Chapter 14 Economic and Financial Analysis of the Implementation of the Present Project

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14-1 Economic Analysis

14-1-1 Economic Cost

The economic costs for this project are calculated for the items below.

a. Imported equipment and materials cost
b. Transportation cost and cargo handling cost for imported equipment and materials
c. Purchasing cost of domestic-made supplies
d. Employment cost of foreign engineers and interpreters
e. Passage and living expenses for foreign engineers
f. Equipment installation work cost
g. NBK Project Team expenses
h. Reserve expenses
i. Operation expenses

14-1-2 Calculation of Economic Costs

For the costs and expenses above, the financial costs will be reduced to economic costs in accordance with the principle below.

(1) Imported equipment and materials cost

Since these equipment and materials are not produced in the intended country, all shall be purchased from foreign countries by international tender in principle. Therefore, the purchase price (financial price) shall be considered the same as the economic price.

(2) Transportation cost for imported equipment and materials

Because purchase shall be made under the condition of cost, insurance, and freight prepaid (CIF) from the supplier, the cost of the cargo until arrival at Bishkek Airport is all a part of the purchase cost, and the same economic cost above is equal to the

financial cost. Within the domestic transportation costs after the cargo arrives in the intended country, the customs duties and cargo handling costs shall consist of the labor costs, charges for use of cargo handling equipment and the customs charges, with the customs charges separate from the transfer costs. The shadow wage shall apply to labor costs, and the cargo handling equipment charge shall be calculated by deducting the estimated customs duties from the purchase cost depending on the equipment imported. However, due to the difficulty of analyzing the details of this expense and quantitatively its slight effect on the whole, the estimated calculations were made as shown below.

(a) Customs clearance charges and cargo handling costs: After reduction of transferable costs such as customs charges and fees, 50 % of financial costs is estimated as economic cost.

(b) Domestic transportation costs:

Labor cost:	15.2% x *0.7 =	10.6%
Equipment and materials costs:		60.8%
Tax:		24.0%

(c) Economic expenses: 71.4%

Transfer costs (tax):	24.0%
Shadow wage rate adjustment expenses:	4.6%

Note: *The shadow wage rate (SWR) for the labor costs component of transportation were taken as 70%.

(3) Purchasing cost of domestic-made supplies

The majority of this expense is made up of office furniture.

Economic expense:	U.S.$ 1,840
Transfer expense (VAT):	U.S.$ 460
Total:	U.S.$ 2,300

(4) Employment cost of foreign engineers and interpreters

The foreign engineers and interpreters employed for this project are specialists of a level that is difficult to employ in the whole of Kyrgyz. Since this employment shall be conducted in principle by international tender the economic expense and the financial expense are the same amount.

(5) Passage and living expenses for foreign specialists

Expenses for foreign specialists passages are calculated as international rate with foreign currencies, and equalize with financial analysis portion. The passage and living expenses for foreign specialists is calculated as shown below.

Per diem: local currency 50%: less VAT (20%)
foreign currency 50% same as financial expenses

Lodging expenses: for financial expenses:

Economic expenses:	64.8%
Transfer expenses (tax):	31.6%
Adjustment expenses:	3.6%

Note: Adjustment expenses: Difference based on the application of the shadow wage of labor costs

(6) Equipment installation work cost

The installation work assumes the supply of all the imported equipment and materials for the contract work by Kyrgyz companies. Therefore, the equipment and materials held by the companies are locally suppliable installation materials and work instruments. Also, the work shall be carried out under the guidance of a foreign specialist.

Foreign currency portion: The main portion consists of costs for the foreign work supervisor, and the imported equipment and materials for installation are all included in the equipment purchasing cost. Therefore, for this foreign currency portion the financial expenses and the economic expenses are identical.

Local currency portion:

Item	Composition	Transfer cost	S.W.R.	Economic expense
a. Equipment and materials expense	20%	22.0%	1.0	16.0%
b. Personnel costs	50%	31.6%	0.7	24.0%
c. Other expenses	30%	31.6%	0.9	19.0%
Total	100%	29.7%		59.0%

Note: S.W.R : Shadow Wage Rate

(7) NBK Project Team expenses

This expense consists of the personnel costs, general management costs overseas travel and living expenses and other expenses. The direct personnel costs, except for the secretaries, have a shadow wage rate factor of 1.0. Clerks and secretaries have a factor of 0.7. Also, the income tax on the direct personnel costs are at an average rate of 25.52%.

The general management costs consist of the NBK headquarters management costs, corporate payroll tax, and other various expenses of the project team. The whole cost is classified into payroll tax, personnel costs, supply costs, and other costs and expenses without including the tax portion for each item. Personnel costs are adjusted by estimating the shadow wage factor. Amount of both international travel and living expenses are same as financial analysis portion. The results of the calculations are shown below.

	Economic expenses	Transfer costs	Adjustment costs	Total
Phase I	US$ 701,000	US$ 86,000	US$ 5,000	US$ 792,000
PhaseII	US$ 407,000	US$ 26,000	US$ 2,000	US$ 435,000
Total	US$1,108,000	US$ 112,000	US$ 7,000	US$1,227,000

(8) Contingencies

The economic expense of the contingencies are calculated in accordance with the percentages (10%) on each estimated economic cost.

(9) Total economic funds required

The above results in (1)–(8) are summarized in Tables 14–17 as the total economic investment.

(10) Operating expenses

1) Direct personnel costs

Of the types of positions for the operation employees, all have a shadow wage factor of 1.0 except for secretaries, whose shadow wage factor is 0.7. The tax rate, as mentioned before, is a weighted average calculated at 26.52%. The result of the calculation of the economic expense is shown below.

Yearly personnel costs

Financial costs:	U.S.$66,000
Transfer costs:	U.S.$16,800
Adjustment costs:	U.S.$ 200
Economic costs:	U.S.$49,000

2) General management costs

	Composition	Transfer cost	Adjustment	Economic cost	Total
Payroll Tax	37.0%	US$ 24,000	–	–	US$24,000
Personnel costs	25.2%	US$ 5,000	US$2,000	US$10,000	US$17,000
Supply costs	18.9%	US$ 3,000	–	US$10,000	US$13,000
Other costs and expenses	18.9%	US$ 1,000	–	US$11,000	US$12,000
Total	100.0%	US$ 33,000	US$2,000	US$31,000	US$66,000

3) Other costs and expenses

Other costs and expenses shall be taken as 10% of direct personnel costs and general management costs.

Financial expense:	U.S.$13,200

Transfer cost:	U.S.$ 6,600
Adjustment cost:	U.S.$ 400
Economic expense:	U.S.$ 6,200

4) Costs for use of communication lines

The economic expense and the financial expense for the costs for the use of communication lines shall be taken as the same.

5) Maintenance and management costs

Foreign currencies which are paid all to foreign hardware manufacturers and software houses. Same as financial costs.

6) Utility costs

Kyrgyz is an exporting country of electric power to China and Kazakhstan. Therefore, the electric power charge is assessed in accordance with the border price.

	Electric power consumption	Economic unit	Economic cost
1998–2000 :	278,000 KWH	3.4 cents/KWH	US$ 9,450
2000– :	304,000 KWH	3.4 cents/KWH	US$ 10,340

7) Office rental cost

The economic cost of the office rental cost shall use the current price as the opportunity cost.

