINGS	0	0	0	0	0	10662	11806	11806	11806	11806
DIVIDENDS	0	0	0	0	0	10662	11806	11806	11806	11806
DIRECTOR'S BONUSES ETC.	0	0	0	0	0	10662	11806	11806	11806	11806
RET. EARN. CARRIED FORWARD	0	0	0	0	0	10662	11806	11806	11806	11806
(NOTES) (X1) INCLUDES	0	0	0	0	0	10662	11806	11806	11806	11806
DEPRECIATION	0	0	0	0	0	10662	11806	11806	11806	11806
"AMORTIZ. OF I/A & TRAIN. FEE"	0	0	0	0	0	10662	11806	11806	11806	11806
"AMORTIZ. OF INITIAL ORG. EXP."	0	0	0	0	0	10662	11806	11806	11806	11806

(B) PROJECTED PROFIT & LOSS
PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

CALENDAR YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
PROJECT	6	7	8	9	10	11	12	13	14	15
SALES	560130.	222000.	560130.	560130.	560130.	560130.	560130.	560130.	272660.	560130.
VARIABLE COSTS	= 150275.	= 147475.	= 255275.	= 255275.	= 255275.	= 255275.	= 255275.	= 255275.	= 124445.	= 255275.
PRODUCION & MAINT. COSTS	= 80249.	= 80249.	= 80249.	= 80249.	= 80249.	= 80249.	= 80249.	= 80249.	= 75460.	= 80249.
DEPRECIATION & AMORT. (X1)	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.	= 2170.
PROV. FOR DEFERRED TAXES	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.	= 36591.
TAX ADJUSTMENT FOR SALES	= 50709.	= 49323.	= 50709.	= 50709.	= 50709.	= 50709.	= 50709.	= 50709.	= 50709.	= 50709.
LONG TERM DEBT INTEREST	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.	= 63293.
OPERATING INCOME	= 45255.	= 31242.	= 45255.	= 45255.	= 45255.	= 45255.	= 45255.	= 45255.	= 28825.	= 45255.
NON-OPERATING REVENUES	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.
NON-OPERATING EXPENSES	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.	= 1180.
ORDINARY INCOME	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.
EXTRAORDINARY PROFITS	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
EXTRAORDINARY LOSSES	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
NET INCOME BEFORE TAXES	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.	= 1015.
(LOSS FORWARD)	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
RESERVE FOR TAXES	= 355.	= 355.	= 355.	= 355.	= 355.	= 355.	= 355.	= 355.	= 355.	= 355.
PROV. ON LEGAL & OTHER TAXES	= 600.	= 600.	= 600.	= 600.	= 600.	= 600.	= 600.	= 600.	= 600.	= 600.
DISPOSABLE INCOME AFTER TAXES	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
*APPROPRIATION OF RET. EARN. **	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
DISPOSABLE INCOME AFTER TAXES	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
UNAPPROPRIATED EARNINGS	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
DIVIDENDS	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
RET. EARN. CARRIED FORWARD	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.	= 0.
(NOTES) (1) INCLUDES	75492.	75492.	75492.	75492.	75492.	75492.	75492.	75492.	75492.	75492.
"DEFERRED TAXES"	3673.	3673.	3673.	3673.	3673.	3673.	3673.	3673.	3673.	3673.
"ACCUMULATED INITIAL ORG. EXP."	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.	1123.

Table 10-6-2 Cash flow table (Basic case)

PAGE= 4-1
DATE= JUL/11/1979

(D) PROJECTED CASH FLOW
(T-USD)

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)
CASE NO :

CALENDAR YEAR PROJECT YEAR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
** APPLICATIONS **										
INVEST. REPLY. FOR CONSTRUCTION OF OTHER PLANT.	12600.	217000.	225000.	447000.	344424.	0.	0.	0.	0.	0.
INT. INTEREST PAY. ON F.C. ASSETS	117.	5210.	23888.	49078.	72156.	0.	0.	0.	0.	0.
TOT. ACQUISITION OF FIX. ASSETS	12717.	225209.	248888.	496078.	416580.	0.	0.	0.	0.	0.
TOT. LOAN & D.F.C. REPLY. (R1)	0.	0.	0.	0.	0.	176008.	112008.	112008.	112008.	112008.
BOND RETIREMENT RESERVE FOR S.F.I.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
REVERSAL PAY. OF FIXED LIABIL.	0.	0.	0.	0.	0.	176008.	112008.	112008.	112008.	112008.
TOTAL APPLICATIONS	12717.	225209.	248888.	496078.	457190.	176008.	112008.	160408.	156567.	156567.
** RESOURCES **										
INCREASE OF CAPITAL STOCK	10000.	49000.	70000.	90000.	100000.	10000.	0.	0.	0.	0.
TOT. LOAN & D.F.C. BORROW. (R2)	2600.	177000.	155000.	357000.	278000.	54000.	0.	0.	0.	0.
BOND ISSUANCE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
BORROWING OF L-T LOAN INTER.	12717.	5210.	23888.	496078.	79190.	64000.	0.	0.	0.	0.
TOT. INC. OF CAP. & FIX. LIABIL.	12717.	225210.	248888.	496078.	457190.	64000.	0.	0.	0.	0.
DISPOSAL OF INCOME AFTER TAXES	0.	0.	0.	0.	0.	-10460.	56462.	61660.	62596.	69173.
DEPRECIATION & AMORTIZATION	0.	0.	0.	0.	0.	81439.	81439.	81439.	81439.	81439.
PROV. OF RESERVE FOR DEPR. ETC.	0.	0.	0.	0.	0.	6490.	6490.	6490.	6490.	6490.
TOT. IN-OR-DEC. OF RESRV. FUNDS	0.	0.	0.	0.	0.	77469.	13441.	149769.	150525.	157102.
IN-OR-DEC. OF CREDITORS	0.	0.	0.	0.	0.	43349.	9995.	2778.	0.	0.
IN-OR-DEC. OF OTHER CUR. LIAB.	0.	0.	0.	0.	0.	14145.	3645.	3088.	3709.	3747.
SUBST. IN-OR-DEC. OF TAXES	0.	0.	0.	0.	0.	21682.	17597.	32309.	10823.	7318.
TOT. SUBST. IN-OR-DEC. OF BORROWING	0.	0.	0.	0.	0.	89376.	21920.	112331.	44559.	44559.
TOT. IN-OR-DEC. OF CUR. LIABIL.	0.	0.	0.	0.	0.	230845.	189267.	198189.	195083.	201660.
TOTAL RESOURCES	12717.	225210.	248888.	496078.	457190.	230845.	189267.	198189.	195083.	201660.
(NOTES)										
(R1) INCL. "DEBT F. CONST. REPLY."	0.	0.	0.	0.	64000.	0.	0.	0.	0.	0.
(R2) INCL. "DEBT F. CON. BORROW."	0.	0.	0.	0.	64000.	0.	0.	0.	0.	0.

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

PAGE 4-2
DATE JUL/11/1979

CALENDAR YEAR PROJECT YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	6	6	6	6	10	11	12	13	14	15
** APPLICATIONS **										
INVEST. PAY. FOR CONSTRUCTION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INCREASE OF OTHER INV.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST PAY. DURING CONST.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOT. ACQUISITION OF FIX. ASSETS	112006	112006	112006	112006	112009	112009	112009	112009	46040	46040
TOTAL	112006	112006	112006	112006	112009	112009	112009	112009	46040	46040
IN-OR-DECREASE OF CREDITORS	3727	3399	2399	2853	4013	4394	4240	42368	339	339
TAX PAYMENT OF OTHER LIABILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN-OR-DECREASE OF OTHER LIABILITIES	0.	0.	1718	1918	4387	393	32	0.	0.	0.
IN-OR-DECREASE OF PAYABLES	7312	8940	8237	16865	4387	589	1637	4210	16502	3278
SHORT-TERM LOAN REPAY. ASSETS	4440	3320	0.	44502	44502	4417	44272	44272	30556	82148
TOTAL APPLICATIONS	15672	11352	19466	15651	15651	4417	44272	44272	15482	82148
** RESOURCES **										
INCREASE OF CAPITAL STOCK (X2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOSS OF DEBT (X2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
BORROWING ON CURRENT INTER.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOT. INCR. CURR. FIX. LIABILI.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEPRECIATION & AMORTIZATION	6025	6025	6025	6025	6025	6025	6025	6025	6025	6025
FIXED ASSET RESERVE FUNDS	6025	6025	6025	6025	6025	6025	6025	6025	6025	6025
PROV. OF RESERVE FUNDS	15277	3962	18014	16124	16450	16070	16063	15653	5987	36979
TOT. IN-OR-DECREASE OF RESERVE FUNDS	15277	3962	18014	16124	16450	16070	16063	15653	5987	36979
IN-OR-DECREASE OF CREDITORS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
IN-OR-DECREASE OF OTHER CUR. LIAB.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
RESERVE FOR TAXES	3554	6330	2833	4011	4399	4243	4236	4062	956	956
SHORT-TERM LOAN BORROWING	4440	6320	8237	44502	44502	4417	44272	44272	30556	82148
TOT. IN-OR-DECREASE OF CUR. LIABILI.	19724	9653	26292	20575	21292	20487	20490	20025	2913	45194
TOTAL RESOURCES	19724	9653	26292	20575	21292	20487	20490	20025	2913	45194
(NOTES)										
(X1) INCL. "DEBT F. CONST. WORK"	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
(X2) INCL. "DEBT F. CONST. WORK"	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

CHAPTER 10

10-6-1 Characteristics about profit and loss

Special points related to the profits-losses of the project based on the profit-loss statement as noted below, can be understood by reading.