14–1–3 Economic Benefit

14–1–3–1 Direct economic effects

This payment system promises extensive convenience for the whole economy. Its direct effects which can be quantitatively analyzed have been taken up as the objectives of this project.

(a) Application of floating funds
(b) Abolishment of avizos (payment instructions)
(c) Decreased volume of work for checking final payment accounts

(1) Reduced floating funds

(a) Basic approaches

a) The new payment system would transfer money essentially in a day whereas the current system requires one week or even one month. Thus, under the new system, there would theoretically be no difference in balances in unsettled "903" inter-bank and "890" intra-bank accounts. The difference in the debit and credit balances in the "903" inter-bank accounts may be regarded as the float.

b) The total float is the sum of funds floating during inter-bank and intra-bank transfers. Since the "890" intra-bank account includes both inter-bank and intra-bank transactions, however, it is impossible to derive the float during intra-bank transfers directly from the "890" intra-bank account figures. Thus, we will estimate the total float by multiplying the float during inter-bank transfers by the ratio of the total number of transactions to the number of inter-bank transactions.

c) Introduction of a new payment system will make it possible to promptly use almost all of the uncollected funds (floating funds). The floating funds will thus become a capital resource that can be invested in new economic activities and thus contribute to increasing production. The average incremental increase in production value that will result from investing floating funds is considered as the direct benefit of this project. On the other hand, the data necessary to estimate the incremental increase in production value, such as the capital coefficients and capital productivity of the main industries, do not exist. Therefore, in postulating an evaluation rate, the opportunity cost of general capital is considered the minimum level of capital productivity.

d) The cost of opportunity loss can be estimated from the size of the float. From the standpoint of recipients, the benefit of the new system can be regarded as the product of multiplying the float by the valuation rate.

e) It is reasonably understood that the float fund released as a result of improvement of payment system will be utilized as working fund for economic activities through financial system, fund being multiplied by credit multiplier effect. As mentioned in "4-7-4 Credit Creation Capability" in Chapter 4 of the Main Report, 1) the deposits received by banks in cash are mainly used as bank loans, 2) A portion of its loan proceeds remain as a derivative deposit at banks, 3) Banks can use it for additional loan, 4) As this process is repeated, the banks can create derivative deposits to an amount that reaches to the equivalent to a several times as much as original deposits. The above money creation effects are defined as Credit Multiplier. Credit multiplier is calculated as follows:

$$\text{Money multiplier} = \frac{C+1}{C+\beta}$$

c = Ratio of Cash to deposit
β = Central Bank's deposit reserve ratio

The forecast figures of credit multiplier are mentioned in the Table 7-7-A of the Main Report.

(b) Estimation of the economic effect

a) Funds not yet cleared

From the account [903A/C] balance directed to other banks, the inter-bank amount still outstanding is estimated. The differential amount of an average 75,500 thousand Som below

received from NBK is taken as the average balance of the inter-bank amount still outstanding.

(Unit : million Som)

	Debit balance	Creditor balance	Differential
As of January 4, 1994	235	270	35
As of June 1, 1994	266	382	116

Using the 45% ratio of the number of cases of inter-bank remittance making up all cases, the whole balance of amounts outstanding is estimated at 167,777,000 Som (1994). The rate of increase adopts the rate of increase for settled cases of customer remittance.

b) Credit multiplier

This adopts the estimated data values of financial transactions.

c) Valuation amount

This takes the amount after multiplying by the outstanding amount by the credit multiplier.

d) Valuation rate

By considering of general opportunity cost among developing countries, the value added rate in U.S. dollars for general production activities, and so on, the new system effective determined valuation on float fund rate is set at 20 %.

(c) Estimating conservation of floating funds

The conservation of floating funds under the new system is estimated at 147 million Som or about 1.5 billion yen in 2000 as shown below.

Estimated Conservation of Floating Funds

		1994	1995	1996	1997
Unsettled Amounts	(000 Som)	167,777	218,110	283,543	326,074
Growth Rate	(%)		30	30	15
Credit Multipliers		1.24	1.30	1.34	1.40
Appraisal Value	(000 Som)	208,043	283,543	379,947	456,503
Valuation Rate	(%)	20	20	20	20
Loss of Annual opportunity Cost (Effectiveness)	(000 Som)	41,608	56,708	75,983	91,300

Note: Numbers up to 1997 are only reference due to un-effectiveness.

		(Phase I)		(Phase II)	
		1998	1999	2000	2001
Unsettled Amounts	(000 Som)	358,681	380,202	395,410	411,227
Growth Rate	(%)	10	6	4	4
Credit Multipliers		1.59	1.72	1.86	1.86
Appraisal Value	(000 Som)	570,302	653,947	735,462	761,882
Valuation Rate	(%)	20	20	20	20
Loss of Annual Opportunity Cost (Effectiveness)	(000 Som)	114,060	130,789	147,092	152,976

		2002	2003	2004	2005
Unsettled Amounts	(000 Som)	427,676	444,783	462,574	481,077
Growth Rate	(%)	4	4	4	4
Credit Multipliers		1.86	1.86	1.86	1.86
Appraisal Value	(000 Som)	792,477	827,296	860,387	894,803
Valuation Rate	(%)	20	20	20	20
Loss of Annual Opportunity Cost (Effectiveness)	(000 Som)	159,095	165,459	172,077	178,960

(2) Reduced proving and checking work

(a) Basic approaches

a) Introducing a computer network will make it possible to eliminate payment classification tables and reduce the personnel involved in such activities as remitted payment confirmations. On the other hand, new employee will also be required.

b) Under the current system, the work load for settlement proving increases in proportion to the amount of the balance outstanding in unsettled accounts. Under the new system, in which there would be no outstanding balance in unsettled accounts, such burdens would be greatly reduced.

c) Under the current system, banks prepare and mail the sum total of transferred funds (avizo) for each receiving office in addition to payment orders. The new system eliminates the need for these documents. Such reduction in labor time has been included as a benefit of the new system.

(b) Estimation of the effect of the elimination of the preparation of the remittance balance sheet (Avizo)

a) Time saved for each case .....2 minutes

Based on the survey at commercial banks, it takes 10 minutes, including the typing time of the remittance details, for the collecting of five remittances and the preparation of the remittance balance sheet (Avizo). Therefore, the time saved for each case is set at 2 minutes.

b) Yearly number of cases handled is based on the projection of number of payment transactions. Expected work volume are calculated as per Table 7-14-A.

c) Yearly work hours per worker 1,750 hours/person-year

Calculation: 7 (daily work hours) x 250 (number of work days in a year)

The total estimated GDP of 1994 is divided by the labor population of 1994 giving the added value (benefit) per unit of labor. The projected GDP growth rate and population are as per

Table 6-1 (macroeconomics estimate of the GDP growth rate: Plan A).

e) Calculating the results of the above values, a reduction of 19.6 employees and a yearly GDP increase benefit of 217,000 Som is projected for 2000.

(3) Estimation of the effect of the reduction in work for the confirmation of outstanding accounts

a) Time saved for each case .....1 minute

This is estimated based on the results of survey from the commercial banks.

b) Yearly number of cases handled .....4,375,000 cases/year (based on 1994)

Because this is intended for current outstanding accounts (accounts [903] A/C directed to other banks, main and branch accounts [890] A/C), it adopts the number of remittances of customer requests (estimated number of settled cases: Plan A) including both intra-bank and inter-bank.

c) Yearly work hours per capita .....1,750 hours/person-year

Calculation: 7 (daily work hours) x 250 (number of work days in a year)

d) Yearly GDP per capita of labor population

The total estimated GDP of 1994 is multiplied by the labor population of 1994 giving the added value (benefit) per unit of labor. The projected GDP from now on is the same as 2)-d. above.

c) Calculating the results of the above values, a reduction of 98.1 employees and a yearly GDP increase benefit of 1,086,000 Som is projected for 2000.

Enumerated economic benefit above are summarized in the following table.

		(1st Phase)		(2nd Phase)	
		1998	1999	2000	2001
Decrease of Float	(000 Som)	114,060	130,789	147,092	152,976
Abolition of Avizo	(000 Som)	184	202	217	243
(Manpower Savings)	(man)	17.8	18.9	19.6	21.2
Decrease of Confirmation Work	(000 Som)	920	1,009	1,086	1,169
(Manpower Savings)	(man)	89.0	94.4	98.1	102.1
Total Monetary Effect	(000 Som)	115,164	132,000	148,395	154,388
(Manpower Savings)	(man)	106.8	113.3	117.7	123.3

		2002	2003	2004	2005	2006	2007
Decrease of Float	(000 Som)	159,095	165,459	172,077	178,960	186,119	193,564
Abolition of Avizo	(000 Som)	262	282	303	326	351	378
(Manpower Savings)	(man)	22.1	23.0	23.9	24.9	25.8	26.9
Decrease of Confirmation Work	(000 Som)	11,840	12,253	12,679	131,121	13,578	14,051
(Manpower Savings)	(man)	106.1	110.4	114.8	119.4	124.0	129.0
Total Monetary Effect	(000 Som)	171,197	177,994	185,059	192,407	200,048	207,993
(Manpower Savings)	(man)	128.2	133.4	138.7	144.3	149.8	155.9

(4) Observations on the result of economic benefits

(a) Table 14-3 shows the estimated economic benefits of the new payment system from 1998 to 2007. As shown in the table, economic benefits amount to 115 million Som in 1998 when the first phase of the new system would become operative, and to 148 million Som in 2000 when the second phase launches.

(b) The initial investment required for the new payment system is estimated at about 28 million US dollars. However, in view of the

above, the economic benefits totaling for beginning three years may be said to become comparable to the initial investment amount.

(c) Thus, as already pointed out, Kyrgyz should promptly construct its new payment system.

14-1-3-2 Indirect Effect

The payment system is expected to play an important role in the market economy, and the market economy can be considered to function as the payment system's infrastructure. Therefore, the improvement of the payment system will produce a wide range of effects to realize the economy.

The following chapter analyzes the effects of an improvement in the system, and divided them into the categories of inflation control effects, management control effects, and other effect.

(1) Measures against inflation

Hyper-inflation in this country reached an annual rate of 1,200% in 1993, but it has slowed rapidly since the beginning of this year, and the monthly rate for two consecutive months dropped by 3.5% in May and June. This is either the effect of urgent financial policies and the tightening of policies for currency volume compression, or this situation can be regarded as a peak rises in prices due to price liberalization.

Although the hyper-inflation is quieting down, a monthly rise of 3.5% will still reach around 50% annually.

The effects of the improved payment system on the suppression of inflation covers a wide range of the whole economy as mentioned below.

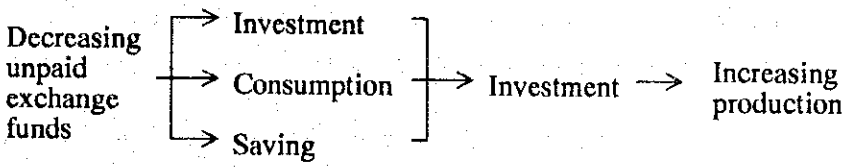
1) Due to present delayed payment, each bank is forced to manage a considerable amount of fixed funds or arrears as unpaid exchange funds. Simultaneously, this constitutes a factor of short liquidity with the same amount on the side of customers and companies.

If the period of this delayed payment is shortened by the half or one third, these fixed funds and arrears are also decreased to one half or one third, and the surplus increases liquidity. In addition, the rotation of funds is expedited in proportion to the hastened flow of funds, and effective fund distribution is promoted.

In general, the circulation of funds in the economy occurs as follows.

Investment → Production → Distribution → Consumption → Investment
→ Saving

Consequently, released funds function as follows.



Thus, increased production inevitably functions as a factor suppressing inflation.

2) The improved payment system reduces payment risks.

Reduced payment risks contribute to safe and smooth transactions, and further act as a factor for increasing production and suppressing inflation. Reduced payment risks are not always limited to reduced credit risks. Shortened payment terms reduce risks due to interest fluctuations, exchange fluctuations, liquidity risks, and further decreases hedges against inflation, and contribute to the improvement of the profitability of companies. Finally, the improved payment system constitutes a factor for increasing production and suppressing inflation.

3) The improved payment system is designed to hasten and secure payment. Thus, this system itself will contribute to the recovery of credit to banks mediating payment by general clients and companies.

The recovery of credit to banks generally promotes transactions with banks and forms an important factor for suppressing inflation via the flow, as shown below.

Increased saving → Enlarged investment → Increased production

4) The improved payment system facilitates deposit and withdrawal activity, irrespective of time and place.

This enhances the reliability for financial systems. Particularly, for deposit currencies, and promotes absorption of surplus liquidity. Consequently, this system will constitute a factor for suppressing inflation via the above said flow, increased saving → enlarged investment → increased production.

5) The next point is that the improved payment system is an indispensable factor for developing financial markets.

On of the important functions of the Central Bank is to stabilize currencies and prices. For this purpose, as said above, the Central Bank adjusts market interest and supply and demand of funds through various measures taken as financial policies.

The improved payment system smoothes the implementation of financial policies by the Central Bank, and substantially contributes to make these policies effective and valid. This system helps to adjust economy through implementing these financial policies and, in particular, to effectively stabilize prices.

6) The last point is the effect of the improved payment system on investment funds. Judging from the scale of the economy in this country, the anticipated volume of funds is remarkably large, reaching approx. half of the currencies issued so far. If the whole amount of investment is provided by foreign assistance, its influence will be neutral.

The portion of investment arranged as local procurement may function as a suppressive factor against inflation. However, according to the plan of local procurement, the outgoing are scheduled to be extended over the next fiscal

years, and therefore, its effect will be weakened. Thus, in this report, this investment will be referred to as an indirect effect.

(2) Effects on improving company management

The effects of the improved payment system on improving company management can be considered to cover a remarkably wide and multilateral range.

This is because one of the major purposes of the improved payment system is to solve the problems which companies are facing at present, and such solutions can be expected to support the development through the improved convenience for the companies.

The following are the analysis of such effects.