- ① Although the pre-tax profits in the first year are in deficit, as in the second year sales will reach 95% of that of a normal year, profits will reverse the trend back into the positive.
- ② After that for the usual year the tax-exemption benefits will gradually decline, but on the other hand, as long term loan interest liabilities will decrease, so they will be setting each other off and the level of profits will be developing along the \$95—125 million level.
- ③ In the 7th year there will be blast furnace relining and sales will be halved so that there will be a large scale deficit. However, by the second relining process in the 14th year as the long-term loan interest liabilities will have been disposed of, a large scale deficit as in the 7th year will not occur.

10-6-2 Characteristics about cash flow

The calculation of the cash flow balance based on the cash flow table is in *Table 10-6-3*.

Table 10-6-3 Cash flow balance.

(Unit: Mil. \$)

Year after operations commence	Total applications	Total resources	Balance
1	265	231	-34
2	167	189	22
3	160	198	38
4	157	195	38
5	157	202	45
6	157	197	40
7	114	9	-105
8	194	262	68
9	157	206	49
10	157	213	56
11	44	205	161
12	44	205	161
13	44	201	157
14	15	29	14
15	82	452	370

In the initial year there will be deficiency of fund, but after that there will be small surplus of funds. However, in the 7th year as that is a deficit year, there will be large scale shortage of funds. As to where this funds will be raised will become a big topic. From the 11th year the long-term loans will have been completely repaid so that there will be a large surplus of funds. Therefore in the 14th year there will not be a shortage of funds and the project will somehow get through.

CHAPTER 10

10-7 Profit-loss analysis (Economical evaluation analysis No. 1)

10-7-1 Profit-loss by product type.

The profit-loss by product type of the products to be sold by the new company are shown in *Table 10-7-1*.

It is necessary to look at this profit-loss by product type as the profit-loss averaged in an ordinary year. Thus even if the cost items were in reality progressively changing, the calculation was based on average costs. The cost averaged items were the interest, tax compensation amount and sales tax amount.

Table 10-7-1 Profit-loss by product type (Ordinary year)

Products	Shipment	Sales price	Total cost						Profit		Remarks
			Production cost	Tax adjustment	Transportation cost	General Administrative expenses	Interest	Total	Per ton	Amount	
Bloom	144 thousand	360.0 \$/t	240.0 \$/t	Δ 8.5 \$/t	6.4 \$/t	14.4 \$/t	41.1 \$/t	293.4 \$/t	66.6 \$/t	9.6 Mil \$	
Billet	150	375.0	286.9	Δ10.2	6.4	15.0	42.9	341.0	34.0	5.1	
Slab	100	365.0	235.7	Δ 8.4	7.1	14.6	41.7	290.7	74.3	7.4	
Hot coil	1,052	395.0	292.5	Δ10.4	5.6	15.8	45.1	348.6	46.4	48.8	
Total	1,446	387.3	282.7	Δ10.0	5.8	15.5	44.3	338.3	49.0	70.9	

- (note) 1 The tax compensation amount was calculated on a 50% tax exemption as the average of the tax incentives.
 2 Sales taxes were included in general administrative expenses.
 3 Interest was calculated on the annuity method basis.

CHAPTER 10

10-7-2 Profit-loss break even point analysis

The break even point of the new steelworks is shown in Figure 10-7-1. The figures used as the basis of the calculation are, as in the previous paragraph, average figures of an ordinary year. The results of the analysis are summarized as follows:

- ① Break even point: 1,116^{thous.} tons
- ② Operation rate on break even point: 77.2%
- ③ Since the steel industry is a capital intensive industry, fixed costs are high and so the profit loss break even point is also high.
- ④ Furthermore, since the steel industry is a very basic industry changes in economic trends lead to rather large level fluctuations in operating rates. Accordingly, in order to maintain the lowest possible profit-loss break even point, it is necessary to endeavor for resistibility to these fluctuations in operating levels.

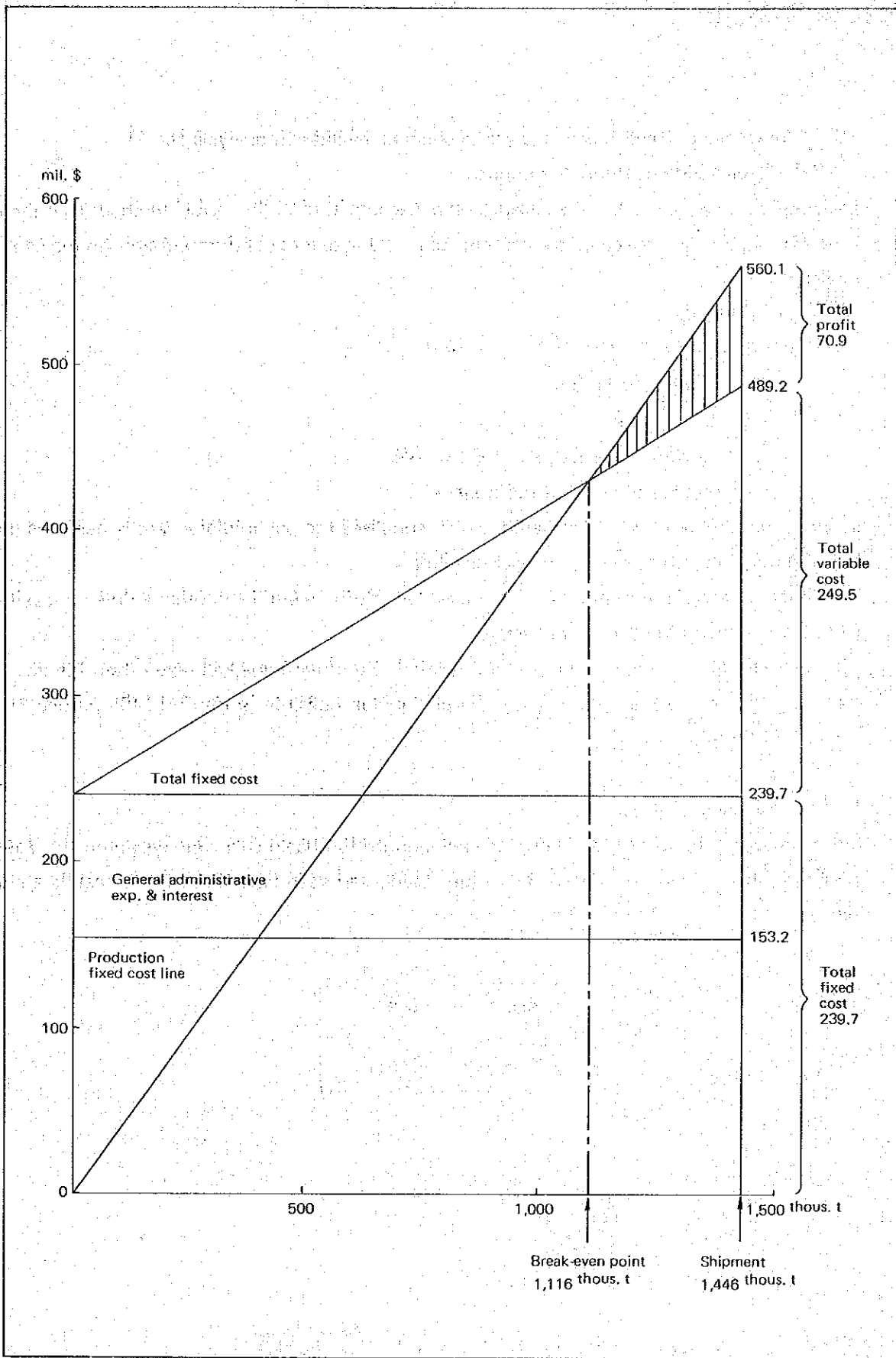


Fig. 10-7-1 Break-even point analysis

CHAPTER 10

10-8 Investment effectiveness analysis (Economic evaluation analysis No. 2)

10-8-1 Explanation of the DCF method

Investment profitability is usually based on the discounted cash flow (DCF) method. That theory is to make a judgment based on the present value on the extent of return possible on the capital invested.