1) The improved payment system realizes prompt payment, earlier release of the funds reserved and fixed in banks, and in particular, contributes to assisting financing on the side of remittance recipients. The effect of this system on decreasing floating funds can be calculated as described in 14-1-3 cited above. This means, supposing that payment is executed in principle in real time on the same day after the improvement of the payment system, that the increased amount of fluidity enjoyed by remittance recipients, calculated as the annual average balance in 1998 when the first phase is to start operation, will reach 358 million Som. If the amount corresponding to these funds is lent for the repayment of loans, the calculated interest for the loans is decreased by 71 million Som, based on the annual load rate of 20%. Assuming that the improved payment system is complete in 2000, the increased amount of liquidity and decreased amount of paid interest for loans can be calculated to be 395 million Som and 79 million Som, respectively, thus having an erroneous effect on improving the financing and the profitability of company management.

2) The improved payment system alleviates payment risks, smoothes and expands business transactions in the manner described in (1)-2) above, and improves company management.

3) The improved payment system enhances the reliability of companies on banks. This is a factor for increasing the number of opened deposit accounts on the side of banks. On the side of companies, this fosters close relationships with banks for transactions, expands the range of transactions, including credit transactions, and helps to stabilize management.

4) The improved payment system enables diversified supply of financial services and contributes to rationalizing company operation.

5) The payment system using computer networks promotes computerization not only in banks, but also in each transaction company, and helps these companies promote rationalization.

6) This safe and prompt payment system lowers the preference of companies to cash payment, and contributes to stabilizing companies, providing them with effective fund operations and decreased payment risks.

7) The improved payment system promises the development not only for banks, but also for the business related to payment, as computer hardware and software, credit cards and credit sales as well as tertiary industries including stores.

8) This safe and prompt payment system not only constitutes a factor for decreasing credit among companies, but also invites improved awareness of self-responsibility by company management, and contributes to improving company operations.

9) To conclude, the improved payment system contributes to the preparation of software infrastructures which is indispensable not only for financial markets, in particular, short-term financial markets, but also for capital markets.

As a matter of course, developed financial markets facilitate short-term and long-term fund procurement for companies, and produce substantial effects on improving company operations.

14-1-4 Conditions of Analysis

14-1-4-1. Assumed conditions

The assumed conditions for the economic analysis are set as indicated below.

(1) Project life

The setting of the project life was based on the use of the physical service life of hardware (10 years) having the shortest period. In consideration of the rapid technical innovations of the hardware, it was taken as 10 years here. Therefore, based on the investment of Phase I, the project life shall be from 1998 to 2007.

(2) Main operation of project

The main operation of this project is assumed to be set up in one of the newly established divisions of the central bank. Therefore, the general management work shall be conducted by the central bank's organization.

(3) Cut-off rate

The opportunity cost of capital for the calculation of NPV shall be set at 12%.

14-1-4-2. Results of analysis evaluation

The results of analysis evaluation are shown below.

a.	Economic internal returns rate (EIRR):	31.66 %
b.	Net present value (NPV):	32,148
c.	Benefit/Cost ratio (B/C ratio):	1.86

As shown above, the economic effect of this project is extremely high. In particular, the productive effect of fund sources due to a reduction of floating funds is considerable. For this country starting the active promotion of reorganization of the industrial structure, privatization, and the introduction of a market economy, the creation of as many sources of funds as possible is understood to hold an extremely important meaning. In addition, the repercussion effect reaching to economic activities

of the immeasurable indirect benefits (mentioned previously) are considered to hold an even greater importance than the above stated direct benefits by providing the infrastructure for setting this country on its way to economic development. Also, the results of the analysis of the sensitivity of the EIRR in relation to fluctuations in main costs and benefit are shown in Table 14-5 and 14-6.

Item	-30	-20	-10	0	+10	+20
Fluctuating investments	42.38	38.16	34.65	31.66	29.08	26.81
Decreased benefits	-	24.32	28.13	31.66	34.97	38.09

Figure 11-1 indicates the above said results in a diagram.

In addition to above, a sensitivity analysis has been done under the assumption of the worst case occurred. Table 14-6 shows the result of analysis in cases that increase of investment cost from +10 to + 30 %, and decrease of benefits from -10 to -30 % occurred simultaneously.

14-2 Financial Analysis

14-2-1 Calculation of Financial Cost

(1) Total necessary working fund

Total necessary working fund is shown in Table 14-17.

(2) Business operation costs

(a) Maintenance and support cost

These costs will be appropriated for the payment for computer hardware manufacturers and software development companies as maintenance and operation costs of the whole computer system including hardware and software. Generally these costs are fixed after the consultation between a manufacturer and a user. From the experience in Japan, from 10% to 15% of the total expenses, including costs for the introduction of hardware at the early stage, purchase costs of software and costs for the development of software, is

appropriated for the annual maintenance and operation costs. Therefore, by applying the same percentage the Study Team appropriated 2,528 thousand US dollars in Phase I and 2,825 thousand dollars respectively.

The depreciation of pre-operation cost and interest during construction is 5 years constant.

14-2-2 Calculation of the Financial Benefit (revenue)

(1) Basic concept

As has become clear in the analysis of the economic effects of the new system, by assuming the economic effect corresponding to investment, even if the participants (beneficiaries) of the immediate system do not have sufficient investment-bearing ability, from the viewpoint of social shared capital maintenance, it is generally felt that development should necessarily be carried out. As an extension of this line of thought, there is also the method of financing of operating cost through subsidies, but the idea that from the start the beneficiaries should bear the costs of operation is most prominent.

The methods of assessment include methods of standard assessment based on the bank's deposits and capital and actual assessment based on the use of computer time and traffic volume. At this point, from the thinking that in the end the beneficiaries should bear the cost, one instance of the setting of charges directed at the customers was carried out.

In the final and specific setting of charges, the following points should be considered.

(a) Even in the case of setting charges on the principle of the final beneficiaries bearing the cost, it is necessary to examine what extent of cost should be covered.
(b) If all the costs are imposed on the final beneficiaries, then there is a possibility that the use of the new system will not be promoted.
(c) Finally, methods of fund raising, the fee policy of clearinghouses, the bank's fund bearing capacity, the possibility of use of the new system by customers, and so on should all be considered collectively in the making of a decision.

In consideration of the problem raised in b. above, from the standpoint of the government, some of the operating profit of the reserve for deposits to the central bank from private banks, expected to inevitably increase due to the introduction of the new system, shall be contributed as a portion of project costs.

(2) Setting of the fee for the new system

See 12-3 in Chapter 12.

(3) NBK's deposit reserve fund's operating profit

This shall increase corresponding to the expected increase from now on in the deposit balance of private banks due to the introduction of the new system, with 20% of the central bank's deposit reserve fund being allotted to bearing a portion of the cost of the new system. The total revenue from the sources mentioned above are shown in the Table 14-7 and 14-11.

14-2-3 Financial Analysis

(1) Assumed conditions

1) Project life

As already explained in the Economic Evaluation part in this Chapter, based on the physical service life of hardware, the project life was set at 10 years.

2) Currency

The currency shown shall be the U.S. dollar ($) using the exchange rates below.

U.S.$1 = 10.0 Som
U.S.$1 = 100.0 Yen
1 Som = 10.0 Yen

3) Price basis and inflation

All of the prices have June 1994 as the base month and are valued as constant prices (1994).