Method of calculation

$$Co = R_1/(1+i) + R_2/(1+i)^2 + \dots + R_n/(1+i)^n$$

$$\left(\begin{array}{l} Co = \text{initial investment} \\ i = \text{rate of return} \\ R_n = \text{income \& earnings in the } n\text{th year.} \\ n = \text{number of years of the project} \end{array} \right.$$

In short, the rate of return is evaluated, which equalizes the accumulated yearly earnings (R_n) at present value with the initial investment (Co).

ROE (Internal rate of return on equity) is the rate of return on equity, in other words forecasting what percentage of dividends is possible.

ROI (Internal rate of return on investment) is what rate of earnings will result from the investment. In other words the judgment on the percentage possible to return to the parties from whom the funds were raised.

10-8-2 ROE and ROI

Although the investment effectiveness calculation for the basic case was based on the *Table 10-6-2* Cash flow table, *Table 10-8-1* is the Discounted cash flow table. Those results are as follows:

ROI	=	8.16 %
ROE	=	9.96 %

Table 10-8-1 DCF table

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(F) PROJECTED EFFICIENCY INDEX
(1-USD)
PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)
CASE NO :

ROE = 9.96

CALENDAR YEAR PROJECT YEAR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
ANNUAL CUMULATIVE	-10000:	-40000:	-70000:	-90000:	-100000:	-445339:	-22403:	-37780:	-255840:	45093:
DISCOUNTED CUMULATIVE	1:00000	0:90986	0:82772	0:75227	0:68413	0:622219	0:56580	0:51463	0:46904	0:42566
	-10000:	-46378:	-104277:	-171977:	-240391:	-268103:	-255426:	-235984:	-217957:	-198762:
CALENDAR YEAR PROJECT YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
ANNUAL CUMULATIVE	40767:	-103867:	-68009:	-49237:	5644:	160700:	160431:	156353:	13951:	369798:
DISCOUNTED CUMULATIVE	0:38712	-0:35205	0:32020	0:28321	0:26484	0:24057	0:21006	0:1923	0:18119	0:16478
	-162979:	-219546:	-197773:	-183437:	-168486:	-127779:	-94591:	-63441:	-60935:	1:

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (F.I.L.-F/S)
CASE NO : (F) PROJECTED EFFICIENCY INDEX

ROI = 8.16 %

DISCOUNTED CASH FLOW TABLE

CALENDAR YEAR PROJECT YEAR	1980 -5	1981 -4	1982 -3	1983 -2	1984 -1	1985 1	1986 2	1987 3	1988 4	1989 5
ANNUAL CUMULATIVE	-12717.	-235209.	-248886.	-495475.	-457193.	-1296117.	-1058467.	242777.	222474.	221996.
DISCOUNT RATE	1.00000	0.92453	0.85476	0.79125	0.73091	0.67548	0.62450	0.57737	0.53380	0.49351
DISCOUNTED CUMULATIVE	-12717.	-220930.	-433670.	-825652.	-1159725.	-162480.	-914068.	-775896.	-655141.	-545583.
CALENDAR YEAR PROJECT YEAR	1990 6	1991 7	1992 8	1993 9	1994 10	1995 11	1996 12	1997 13	1998 14	1999 15
ANNUAL CUMULATIVE	-166083.	-51469.	200533.	195255.	162799.	620366.	160709.	154280.	94257.	371459.
DISCOUNT RATE	0.95927	0.42183	0.39000	0.36257	0.33375	0.30620	0.28494	0.26343	0.24355	0.22517
DISCOUNTED CUMULATIVE	-453553.	-431639.	-953427.	-265222.	-922101.	-172970.	-127178.	0.28343	0.24355	0.22517

10-9 Simulation analysis (Economic evaluation analysis No. 3)

The financial estimates of the basic case were carried out up until section 8. In section 9, based on changes in the supposed conditions of the financial forecast, simulation analyses will be made of the 3 Simulation cases.

10-9-1 Set-up of the cases.

The cases were set-up as noted below based on changes in the selling prices and on reduction measures with respect to tax exemptions, the primary conditions in the financial forecast.

- ① In the Basic Case prices are estimated at the current price as of March, 1979. Taxes are based on the assumption that the tax exemptions measures available under the Investment Incentive Act are authorized for this case.
- ② In Simulation Case 1 only taxes are changes. In other words, in accordance with the Presidential Decree issued in 1978, the tax exemption on imports are limited partially. In addition, the new Corporate Development Tax added to the corporate income tax will also be assumed to be levied.
- ③ In Simulation Case 2 the only change is a 5% increase in the selling price of all products.
- ④ In Simulation Case 3 the only change is the 5% decrease in the selling price of all products.

On the following page is a summary of the set-up of the Simulation Cases.

CHAPTER 10

Simulation case set-up (Summary)		
Case	Provisions for tax exemption reductions (refer to 10-3-2)	Selling price
Basic case	<p>(1) Tax incentives based on the Investment incentive act</p> <ul style="list-style-type: none"> ① Imported machinery, facilities & spare stores exemptions from customs duties and compensating tax ② Imported raw materials tax exemptions by year from customs duties, specific tax & advanced sales tax ③ Sales tax Exempted from taxes by year <p>(2) Real property tax 3 year tax exemption from start of operations on machinery and facilities</p>	<p>March 1979 estimated price</p> <p>(Hot coil = \$395/ton) base</p>
Simulation Case 1 (changes in taxes)	<p>(1) Reduction of tax exemptions provided for imported goods under the investment incentives act via presidential decrees No. 1352 & 1395</p> <ul style="list-style-type: none"> ① Imported machinery, facilities and spare stores a 5% tax is imposed on the portion exempted from custom duties and the compensating tax ② Imported raw materials a 5% tax is imposed on the portion exempted from customs duties, specific tax and advanced sales tax ③ Sales tax same as basic case <p>(2) Real property tax tax exemptions same as in basic case However, increase in fixed assets will be taxed.</p> <p>(3) Enactment of corporate development tax 5% levy on corporate income</p>	<p>Same as basic case</p>
Simulation Case 2 (price change)	<p>Same as basic case</p>	<p>5% price increase for all products (Hot coil = \$414.8/t)</p>
Simulation Case 3 (price change)	<p>Same as basic case</p>	<p>5% price decrease for all products (Hot coil = \$375.3/t)</p>

10-9-2 Results of simulation calculation and analysis thereof

(1) Summary of the changes involved in Simulation case 1

The differences between the Basic case and Simulation case 1, based on tax changes are shown in the following points. The influence on pre-tax profits in the 6th year shows a ▲20.9mil. \$ deficit in profits.

Summary of changes (6th year)

(Unit: thous. \$)

	Basic case	Simulation case	Difference	Remarks	
Direct construction costs	728.0	802.6	▲74.6	5% tax on imported machinery facilities	
Long term loans	959.6	1,034.2	▲74.6		
Interest during construction	160.5	173.7	▲13.2		
(6th year)	Depreciation	80.3	85.1	▲4.8	large scale increases in fixed assets
	Tax compensation abolishment	-21.7	-11.1	▲10.6	
	Long term loan interest	50.4	54.4	▲4.0	
	Real property tax	14.6	15.7	▲1.1	
	Operating interest payments	0.6	1.0	▲0.4	
Pre-tax profits	101.6	80.7	▲20.9		
Reserve for tax	35.6	32.3	3.3	basic case = 35% simulation case 1=40%	
Net profits	66.0	48.4	▲17.6		

Note: The "▲" in the difference column indicates a deterioration in profits.

(2) Comparison of profit-loss and funds for each case

- ① The tax change (Simulation case 1) and the 5% decrease of sales price (Simulation case 3) look very similar in their influence on profits.
- ② In both cases a little profits do occur, but there are a lot of funds problems. Simulation case 1 is particularly bad. For the first 10 years after operation there are hardly any surpluses of funds. In other words, it will take 5 years to solve the initial funds deficiency problem. And then just when it looks like the funds deficiency can be solved, in the 7th year the blast furnaces must be relined and at once it will become necessary to make large amounts of short term loans.
- ③ Funds surpluses will finally appear in both cases after the 11th year when the long term loans have been completely repaid.
- ④ The 5% increase in sales price case (Simulation case 2) provides an extremely stable management basis. There is a deficiency of funds in the initial year only, and thereafter, if used in the internal reserves, to that extent there is no problem.

Table 10-9-1

(1) Basic case

Year after operation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Sales	424	531	560	560	560	560	273	560	560	560	560	560	560	273	560
2 After tax profits	-10	46	62	63	69	66	-40	93	75	82	79	79	74	-16	74
3 Cash flow balance	-34	22	38	38	45	40	-105	68	49	56	161	161	157	14	370
4 Cash flow balance accumulated	-34	-12	26	64	109	149	44	112	161	217	378	539	696	710	1,080

(note) A "-" in items 3 & 4 indicates a deficiency in monies.