4) Depreciation and amortization

(a) Tangible assets of hardware, equipment, and materials

Depreciation period:	10 years
Method:	fixed installment
Residual book value:	0

(b) Intangible assets of software

Amortization period:	10 years
Method:	fixed installment
Residual book value:	0

(c) Costs before operations/ interest during construction period (deferred assets)

Amortization period: 5 years

5) Financing

The project is assumed to be financed on the basis of following conditions.

Should this project be financed by an interest-bearing loan, all interest payable during the project period should in principle be included in the capital. The amount can vary depending on alternative financing cases. Here, we will consider the following two alternative financing cases:

Case I: Equity financing (All capital requirement is financed by equity capital)

Case II: Financing by a long-term soft loan

Conditions

Amount:	70% of total funds required
Grace Period:	10 years
Repayment Conditions:	30 years including the grace period; repayment in equal installments
Interest Rate:	3% per year
Debt/equity ratio:	70% : 30%

Condition of long term loan

Total financed period	: 30 years including;
– Grace period	: 10 years
– Repayment	: 20 times annual installments
Interest rate	: 3% per annum

The execution of this project is divided into Phase I (to be operated in 1998) and Phase II (to be operated in 2000), considering the period of the installation of machinery equipment, the introduction and development of software, and its operations, according to the following schedules:

Plans	Implementation period	Actual operation
Phase I	1995 – 1997	1988
Phase II	1998 – 1999	2000

6) Other conditions

Other conditions used for the financial analysis are as same as ones provided in the former chapters.

7) Method of analysis

(a) This project has been planned based on the assumption that the system shall be operated and managed as an organization incorporated in NBK. However, the financial analysis of this system will be carried

out on the assumption that the system according to this project shall be tentatively operated as an independent cooperation running for its own profitability. Therefore, estimated revenue and expenditure as well as financing have been counted and analyzed only based on the data proper to this project, apart from those in connection with other divisions of NBK.

(b) The period of analysis is ten years counting from 1998 when the first phase begins with the start of investments and receiving commissions until 2007 when it is completed.

(2) Results of financial analysis

The financial analysis and evaluation are made based on the financial projections consisting following financial papers for both Cases I and II which are shown in Tables 14-7 through 14-16.

a. Operating expense statements
b. Income statements
c. Fund flow statements
d. Balance sheets
e. Return on investment

Analytical studies are made for various financial indicators, financial viability study by financial internal rate of return (i.e. FIRR) and sensitivity analysis on the cost item and revenue. The result therefrom are as follows.

a. Financial Rate of Return (FIRR): -7.2 %
b. Sensitivity analysis

	FIRR
Total investment cost	
-10%	-6.27%
-20%	-4.97%
-30%	-3.41%
Total revenue	
+10%	-4.73%

+20%	-2.33%
+30%	-0.15%

(3) Evaluation of the financial viability of the Project

1) Observation of financial analysis

(a) Revenue from the operation is comparatively small against total investment amount.

(b) The physical life period of the system is rather limited.

It is to be noted for the project economy that the software which is not entirely deteriorated in nature though depreciation of software cost will be completed on the book along with physical termination of the hardware.

(c) If this project would be realized on the basis of commercial credit conditions the fund flow in each year would show deficit, and therefore, it would need additional short term financing which would bear higher interest burden. And most probably, the project would become not operative due to cumulative burden of the interest payments, in the end. This project scheme, however, is based on the conditions of a long term soft loan conditions and during the project life (10 years), only three time principal repayments come due which represent only fifteen percent of the total loan amount. The fund flow statements, therefore, does not show any cash deficient during the project life period.

2) Evaluation and recommendation

(a) Evaluation of the project

a) In the instance of Case I, where the amount of the initial investment is procured through equity, it is expected that before depreciation profit will be recorded throughout the period of the project (1998-2007), so that there will be no cash-flow problems. With regard to financial profitability:

at the end of 2007, the non-depreciated assets will be no greater than 6% of the total depreciable assets, the accumulated loss will remain 42% of equity, and net assets will amount to $16 million. Moreover, if, at the end of the project period, Kyrgyz can develop the software unassisted, it will be possible, it is believed, to reduce the amount of the reinvestment necessary for renewing the project to half or less of the original investment, so that, after 2007, it will be possible to continue the project nearly without any additional investment.

b) In Case II, where 30% of the initial investment is procured through equity and 70% through long-term loans from abroad, it is forecast that maintaining financial profitability will be difficult even with a favorable loan interest rate (3%). Accordingly, it was necessary to study overall profitability – that is, to take into account the second and third investments, whose loan periods will extend from 2007 through 2027. When this was done, it is expected that, starting from the second investment, profitability can be expected to improve, provided that commission income continues to increase and Kyrgyz can develop the software unassisted.

c) Based on the comments of Draft Final Report from NBK, additional financial analysis are attached as Case III in the Supplement.

(b) Recommendation

From the result of economic evaluation study, it is evident that implementation of this project would become effective means to promote transition to the market economy and development of economy. Therefore, it is seriously required to find ways which may secure drastic improvements in the financial viability of the project. Followings are the considerable recommendations for such purpose.

a) Based on the principle of beneficiaries' obligation, considered beneficiaries such as NBK, commercial banks and users of

systems (banks' customers) shall share the costs to the possible and reasonable extent. In other words, transfer charge rates and NBK's contribution amount should be adjusted to higher.

b) In consideration of the project's nature as a economic infrastructure, the government of Kyrgyz shall bear certain part of costs.

c) This financial analysis conducted for 10 years up to 2007, when the system cost will be depreciated. However, taking to account the practical nature of the project which no doubt continue after 2007, investment for renewal of the system would be implemented successively. The second cycle investment will be financially far more advantageous than the first cycle investment because of drastic savings in software development costs and increase of transfer charge revenues. In this consideration, it is recommended to justify this project from view point of multiple cycle investment project.

Chapter 15 Overall Evaluation and Proposals

Chapter 15 Overall Evaluation and Proposals

15-1 Overall Evaluation

Economic recovery is the biggest task that Kyrgyz is presently faced with. Since independence in 1991 the government has launched a number of policies for achieving economic recovery by transition to a market economy, but they have not yet necessarily brought the expected results, one of the reasons being the underdeveloped state of the financial and payment system, which is one of the most important infrastructure elements in a market economy. As already mentioned, development and improvement of such a system will not only be a big help to economic recovery but also have the effect of broad improvement of many aspects of the lives of the people of Kyrgyz.

The following is an analysis and evaluation of the findings of this study and the effects that can be expected of implementation of the new payment system project, considered separately in financial, economic, social and technical terms.

15-1-1 Evaluations in Economic and Financial Terms

15-1-1-1 Assumptions of Economic and Financial Evaluation

(1) Capital Investment for Establishment of Payment Mechanism

In general, in advanced countries in most cases a joint organization for all of the banks directly participating in the payment mechanism or the bankers association (in Japan the National Association of Banks, Zenginkyo) or some similar organization sets up and runs the inter-bank settlement mechanism which accomplishes the handling of payments between banks, and the central bank directly manages settlement between banks through the banks' correspondence accounts (or current accounts) with it.