(2) Simulation Case 1

1 Sales	424	531	560	560	560	560	273	560	560	560	560	560	560	273	560
2 After tax profits	-35	38	41	42	49	48	-55	86	59	67	66	66	63	-24	63
3 Cash flow balance	-63	10	13	14	21	19	-122	57	30	38	155	155	152	12	372
4 Cash flow balance accumulated	-63	-53	-40	-26	-5	14	-108	-51	-21	17	172	327	479	491	863

(3) Simulation Case 2

1 Sales	446	557	588	588	588	588	286	588	588	588	588	588	588	286	588
2 After tax profits	7	60	81	81	88	84	-26	106	93	100	96	96	92	-3	91
3 Cash flow balance	-17	36	57	57	66	59	-90	81	70	78	178	178	174	27	386
4 Cash flow balance accumulated	-17	19	76	133	199	258	168	249	319	397	575	753	927	954	1,340

(4) Simulation Case 3

1 Sales	403	504	532	532	532	532	259	532	532	532	532	532	532	259	532
2 After tax profits	-32	37	43	44	50	48	-54	80	56	64	61	61	57	-29	57
3 Cash flow balance	-56	13	19	20	26	22	-118	55	31	38	143	143	139	0	353
4 Cash flow balance accumulated	-56	-43	-24	-4	22	44	-74	-19	12	50	193	336	475	475	828

(3) Comparison of the investment efficiency of each case

Noted hereunder is the comparison of the ROI and ROE of each case.

Case	ROI	ROE
Basic case	8.16%	9.96%
Simulation case 1	6.86	6.78
" 2	9.45	13.17
" 3	6.81	6.72

CHAPTER 10

10-10 Analysis of the effects on the national economy (Economic evaluation analysis No. 4)
Up to the previous section, an administrative analysis and the economic effects of the steelworks were looked at from the viewpoint of the project owner. Here we will change our viewpoint and we will look at the steelworks from the viewpoint of its effect on the national economy and the contribution made thereto. However in this survey we will examine only the primary direct effects of the steelworks. In addition to these direct effects, the indirect effects induced by these are expected considerably goods.

10-10-1 Added value effects of the new steelworks

The added value effects of the new steelworks for the Basic case are shown in *Table 10-11-1*. As is shown in the 6th and 13th year the taxes differ based on differences in the tax exemption rates. It is thought that changes from the 16th year and thereafter in the figures will be close to that of the 13th year. Those points are summarized below.

① Total added value

6th year = \$220.8 million (value added rate = 39.4%)

13th year = \$271.7 million (value added rate = 48.5%)

This also has the effect of adding the same amount to the Philippine gross national product.

② The employment effects for direct employment will be about 4,000 people. Assuming for example that each employee there are 5 family members, the project then provides support for about 20,000 family members. Of course in order to support them there will be indirect effects on education, health treatment and waterworks etc.

	(direct employment)	(estimated number of family members)
Steelworks	3,901 people	
Headquarters	164 people	
Total	4,065 people	20,325 people

Table 10-10-1 Added value effects of new steelworks (Basic case)

(Unit: mil. \$)

項 目	Amount of value added		Remarks
	6th year	13th year	
Customs duty	4.2	15.0	16.7 mil. \$ } Tax levies in usual year 0.1 } 12.1 } (tax exemptions) 14.6 } 6th year = 75% 36.9 } 13th year = 10%
Specific tax	—	0.1	
Advanced sales tax	3.0	10.9	
Real property tax	14.6	14.6	
Sales tax	9.2	33.2	
Corporate income tax	35.6	40.1	
Tax revenues effect	66.6	113.9	
Compensation of employees	7.9	7.9	Headquarters = 7.2, Steel works = 0.7 mil. \$
Capital consumption allowance	80.3	75.5	Depreciation & amortization
Operating surplus	66.0	74.4	Net profits after tax
Total added value	220.8	271.7	Gross national product
Value added rate	39.4%	48.5%	(Value added/Sales)

(note): In the usual concept of value added, taxes are only indirect taxes. Corporate income tax is included in operating surplus. However, here, from a single enterprise viewpoint, it was included in taxes.

CHAPTER 10

10-10-2 Effects on the international balance of payments

One of the major objectives of this steel works project is the savings of foreign currency through substitution for steel product imports. The foreign currency savings effect of this new steelworks project for the basic case is shown in *Table 10-11-2*

① Total foreign exchange savings effect of the project	
Total substitution of imported steel products	6,008 \$millions
Imported raw material costs	2,389
Interest payments on foreign currency denominated loans	551
Payment of foreign construction cost	842
Net foreign currency savings	2,226

② By year, although in the first there will be a net outflow of foreign currency, every other year except the 7th will show a savings of foreign currency. Furthermore, from the 11th year and thereafter, the trend of yearly savings of about \$265 million should have extremely favorable influence on a country like the Philippines with a severe foreign exchange problem. It is estimated that for the 16th year and thereafter, the trend should continue in the same way.

③ The same is also true about the profit situation of the new steelworks, but as there is a considerable relationship between the imported steel market price and the imported raw materials price, the foreign exchange savings effect can have some very big movements. Furthermore as both are subject to violent swings in the international economy, optimism is not permissible.

Table 10-10-2 Foreign exchange savings effect (Basic case)

(Unit: mil. \$)

Year	Exchange Savings (import subst.)						Sub total	Net foreign exchange savings
		Imported raw materials	Interest on foreign loans	Foreign loan repayment	Payment of foreign construction			
-5	0	0	0	-3	4	1	-1	
-4	0	0	0	-185	151	-34	34	
-3	0	0	0	-179	126	-53	53	
-2	0	0	0	-406	330	-76	76	
-1	0	0	0	-293	177	-116	116	
1	335	139	98	-54	54	349	-14	
2	416	166	91	112		369	47	
3	439	174	81	112		367	72	
4	439	174	71	112		357	82	
5	439	174	60	112		346	93	
6	439	174	50	112		336	103	
7	214	85	40	112		237	-23	
8	439	174	30	112		316	123	
9	439	174	20	112		306	133	
10	439	174	10	112		296	143	
11	439	174	0	0		174	265	
12	439	174	0	0		174	265	
13	439	174	0	0		174	265	
14	214	85	0	0		85	129	
15	439	174	0	0		174	265	
Total	6,008	2,389	551	0	842	3,782	2,226	

- Note: ① Imported raw material and import substitution computed on C&F basis.
 ② Interest during construction was added to foreign loans.
 ③ Payment foreign construction includes imported machinery and equipment, engineering fee, training. Operational guidance fee and operational spare parts.

CHAPTER 10

10-11 Appendix — Preparation of balance sheet (Test calculation)

Up until the previous paragraph the balance sheet has not been touched upon. In this paragraph, based on the certain assumptions about the Basic case of the Project, the balance sheet has been prepared in a referential manner and a simple analysis carried out.

10-11-1 Supposed conditions for calculations of the balance sheet

The balance sheet shows the stock in the business activities of the enterprise. Accordingly it is necessary to establish supposed conditions of the calculation about how the previous term's profits will be disposed, carried over into this term, and whether it will be continued as stock in the current term.

In other words, business plans of the manager are necessary in relation to profit disposition. Here, although, as is summarized below a general plan has been adopted, thus we stress this is merely tentative establishment supposed conditions of the study. If the supposed conditions change, we wish to point out that the results will also change. Simply put, the test calculation is based on one assumption.

Presumed conditions for calculation of the balance sheet (Summary)

1. Policy for disposition of profits

1) Regulation for legal retained earnings

- 1-1) There is no legally set legal retained earnings. However, the accumulated legal retained earnings must not exceed 50% of equity.
- 1-2) In this F/S, in order to strengthen the management basis, provisions are estimated:
 - i) Provision rate of legal retained earnings 10% of dividends
 - ii) Limit on accumulation 50% of capital

2) Dividend policy

- 1-1) Provisionally the upper limit of rate of dividends is set at 50%.
- 1-2) Executive bonuses not considered here.

3) Carry over of profits into the next term

In order to stabilize administration, first preferentially a certain amount (8% of capital) is carried over.

2. Raising and applying conditions of funds balance

1) Funds deficiency (Bridge finance)

- Interest 14% (Domestic city banks, secured, including 2% service charge)
- Loan term Over year, rolled every year

2) Funds surplus

Applications of surplus cash on hands and in banks fixed term deposit (7.5% interest)
 (However, of this, the funds for use in the dividend reserve will be deposited in ordinary deposits (interest 7%) for several months until the time for paying dividends)

(Note 1) All interest rates used are the ceiling rates as set by the Philippines Central Bank.

(Note 2) Short term loans (the portion corresponding to net working capital) and current deposits (the portion with the minimum liquidity) shall remain on the same conditions as is. Which conditions were explained in 10-5-3 "Conditions of raising working capital."