However, in the case of Kyrgyz all of the commercial banks were only very recently established, and they do not yet have a sound management foundation, and therefore they are in no way capable of bearing an enormous fund burden, as already seen in the preceding chapter on operating expense budgets. Furthermore, on the technical side, they are completely without the experience needed in order to build a large-scale computer network such as that planned for the new payment system, and the central bank would more or less appear to be in the same situation.

On the other hand, development and improvement of a payment system is an indispensable requisite for economic recovery as an essential infrastructure element of a market economy.

In view of that situation it is considered to be unavoidable to depend on a government contribution and/or equity for the initial investment funds for realization of a new payment system.

(2) Running of the System on the Basis of Own Efforts

However, the basis of running of the new payment system after it is built should be efforts on the part of the Kyrgyz themselves, the operating expenses being obtained in the form of remittance fees or settlement fees charged those who benefit from the system. Furthermore, the system should be operated on a nonprofit basis, and the fees charged should therefore be commensurate with the operating expenses.

(3) Consideration has been given to many possibilities regarding the operating entity of the new settlement mechanism, including the commercial banks themselves, a joint organization of the commercial banks, the bankers association or an organization formed jointly by the central bank and the commercial banks, but in view of the public nature of the payment system, it would appear to be necessary to have the central bank play a leading role (including both furnishing of the necessary facilities and undertaking of all operational aspects) until at least the year 2000, when the new payment system is scheduled to be completed. Nevertheless, in spite of such a leading role by the central bank, it goes without saying that active cooperation on the part of commercial bank is an essential requirement.

15-1-1-3 Economic Evaluation

The new payment system will make it possible, by means of a computer network with on-line, real-time communication, to accomplish settlement the same day or immediately, regardless of whether the parties are in the same region or in regions distant from one another. Therefore not only will settlement, which presently takes several days in the same region and at times several weeks between different regions, to be speeded up to settlement the same day, but the system will have a big impact in terms of vitalization not only of industry but of the entire national economy, including

avoidance of the various kinds of settlement risk of up to now accompanying delay in settlement since settlement, which has been uncertain, will be made safe and certain and the parties involved will immediately know when it has been completed.

(1) Direct Effect

The biggest economic effect will be the effect of utilization of floating funds, the direct effect analyzed in the preceding chapter. In addition, the fact that in the new system settlement is accomplished by electronic message will make it possible to dispense with the making out of letters of advice, and the computerization characterizing the system will make it possible to substantially reduce the labor force presently engaged in settlement desk work. In view of such direct effects, the EIRR for the 10-year period from 1998, when the first phase will be implemented, to 2007 is calculated in terms of present prices as 32% in connection with the amount of investment, which is a very high internal rate of return, indeed. Additionally applying +/- 10% and +/- 20% (including -30% of the investment cost) sensitivity analyses, one still gets an EIRR of at least 24% and as high as 38%, and hence our evaluation of the project as one capable of having an extremely high direct economic effect (see Table 14-6 ~ & Figure 14-1).

(2) Indirect Effect

1) Implementation of the new payment system will also have a far-reaching indirect effect on the economy as a whole. Besides the effect of holding down inflation and the effect of improving enterprise management mentioned in the preceding chapter, it will have a noteworthy effect on fostering and development of financial markets (inter-bank market, open market, capital market, foreign exchange market), which play the most important role in the financial system. Improvement of the payment system is a basic condition for development of financial markets because financial markets cannot function properly without rapid, sure and safe settlement of payment of funds.

Improvement of the inter-bank market will enhance the soundness of financial institutions in such ways as improving their fund positions and making efficient fund manipulation possible, while improvement of the

capital market will make it easier for enterprises to procure long-term plant and equipment investment funds, and improvement of the foreign-exchange market will make stable and efficient management of Kyrgyz's own currency, the Som, and expansion and further development of the foreign-currency funds market possible, which will result in mitigation of shortage of foreign exchange.

Furthermore, improvement of the financial system will stimulate sound development of commercial banks, and if deposits increase as a result of their development and efforts, that will contribute to expansion of financing provided enterprises and to elimination of shortage of funds.

Additionally, if banks catering to small and medium-size enterprises and specializing in provision of medium- and long-term plant and equipment investment funds are established, they can be expected to have an active role in such areas as fostering and reinforcing small and medium-size enterprises, which are expected to flourish in a market economy, and replacement of obsolescent equipment and introduction of advanced technology, and that will lead to development and reinforcement of the Kyrgyz economy.

Besides that, with improvement and development of financial markets, the government will be placed in a position to have more diversified and effective fiscal policy instruments, which will be of great advantage to enterprise and the general public, and many other innumerable advantages can be expected to be brought about by improvement of financial markets, including the possibility for people in general to make planned use of any spare funds that they have on hand.

2) Next, it can be said that development of the payment system will promote recovery of confidence on the part of enterprises and the people in financing and in financial institutions. It will be particularly helpful in terms of boosting savings. That is to say, depositing of spare funds will accelerate the deposit transfer function and credit multiplier effect, strengthening the capacity of banks to supply industry and the general public with funds,

which will have the effect of stimulating increase in production and recovery of the economy.

3) Development of the payment system will not only speed up settlement but also alleviate the various kinds of risk associated with retardation in settlement. Settlement of payments and receipt of remittances the same day will enhance awareness of fund management on the part of those who manage enterprises, thereby raising fund efficiency. Up to now it has been possible to ascribe overdue payments to delay on the part of banks in making remittances and settlement, but if settlement the same day becomes a reality, that excuse will no longer be valid, and that will help to enhance the sense of responsibility on the part of managers for their actions, thereby contributing to recovery and development of the economy through vitalization of management.

15-1-1-3 Financial Evaluation

(1) Premise

1) Profit or loss by the organization of the new payment system will arise starting in 1998, the first phase of implementation of the system.

2) Its income will be the fees charged the users of the payment system and contribution from NBK. The level of the fees seems to be fairly appropriate from the viewpoint of balance with the level of operating expenses and the average level of the fees presently being charged customers of commercial banks.

3) The expenditures consist of the system maintenance fees which include also charges for use of telephone circuits payable to the Ministry of Telecommunications, the personnel expenses of a staff of three operators and electricity fees. The levels of those expenses adopted in the plan are the present levels (1994 fixed-price basis), and they would appear to be appropriate.

4) In the way of equipment investment, for the sake of preparation of funds for future reinvestment the plan calls for straight-line depreciation over a period of 10 years.

5) As for accommodation of the initial capital investment fund for this project, the following two cases are examined:

Case I Accommodation of total investment fund will made by equity

Case II Accommodation of 30% of investment fund will be made by equity and the remaining 70% will be accommodated by the long-term international credit on concessional conditions.

(2) Case I (see Table 14-7 ~ 14-10)

1) Profit/Loss Situation

(a) Our analysis shows that there will be an operating loss for all through the period of 10 year's system life starting in 1998.

(b) In 2007 when the presumed system life period will expire after 10 years from the first phase implementation in 1998;

a) The accumulated depreciation amounts to US$26,922,000, while US$1,820,000 assets are yet to be depreciated thereafter.

b) Net share-equity will be decreased to US$16,585,000 after deduction of the accumulated loss amounting to US$12,157,000.

c) Accordingly, an additional fund accommodation may be needed in order to renew the system for the further continuation of the project.