CHAPTER 10

10-11-2 Calculation Results (After inclusion of profit disposition)

When the continuous calculation is made including the profits disposition, the additional portion of financial profits based on the interest of the portion for the capital balance changes the income statement from the original (*Table 10-6-1*). Accordingly here, the EDP output of the 3 financial tables are shown in a harmonized manner with the balance sheet.

A comparative chart of profit-loss and funds between the financial forecast used in Chapter 10 Paragraph 6 and the financial forecast which includes the temporary forecast of profit disposition based on balance sheet is shown in *Table 10-11-1*. All told, it shows the following EDP output:

Table 10-11-2 Profit & loss statement

Table 10-11-3 Balance sheet

Table 10-11-4 Cash flow table

Table 10-11-1 Comparison of profit-loss and funds balance between before and after including tentative policy for profit disposition

(Unit: mil. \$)

Year	Financial forecast before profit disposition*			After tentative policy of profit disposition			Remarks
	Net profits after tax	Cash flow balance	Balance accumulated	Net profits after tax	Short term loans & deposits**	Dividend plan	
1	-10	-34	-34	-16	-40		
2	46	22	-12	44	-20		
3	62	38	26	61	17	17	
4	63	38	64	63	39	39	
5	69	45	109	71	47	47	
6	66	40	149	68	42	42	
7	-40	-105	44	-47	-111		
8	93	68	112	87	-49		
9	75	49	161	71	-3		
10	82	56	217	83	55	55	
11	79	161	378	84	168	160	
12	79	161	539	86	178	160	
13	74	157	696	82	184	126	
14	-16	14	710	-7	81	0	
15	74	370	1,080	86	469	72	

* Data based on Table 10-9-1.

** The short term loans and deposits are the portion corresponding to bridge finance, excluding short term loans and demand deposits, as raised as working capital in Chapter 10 section 5. Minus means the balance of short term loans.

Table 10-11-2 Profit & loss statement (Basic case after including tentative policy for profit disposition)

(B) PROJECTED PROFIT & LOSS
(1000 USD)

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

PAGE= 2-1
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CALENDAR YEAR PROJECT	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
SALES	0	0	0	0	0	424349	530675	560130	560130	560130
VARIABLE COST	0	0	0	0	0	203971	243552	225644	225644	225644
PRODUCTION FIXED COST	0	0	0	0	0	82238	81338	81439	81439	81439
DEPRECIATION & AMORT. (#1)	0	0	0	0	0	81490	81390	81490	81390	81490
PROV. OF RESERVE FOR ETC.	0	0	0	0	0	32822	35908	36653	379972	379972
TAX ADJUSTMENT	0	0	0	0	0	98377	90277	89646	70565	60484
PRODUCTION COST FOR SALES	0	0	0	0	0	8136	8271	8445	8445	8445
LONG TERM LOAN INTEREST	0	0	0	0	0	3940	3940	3940	3940	3940
SHORT-TERM LOAN & DEPOSIT INTER.	0	0	0	0	0	440	440	462	462	451
TRANSPORTATION COST	0	0	0	0	0	15802	15802	15802	15802	15802
SALES TAX	0	0	0	0	0	10662	10662	11806	11806	11806
GENERAL ADMINIST. EXPENSES	0	0	0	0	0	13802	13802	13802	13802	13802
TOTAL COST	0	0	0	0	0	15802	15802	15802	15802	15802
OPERATING INCOME	0	0	0	0	0	10662	10662	11806	11806	11806
NON-OPERATING REVENUES	0	0	0	0	0	13802	13802	13802	13802	13802
NON-OPERATING EXPENSES	0	0	0	0	0	13802	13802	13802	13802	13802
ORDINARY INCOME	0	0	0	0	0	10662	10662	11806	11806	11806
EXTRAORDINARY PROFITS	0	0	0	0	0	13802	13802	13802	13802	13802
EXTRAORDINARY LOSSES	0	0	0	0	0	13802	13802	13802	13802	13802
NET INCOME BEFORE TAXES	0	0	0	0	0	10662	10662	11806	11806	11806
(LOSS INCOME)	0	0	0	0	0	15802	15802	15802	15802	15802
(TAXABLE INCOME)	0	0	0	0	0	15802	15802	15802	15802	15802
RESERVE FOR TAXES	0	0	0	0	0	15802	15802	15802	15802	15802
NET INCOME AFTER TAXES	0	0	0	0	0	15802	15411	32578	32668	38112
PROV. OF LEG. RETAINED EARNINGS	0	0	0	0	0	15802	15411	32578	32668	38112
DISPOSABLE INCOME AFTER TAXES	0	0	0	0	0	15802	15411	17011	3012	6077
APPROPRIATION OF RET. EARN.	0	0	0	0	0	15802	15411	17011	3012	6077
DISPOSABLE INCOME AFTER TAXES	0	0	0	0	0	15802	15411	17011	3012	6077
RET. EARN. BROUGHT FORWARD	0	0	0	0	0	15802	15411	17011	3012	6077
UNAPPROPRIATED RET. EARNINGS	0	0	0	0	0	15802	15411	17011	3012	6077
DIVIDENDS	0	0	0	0	0	15802	15411	17011	3012	6077
DIRECTOR'S BONUSES ETC.	0	0	0	0	0	15802	15411	17011	3012	6077
RET. EARN. CARRIED FORWARD	0	0	0	0	0	15802	15411	17011	3012	6077
(NOTES) (#1) INCLUDES	0	0	0	0	0	15802	15411	17011	3012	6077
"ADJUSTMENT" OF INITIAL ORG. EXP.	0	0	0	0	0	15802	15411	17011	3012	6077

Table 10-11-3 Balance sheet (Basic case after including tentative policy for profit disposition)

PROJECT :	(C) PROJECTED BALANCE SHEET									
	THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)									
PROJECT CASE NO :	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
SALENDAR YEAR PROJECT YEAR	-5	-4	-3	-2	-1					
** ASSETS **										
CASH ON HAND & IN BANKS	0.	0.	0.	0.	0.	3536.	422.	21673.	43785.	51747.
ACCOUNTS RECEIVABLE	0.	0.	0.	0.	0.	32380.	4224.	49678.	46878.	49678.
OTHER LIQUID ASSETS	0.	0.	0.	0.	0.	5680.	70757.	91689.	113801.	121764.
TOTAL LIQUID ASSETS	0.	0.	0.	0.	0.	9546.	117241.	142440.	162064.	175199.
FINISHED PRODUCTS	0.	0.	0.	0.	0.	829.	9914.	10221.	10221.	10221.
SEMI-FINISHED PRODUCTS	0.	0.	0.	0.	0.	1829.	19368.	19910.	19910.	19910.
RAW MATERIALS & SUPPLIES	0.	0.	0.	0.	40610.	4847.	4847.	55148.	55148.	55148.
TOTAL INVENTORIES	0.	0.	0.	0.	40610.	73406.	82204.	85316.	85277.	85277.
TOTAL CURRENT ASSETS	0.	0.	0.	0.	40610.	129986.	152961.	177049.	199079.	207042.
BUILDINGS & STRUCTURES	0.	0.	0.	0.	0.	45277.	45277.	45277.	45277.	45277.
MACHINERY & EQUIPMENT	0.	0.	0.	0.	0.	850714.	850714.	850714.	850714.	850714.
VEHICLES ETC.	0.	0.	0.	0.	0.	820514.	820514.	820514.	820514.	820514.
TOTAL WORK-DEPRECIABLE ASSET	0.	0.	0.	0.	0.	131948.	131948.	131948.	131948.	131948.
LANC	0.	0.	0.	0.	0.	3570.	3570.	3570.	3570.	3570.
CONSTRUCTION IN PROCESS	1217.	237926.	486815.	982893.	1399473.	43159.	383662.	33568.	28773.	23977.
DEFERRED ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTANGIBLE ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
OTHER INVESTMENTS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL FIXED ASSETS	1217.	237926.	486815.	982893.	1399473.	1394679.	1389883.	1385088.	1380292.	1375497.
TOTAL ASSETS	1217.	237926.	486815.	982893.	1440822.	1524662.	1542846.	1565136.	1579370.	1582539.
** LIABILITIES & EQUITY **										
* LIABILITIES *										
ACCOUNTS PAYABLE	0.	0.	0.	0.	0.	36227.	49256.	52307.	52307.	52307.
ACCURED EXPENSES	0.	0.	0.	0.	0.	14145.	17689.	3815.	3815.	3815.
OTHER CURRENT LIABILITIES	0.	0.	0.	0.	0.	1764.	15349.	140971.	18871.	38671.
RESERVE FOR TAXES	0.	0.	0.	0.	0.	12958.	145649.	12316.	140971.	18112.
SHORT TERM LOAN	0.	0.	0.	0.	0.	0.	132023.	119687.	119687.	119687.
TOTAL CURRENT LIABILITIES	0.	0.	0.	0.	0.	100875.	89606.	78458.	67205.	56004.
LT LOAN & DEBT F.CONST.(#1)	2717.	187926.	366815.	772893.	1130083.	1008075.	89606.	78458.	67205.	56004.
BONDS	0.	0.	0.	0.	0.	6490.	12980.	19470.	25900.	32450.
RESERVE FOR REFINANCING ETC.	0.	0.	0.	0.	0.	0.	90947.	83528.	69800.	592492.
TOTAL FIXED LIABILITIES	2717.	187926.	366815.	772893.	1130083.	1014565.	90947.	83528.	69800.	592492.
LEGAL RETAINED EARNINGS	0.	0.	0.	0.	0.	7643.	153288.	17071.	5623.	10320.
ACCUMULATED DEPRECIATION	0.	0.	0.	0.	0.	7043.	153288.	24630.	3121.	10320.
TOTAL RESERVES	0.	0.	0.	0.	0.	14686.	119433.	111297.	111297.	111297.
TOTAL LIABILITIES	2717.	187926.	366815.	772893.	1130083.	1229662.	119433.	111297.	111297.	111297.
* STOCKHOLDERS, EQUITY *										
CAPITAL STOCK	10000.	50000.	120000.	210000.	310000.	320000.	320000.	320000.	320000.	320000.
SURPLUS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
RETAINED EARNINGS BROUGHT FORWARD	0.	0.	0.	0.	0.	0.	15802.	28490.	70236.	90526.
POST-PAID INCOME TAXES	0.	0.	0.	0.	0.	1802.	44292.	58802.	59336.	6071.
TOTAL STOCKHOLDERS, EQUITY	10000.	50000.	120000.	210000.	310000.	320000.	348490.	407292.	449633.	476597.
TOTAL LIABILITIES & EQUITY	12117.	237926.	486815.	982893.	1440822.	1524662.	1542846.	1565136.	1579370.	1582539.
(NOTES) INCLUDES "DEBT F.CONST."	0.	0.	0.	0.	64000.	0.	0.	0.	0.	0.