It is expected, however, that an additional funding can be minimized or becomes unnecessary if the computer software development could be undertaken locally due to the subsequent level-up of computer software industry in Kyrgyz until that time.

2) Cash Flow Situation

When income from fees starts coming in with implementation of the first phase of the new system in 1998, there will be realization of a profit before depreciation after deduction of the expenses that will occur in operation of the system. That will constitute a surplus cash balance, and each year thereafter the surplus cash balance will grow as a result of carrying forward

of the profits before depreciation. Consequently there will be no problem as far as fund flow is concerned.

(3) Case II (see Table 14-11 ~ 14-13)

1) Profit/Loss Situation

(a) Same as in Case I, there will be an operating loss every years all through the period of 10 years system life from the first phase implementation in 1998.

(b) In 2007,

a) The accumulated depreciation and the remaining depreciable assets will be as follows:

Accumulated depreciation US$27,887,000

the remaining depreciable assets US$1,820,000

b) Net share-equity will become minus US$9,970,000 after deduction of the accumulated loss amounting to US$18,883,000

In addition, there will be the outstanding balance of the long-term borrowing amounting to US$18,350,000 which shall be repayable thereafter.

(c) As far as the financial profitability is concerned, the implementation of the project under case II conditions can not be supported if the project is evaluated as one round investment up to 2007.
However, as the project should be continued after 2007 and long-term loan period is presumed to last until 2027, the further second and third round investment for the system renewal will be indispensable. It is expected that financial profitability of the project will be surely improved after 2007, being supported by decrease of investment amount due to the replacement of the system software development to the local specialists as well as continuous increase of income (transfer commission, etc.).

2) Cash Flow Situation

Same as in case I, there will be realization of a profit before depreciation after deduction of the expenses including interest to be paid on long-term borrowing and it installment repayment until 2007. That will constitute a surplus cash position and until 2007, there will be no problem as far as fund flow is concerned.

(4) Conclusion

Results of our overall financial evaluation therefore shows as follows:

1) In case I, where the initial investment is accommodated by Equity and/or government contribution with no borrowing of fund from outside, the project does not present any problem in term of cash flow. As for financial profitability, the project will be able to be continued, making the reinvestment for renewal of the system in or after 2007, as it is expected that the computer software development for system renewal could be replaced from foreign software house to local specialists minimizing investment amount to be needed.

2) In Case II

The financial profitability of the project can not be said to be favorable up to 2007. However, as the project is to be continued after 2007 and the long-term loan covers the project until 2027, it is expected that the profitability will be improved so that the project may be continued thereafter.

3) Basing upon the comments made by NBK, our counterpart, pointing out the recent price lowering tendency of computer hardware and suggesting possibility of the more positive participation of local specialists in the computer software development, an another alternative case of the project cost estimation is examined in the Supplement of this Report, of which due not is also to be taken.

15-1-2 Social Evaluation

15-1-2-1 Effect of Implementation of the Project

(1) Closer Relations Between Banks and Enterprises and Other Bank Customers

Recovery of confidence in financing closely concerning circulation of funds as "blood" needed to sustain enterprises will also make for closer relations and stronger ties between enterprises and financial institutions.

Enterprises need funds for their activities and therefore want to have firm connections with financial institutions that are willing to furnish them with funds when they need them and in the amounts that are needed. At the same time, financial institutions want to be able to make safe, profitable use of the funds deposited with them by their customers. If there is sufficient mutual trust and community of interest between enterprises and financial institutions, the situation as to which bank or banks each enterprise has the most dealings with will crystallize. The expression "the main bank of an enterprise" means just that, and such a bank should be resolved to share that enterprise's fate, for better or for worse. The enterprise's main bank keeps a close eye on how the business of the enterprise is faring in quest of its own profit and that of other banks with which

the enterprise has dealings (to determine whether or not it is possible to increase the amount of financing provided the enterprise), and the enterprise turns to the bank for the funds that it needs in order to expand and develop its business operations. If there is a relationship of mutual complementation between them, that indicates that the enterprise's affairs are coming along well, and such a relationship continues to be expanded and developed. If, however, the enterprise's affairs deteriorate, the enterprise's main bank, as if it were an official charged with the task of overseeing it, sends its personnel to the enterprise for consultations with it on what efforts are needed in order to put the enterprise back on its feet (since the main bank and other banks with which the enterprise has dealings might not be able to recover the money they have lent the enterprise if it goes bankrupt, the enterprise's main bank, acting as a representative of all such banks, devises all possible measures for the purpose of avoiding bankruptcy) and conceives and carries out measures considered necessary in order to set the enterprise straight again, including provision of funds and arrangement of tie-ups with and support from other enterprises to which it, the bank, is related, some of which would not even occur to the enterprise acting on its own.

Such a relationship between banks and enterprises is only natural in a market economy, and the fact that an enterprise has a "main bank," particularly if it is a first-class bank, is a measure of its trustworthiness.

(2) Increase in Deposits and Elimination of the Problem of Shortage of Funds

Although increase in deposits is considerably dependent upon increase in income, control of inflation and stability of consumer life (continuing rosy future outlook on the part of individuals and similar states of mind), development of infrastructure on the money side in the form of the financial and payment system is also necessary for recovery of confidence in financing and fostering of active interest on the part of the general public in savings as preparation for the future. With efforts on the part of financial institutions as the entities with the function of attracting savings deposits and putting them to good use, enterprises will have an easier time of it procuring funds and broader opportunities in that respect, and that will eliminate their problem of shortage of funds, in turn invigorating their business activities.

(3) Diversification of Financial Services That the General Public Can Avail Itself Of

With development of the payment system, it will be possible for commercial banks to provide all sorts of financial services, including automatic transfers into accounts, automatic cash payments, regular crediting of accounts with salaries, electronic payment of public utility bills and issuance of credit cards. Such benefit will be enjoyed not only by enterprises but also by people in general, and the standard of living will rise through savings of time and labor, creating leisure time by greater rationalization on strength of diversification of financial services.

(4) Stimulation of Development of Computerization

It is to be expected that this project will be instrumental in making people in all walks of life aware of the usefulness and importance of computerization and how convenient, simple and easy use of computers really is, thereby stimulating development of computerization in various facets of life.

The range of uses of personal computers and small-scale computers in various business management areas (inventory control, sales management, assets management, office management, etc.) is very broad, and considering how quickly they came into general use in Japan a number of years ago, it should not take all that long for computerization to become a reality in business in Kyrgyz as well in enterprises of all sizes. Particularly considering Kyrgyz's situation as a landlocked mountainous country with scare energy resources and hence difficulty of development of giant industries but superior human resources, fostering and development of an information industry harnessing computers is a very promising means of making effective use of such human resources, and this project can set the ball rolling in that direction.

Furthermore, rationalization of sales and fund management office work in enterprises will make desk work relating to taxation surer and simpler, and that will contribute to reduction of the volume and enhancement of the efficiency of tax collection office work on the part of public finance authorities.

(5) Awareness of the Importance of Service Industries

The financial and payment system is a foundation on which services provided the national economy by financial institutions are based. With development and improvement of that system, understanding and recognition of the need for and importance of services in general, which were not very much appreciated in the days of a planned economy, will increase among people in all walks of life, which could trigger development and growth of service industries, and that can be expected to make a big contribution to smooth transition to a market economy, creation of employment and vitalization of the economy.