(C) PROJECTED BALANCE SHEET
PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

PAGE= 3-2
DATE= JUL/13/1979

CALENDAR YEAR PROJECT YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
** ASSETS **										
CASH ON HAND & IN BANKS	47302.	2372.	4998.	4688.	59876.	172245.	182667.	189015.	830179.	473272.
ACCOUNT RECEIVABLES	45879.	227232.	49978.	49978.	46677.	46678.	46679.	227232.	227232.	46679.
TOTAL LIQUID ASSETS	117319.	136352.	74684.	74684.	120892.	232261.	232261.	232261.	117322.	532288.
FINISHED PRODUCTS	1091.	6799.	10191.	1091.	10191.	10071.	10071.	10071.	10071.	1097.
SEMI-FINISHED PRODUCTS	1091.	128968.	205899.	55191.	55191.	55191.	55191.	55191.	55191.	1097.
RAW MATERIALS & SUPPLIES	51813.	48688.	86107.	85191.	85191.	85191.	85191.	85191.	85191.	1097.
TOTAL CURRENT ASSETS	202502.	85045.	160791.	159875.	215082.	37067.	37067.	37067.	37067.	629042.
BUILDINGS & STRUCTURES	445274.	445274.	445274.	445274.	445274.	445274.	445274.	445274.	445274.	445274.
MACHINERY & EQUIPMENT	890514.	890514.	890514.	890514.	890514.	890514.	890514.	890514.	890514.	890514.
VEHICLES ETC.	14257.	14257.	14257.	14257.	14257.	14257.	14257.	14257.	14257.	14257.
TOTAL WORK-DEPRECIABLE ASSET	1310043.	1310043.	1310043.	1310043.	1310043.	1310043.	1310043.	1310043.	1310043.	1310043.
LAND	35570.	35570.	35570.	35570.	35570.	35570.	35570.	35570.	35570.	35570.
CONSTRUCTION IN PROCESS	19182.	1486.	952.	4795.	0.	0.	0.	0.	0.	0.
DEFERRED ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTANGIBLE ASSETS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL FIXED ASSETS	1364798.	1360001.	1355205.	1350410.	1345615.	1345615.	1345615.	1345615.	1345615.	1345615.
TOTAL ASSETS	1567298.	1445044.	1515996.	1510285.	1560697.	1672682.	1681137.	1689483.	1511111.	629045.

CALENDAR YEAR PROJECT YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
** LIABILITIES & EQUITY **										
** LIABILITIES **										
ACCOUNTS PAYABLE	5307.	25462.	5307.	5307.	5307.	5307.	5307.	5307.	5307.	5307.
ACCRUED EXPENSES	18671.	9086.	18671.	18671.	18671.	18671.	18671.	18671.	18671.	18671.
OTHER CURRENT LIABILITIES	36412.	18185.	73206.	38673.	44490.	450379.	46505.	48315.	31280.	3661.
RESERVE FOR TAXES	8017.	13488.	16924.	122886.	14734.	22335.	33270.	14050.	9080.	10000.
TOTAL CURRENT LIABILITIES	120091.	133025.	16924.	112009.	121734.	22335.	24470.	12665.	14050.	13323.
LTN LOAN & DEBT F.CONST. (#1)	446034.	536025.	224017.	112009.	0.	0.	0.	0.	0.	0.
RESERVE FOR DEF. RELINING ETC.	38900.	7100.	13790.	20080.	26570.	33000.	39550.	40400.	0.	6490.
TOTAL FIXED LIABILITIES	489974.	343125.	23707.	132089.	26570.	33000.	39550.	40400.	0.	6490.
LEGAL RETAINED EARNINGS	14584.	14584.	14584.	14584.	20104.	830074.	92107.	984005.	65491.	71852.
ACCUMULATED DEPRECIATION	467337.	522816.	601802.	693743.	754237.	868899.	937851.	1054673.	1121113.	71851.
TOTAL RESERVES	471921.	537600.	611806.	703527.	774274.	868899.	937851.	1054673.	1121113.	71851.
TOTAL LIABILITIES	1074422.	1041932.	1022582.	948721.	122051.	1022582.	1121671.	1222279.	1172870.	211574.
** STOCKHOLDERS' EQUITY **										
CAPITAL STOCK	320000.	320000.	320000.	320000.	320000.	320000.	320000.	320000.	320000.	320000.
SURPLUS	10917.	130242.	87142.	170184.	241564.	263459.	171099.	81466.	25008.	18242.
RET. EARNINGS BROUGHT FORWARD	62878.	44130.	80184.	71300.	63667.	661099.	561466.	471205.	33642.	417471.
TOTAL STOCKHOLDERS' EQUITY	492855.	405112.	40184.	561564.	63667.	651099.	561466.	471205.	33642.	417471.
TOTAL LIABILITIES & EQUITY	1567298.	1445044.	1515996.	1510285.	1560697.	1672682.	1681137.	1689483.	1511111.	629045.

(NOTES)
(#1) INCLUDES "DEBT F.CONST."

Table 10-11-4 Cash flow table (Basic case after including tentative policy for profit disposition)

(D) PROJECTED CASH FLOW
(1000 USD)

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

PAGE= 4-1
DATE= JUL/13/1979

CALENDAR YEAR PROJECT YEAR	1980 -5	1981 -4	1982 -3	1983 -2	1984 -1	1985 1	1986 2	1987 3	1988 4	1989
** APPLICATIONS **										
INVEST PAY FOR CONSTRUCTION	12600	217000	225000	447000	344424	0	0	0	0	0
IN-OR-DECREASE OF OTHER INV.	0	0	0	0	0	0	0	0	0	0
INTEREST PAY DURING CONST.	117	8210	23868	49078	72156	0	0	0	0	0
TOT.ACQUISITION OF FIX.ASSETS	12717	225209	248868	496078	416580	0	0	0	0	0
LONG TERM DEBT REPAY. (H1)	0	0	0	0	0	176008	112008	112008	112008	112008
REVERSAL OF RESERVE FOR BF	0	0	0	0	0	0	0	0	0	0
TOTAL REPAY. OF FIXED LIABLI.	0	0	0	0	0	176008	112008	112008	112008	112008
IN-OR-DECREASE OF CASH	0	0	0	0	0	0	0	0	0	0
TAX ON DEBT	0	0	0	0	0	3336	886	1251	39117	47080
TAX ON DIVIDEND	0	0	0	0	0	35367	6862	1354	32578	39067
IN-OR-DECR. OF OTHER LIAB. ASSET	0	0	0	0	0	17881	6730	13277	82	0
IN-OR-DECR. OF INVENTORIES	0	0	0	0	40610	32956	6768	4158	12316	10674
SHORT TERM LOAN REPAYMENT	0	0	0	0	40611	89377	71764	86077	83930	91821
TOT. IN-OR-DECR. OF CURR. ASSETS	0	0	0	0	40611	89377	94741	86077	83930	91821
TOTAL APPLICATIONS	12717	225210	248869	496079	457191	265385	206749	197085	195938	203829
** RESOURCES **										
INCREASE OF CAPITAL STOCK	10000	40000	70000	90000	100000	10000	0	0	0	0
LONG TERM DEBT BORROW. (H2)	2600	17700	15500	35700	27800	5400	0	0	0	0
BORROWING OF T. LOAN INTER.	0	0	0	0	0	0	0	0	0	0
TOT. INC. OF CAP. & FIX. LIABLI.	12717	8210	23868	49078	79190	6400	0	0	0	0
DISPOSAL INCOME AFTER TAXES	0	0	0	0	0	15802	64292	6092	63268	7779
DEFERRED TAXES AMORTIZATION	0	0	0	0	0	81436	81436	81436	81436	81436
DEFERRED TAXES REMOVED	0	0	0	0	0	0	0	0	0	0
PROV. OF RESERVE FOR BF, ETC.	0	0	0	0	0	6400	6400	6400	6400	6400
TOT. IN-OR-DECR. OF RESERV. FUNDS	0	0	0	0	0	72127	132220	148431	151197	158708
IN-OR-DECR. OF CREDITORS	0	0	0	0	0	43349	9995	2778	0	0
IN-OR-DECR. OF OTHER CUR. LIAB.	0	0	0	0	0	14145	3544	582	34067	38112
RESERVE FOR TAXES	0	0	0	0	0	0	13341	3278	10674	5040
RESORT TERM LOAN BORROWING	0	0	0	0	0	17174	145649	12316	44741	45122
TOT. IN-OR-DECR. OF CURR. LIABLI.	0	0	0	0	0	129226	74529	48454	44741	45122
TOTAL RESOURCES	12717	225210	248869	496079	457191	265385	206749	197085	195938	203829
(NOTES)										
(H1) INCL. "DEBT F. CONST. REPAY."	0	0	0	0	64000	0	0	0	0	0
(H2) INCL. "DEBT F. CONST. BORROW."	0	0	0	0	0	64000	0	0	0	0

(D) PROJECTED CASH FLOW
(1000USD)

PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)

PAGE 472
DATE JUL/13/1979

CALENDAR YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
PROJECT YEAR	0	1	8	10	11	12	13	14	15	15
** APPLICATIONS **										
INVEST. PAY. FOR CONSTRUCTION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INCREASE OF OTHER INV.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
INTEREST PAY. DURING CONSTR.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOT. ACQUISITION OF FIX. ASSETS	112008.	112008.	112008.	112008.	112009.	112009.	170422.	166348.	18008.	390123.
BOND PREMIUM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
REVERSAL OF RESERVE FOR SF	112008.	31840.	112008.	112008.	112009.	112009.	170422.	166348.	18008.	390123.
TOTAL REPAY. OF FIXED LIABIL.	112008.	143848.	112008.	112008.	112009.	112009.	170422.	166348.	18008.	390123.
IN-OR-DECREASE OF CASH	42835.	-23956.	23956.	0.	55206.	167577.	170422.	166348.	18008.	390123.
TAX PAYMENT	38112.	36412.	23956.	21508.	38435.	44490.	45037.	46503.	46000.	23956.
IN-OR-DECR. OF OTHER LIQ. ASSET	-95.	-11975.	11975.	-916.	0.	385.	2652.	3323.	1978.	1978.
IN-OR-DECR. OF INVENTORIES	7010.	36407.	17418.	73234.	9690.	1482.	2652.	3323.	1978.	1978.
SHORT-TERM LOAN REPAYMENT	87600.	28492.	181932.	94243.	103334.	213164.	218150.	216178.	17840.	17840.
TOT. IN-OR-DEC. OF CURR. ASSETS	198669.	114353.	305940.	206253.	215343.	213164.	218150.	216178.	45200.	477601.
TOTAL APPLICATIONS										

** RESOURCES **	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INCREASE OF CAPITAL STOCK	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
LOAN & D.F.C. BORROW. (#2)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
BOND ISSUANCE	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
BORROWING OF L-T LOAN INTER.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOT. INC. OF CAP. & FIX. LIAB.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DISPOSAL INCOME AFTER TAXES	87628.	47130.	80256.	71380.	82626.	83640.	85367.	82299.	7338.	86477.
FIXED ASSETS REVALUED	0.	80256.	80256.	80256.	80256.	73462.	75862.	73462.	73462.	75462.
PROF. OF ASSETS REVALUED	6490.	6490.	6490.	6490.	6490.	6490.	6490.	6490.	6490.	6490.
TOT. IN-OR-DEC. OF RESERV. FUNDS	194370.	33128.	173820.	136128.	169371.	165592.	168319.	164255.	68104.	382048.
IN-OR-DEC. OF CREDITORS	-30.	-27377.	27377.	-30.	-30.	-124.	-30.	-30.	-27377.	27377.
IN-OR-DEC. OF CURR. LIAB.	36412.	19382.	21508.	36435.	44490.	45037.	45037.	44315.	9582.	9582.
RESERVE FOR TAX BORROWING	8917.	18125.	73654.	9690.	1482.	2652.	3323.	1978.	14056.	14056.
TOT. IN-OR-DEC. OF CURR. LIABIL.	45298.	18125.	13212.	48126.	45971.	47572.	4831.	51921.	14056.	14056.
TOTAL RESOURCES	199669.	114353.	305940.	206253.	215343.	213164.	218150.	216178.	45200.	477601.

(NOTES)
 (#1) INCL. "DEBT F. CONST. REPAY."
 (#2) INCL. "DEBT F. CONST. BORROW."

10-11-3 Yearly financial ratio analysis (Balance sheet analysis)

Table 10-11-5 shows the financial ratios definitions table.

The EDP output table of basic case (after including tentative policy for profit disposition) which is based on this definitions is shown on *Table 10-11-6* "Financial ratios." Besides, of these indicators, the following indicators, namely:

Fig. 10-11-1 Profitability ratio

Fig. 10-11-2 Effectivity ratio

are shown by graph.

Table 10-11-15 Financial ratios definition table

Ratio	Indicator-ratio name		Unit	Method of calculation
	Data No.			
Profitability ratio	A	Current profit ratio of total liabilities & net worth	annual %	$(\text{Current profits} / \text{average of beginning and end term total liabilities \& net worth}) \times 100$
	B	Current profit ratio of sales	%	$(\text{Current profits} / \text{net sales}) \times 100$
	C	Current profit ratio of net worth	annual %	$(\text{Current profits} / \text{average beginning and end term net worth}) \times 100$
Effectivity ratio	D	Turnover of total liabilities & net worth	times yearly	$(\text{Net sales} / \text{average beginning and end term total liabilities \& net worth})$
	E	Turnover of fixed assets	times yearly	$(\text{Net sales} / \text{average beginning and end term fixed assets})$
	F	Turnover of inventories	times yearly	$(\text{Net sales} / \text{average beginning and end term inventories})$
Stability ratio	G	Quick ratio	%	$(\text{Liquid assets} / \text{current liabilities}) \times 100$
	H	Current ratio	%	$(\text{Current assets} / \text{current liabilities}) \times 100$
	I	Fixed assets ratio	%	$(\text{Net fixed assets} / \text{equity}) \times 100$
	J	Fixed assets ratio of net worth & long term loans	%	$(\text{Fixed assets} / [\text{equity} + \text{special reserves} + \text{fixed liabilities}]) \times 100$
	K	Debt ratio	%	$([\text{Current liabilities} + \text{fixed liabilities} + \text{discounted bills} + \text{endorsed bills}] / \text{equity}) \times 100$
	L	Net worth ratio	%	$([\text{Equity} + \text{special reserves}] / \text{total liabilities \& net worth}) \times 100$
	M	Retained earnings ratio	%	$([\text{Current term profits} - \text{dividends and other outflows}] / \text{current term profits}) \times 100$

Table 10-11-6 Financial ratios

(E) PROJECTED FINANCIAL RATIOS
 PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)
 CASE NO : 1000USD

PAGE= 6-1
 DATE= JUL/13/1979

CALENDAR YEAR PROJECT	1985	1986	1987	1988	1989
C.P. TOTAL CAPITAL	2377.77	2377.77	6406.32	7477.77	8140.23
C.C. OF SALES WORTH & LIABILITIES	102.94	102.94	102.94	102.94	102.94
C.C. OF NET WORTH ASSETS	133.04	133.04	133.04	133.04	133.04
C.C. OF NET WORTH ASSETS	237.04	237.04	237.04	237.04	237.04
C.C. OF INVENTORY	73.73	73.73	73.73	73.73	73.73
C.C. OF INVENTORY	400.48	400.48	400.48	400.48	400.48
C.C. OF INVENTORY	1589.40	1589.40	1589.40	1589.40	1589.40
C.C. OF INVENTORY	376.07	376.07	376.07	376.07	376.07
C.C. OF INVENTORY	100.00	100.00	100.00	100.00	100.00
C.C. OF INVENTORY	100.00	100.00	100.00	100.00	100.00

(E) PROJECTED FINANCIAL RATIOS
 PROJECT : THE PHILIPPINES INTEGRATED STEEL MILL PROJECT (FINAL-F/S)
 CASE NO : 1000USD

PAGE= 6-2
 DATE= JUL/13/1979

CALENDAR YEAR PROJECT	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
C.P. TOTAL CAPITAL	89973	89973	89973	89973	89973	89973	89973	89973	89973	89973
C.C. OF SALES WORTH & LIABILITIES	24484	24484	24484	24484	24484	24484	24484	24484	24484	24484
C.C. OF NET WORTH ASSETS	65489	65489	65489	65489	65489	65489	65489	65489	65489	65489
C.C. OF NET WORTH ASSETS	17770	17770	17770	17770	17770	17770	17770	17770	17770	17770
C.C. OF INVENTORY	17770	17770	17770	17770	17770	17770	17770	17770	17770	17770
C.C. OF INVENTORY	17770	17770	17770	17770	17770	17770	17770	17770	17770	17770
C.C. OF INVENTORY	17770	17770	17770	17770	17770	17770	17770	17770	17770	17770

*** PROFITABILITY ***

A = CURRENT PROFIT OF TOTAL L. W. ———
 B = CURRENT PROFIT OF SALES - - -
 C = CURRENT PROFIT OF NET WORTH - - -

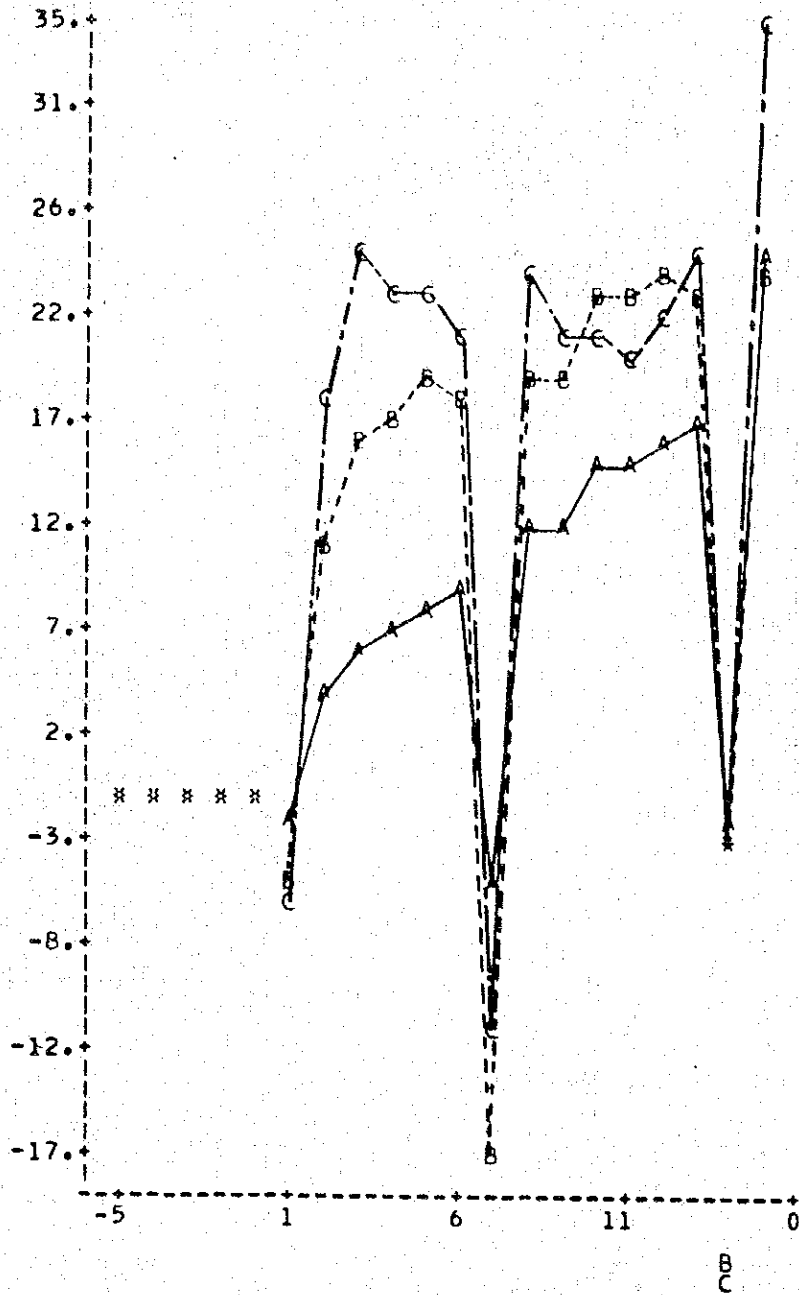


Fig. 10-11-1 Profitability

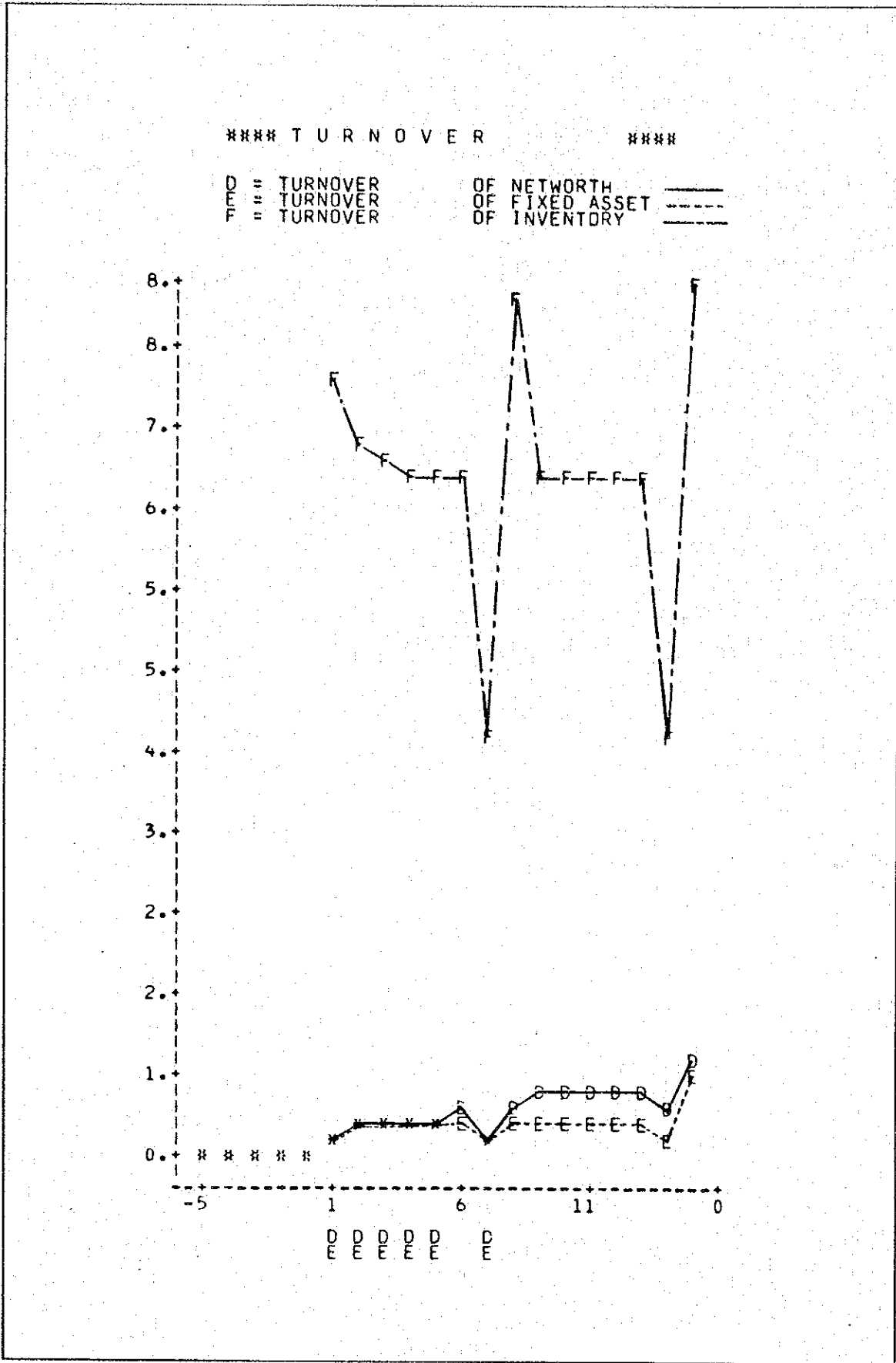


Fig. 10-11-2 Turn over