In countries in which the market economy has become firmly established service industries have an extremely high relative weight in terms of number of persons employed, percentage of GDP, number of enterprises in the branch and so on, and it is no exaggeration to say that the degree of development of service industries is a good measure of the degree to which the market economy has taken root.

(6) Development of Telecommunications Network

Development of a telecommunications network is indispensable to development (introduction and operation) of a payment system, and it is assumed that one will be developed before implementation of this project. If Kyrgyz's telecommunications infrastructure is improved as a derived effect of development of the payment system, there will be an enormous impact in many respects, and that can be expected to contribute as well to remolding of the country's industrial structure to one making the most of its particular features by, for one thing, giving birth to the kind of new information industry mentioned above.

15-1-2-2 Impact of the Surveys

In the seminars held and visits made to commercial banks and enterprises during the two field surveys carried out in this study we thoroughly explained the importance and necessity of development of the financial and payment system to everyone interested and concerned and particularly people at financial institutions and enterprises and got a clear impression that what was presented was well understood and appreciated.

About fifty persons from Kyrgyz government organizations, the central bank and commercial banks participated in the seminars, at which the present conditions of the financial and payment systems of Japan and other advanced countries were presented and commented on, the present state of the financial and payment system in Kyrgyz and problems concerning it were pointed out, and lively question-and-answer sessions took place, all in an atmosphere of great interest and enthusiasm. Furthermore, at the time of our visits to individual enterprises we were asked many specific questions about the financial and payment system of Japan and other countries, and the members of the mission answered them to everyone's satisfaction.

15-1-3 Technical Evaluation

As we have already seen in Chapter 5 of this report, the computer systems in operation at banks in Kyrgyz are characterized chiefly by "stand alone" use of mainly personnel computers. Although there is some telecommunications hookup of computers using subscriber lines of the public telephone system, the type of data transmission is almost entirely batch transmission, and the transfer protocols and other aspects are all rudimentary. System development in this project is to be based on a joint development setup between the Kyrgyz side and foreign computer makers, software development companies and system integration companies. However, in view of the undeniable fact that there is simply too big a gap between the corresponding technology on the Kyrgyz side and that on the foreign side, the foreign side will probably have to assume a role of leadership in that development setup. At the same time, from the viewpoint of the development personnel on the Kyrgyz side, such a set up will afford an excellent opportunity to upgrade their computer literacy, it being possible for them to raise their technical level with respect to not only hardware architecture but also software structure and telecommunications network systems during both the system development period and the period of operation, maintenance and management after commissioning. The following is a technical evaluation from the viewpoint of the educational and training opportunities that will be necessary in the project stage of full-fledged commissioning and operation with respect particularly to computer hardware systems, software structure and telecommunications. Moreover, it might be mentioned that since the new system in this project will be attracting a lot of attention as the first case of introduction of a network type computer system in Kyrgyz, people not only in commercial banks but also in enterprises in other fields in that country will be very interested particularly in evaluation from a technical point of view.

15-1-3-1 Computer Hardware Systems

In most cases general users of computers, not only in Kyrgyz but anywhere in the world, do not have much, if any, knowledge of how the computers they use work. That is because nowadays most computers use basic software and application software together in package form and therefore are capable of being used simply by following particular software operation procedures. However, from the viewpoint of people in charge of development of a computer system, including both hardware and software, it is not possible solely on the basis of software operation procedures to develop the computer system and bring it to a condition in which it is able to operate.

In particular, at present in Kyrgyz computer education both in universities and in enterprises concentrates on learning of computer languages and operation of application software and fails to address basic understanding of computer hardware architecture.

Whereas it will be necessary to emphasize training of computer system development personnel based on study of the basics of hardware system structure and architecture, such a comprehensive educational system has not yet been established in Kyrgyz universities and other educational institutions, vocational schools and enterprises. It can thus be said that it will be a task of the foreign computer manufacturers, software development companies and system integration companies to determine how to train the development personnel on the Kyrgyz side in development program procedures starting from study of the basics of hardware architecture, and therefore it would appear that the development personnel and staff on the Kyrgyz side will be obliged to assume a posture of participation in the project on the basis of proper understanding of the significance of the project and with the goal of learning development procedures.

15-1-3-2 Software Structure

Promotion of development of the present project is of very great significance in terms of the opportunity it provides for learning software systems (basic software and application software). As already mentioned, in a country where most software technical personnel have ability only in terms of operation of software produced by others the present project will provide all sorts of opportunities in the way of operation and development of basic software and design and development of application software

and network application software and therefore will serve as an optimum development site for development personnel on the Kyrgyz side to raise their technical level. From the viewpoint of software structure development procedure learning effect it is expected to give an opportunity to development personnel on the Kyrgyz side to learn the standards of all aspects of the development system, including definition of requirements, basic design, detail design, program development and comprehensive testing. Furthermore, it will provide them an opportunity to improve their development ability using programming languages (C, C++ and other high-class international leading development languages), and they will also be able to further acquire and improve their ability in development techniques and raise their development productivity.

15-1-3-3 Telecommunications Network System

The present project represents integration of computer systems and telecommunications network systems. Therefore from the viewpoint of computer technical personnel of a country in which the "stand alone" type of use of computer systems has been practically the only one in existence development and operation of the present system would appear to be a terribly complex, gigantic system. However, considering the present international state of networking of computerization and the functions that have to be built by the Kyrgyz side in the future, participation in the present project represents the stage of the first step in enormous progress. In particular, integration of computer systems through telecommunications systems requires far-reaching and profound technological capability. Although there is the risk that the development personnel on the Kyrgyz side participating in the project will be overwhelmed by the extremely high level of the development technology, it is necessary for them to obtain as must knowledge of it as possible since it is a development step that must eventually be experienced. In particular, capability of developing network protocols (OSI, TCP/IP, HDLC, etc.) must take into account future development as corresponding technology. In the present project the Kyrgyz side will be given an opportunity to improve its capacity with respect to telecommunications technology, and it is desirable to have an adequate joint development system encompassing the computer field, the telecommunications field and peripheral areas. Therefore it is a project that is expected to provide development personnel on the Kyrgyz side with educational and training opportunities through their participation that will result in further enhancement of their capacities.

15-1-3-4 Accumulation of System Operation and Management Know-How

The system of this project will be proceed to the operation and management stage subsequently to commissioning after its has been developed on the basis of joint participation on the part of local development personnel in integrated development of computer hardware systems, software structure and telecommunications networks. Personnel on the Kyrgyz side are expected to participate in such operation and management in order for it to be possible for them to accumulate and absorb practical operation management and device and equipment management know-how. To Kyrgyz that will mean acquisition of a new field of technology and a chance to catch up with the international level of technological capacity in management of telecommunications network systems in particular as a field in which turning out of new products and standardization are progressing on a worldwide scale.

15-1-3-5 Technical Evaluation Based on Findings of This Study

(1) Inducement of Computerization of Commercial Banks

Although the development system of the present project concerns mainly the NBK, it is not only on NBK internally that it will have a big impact. At the same time it will result in promotion and expansion of computerization of the work systems of commercial banks in Kyrgyz and reinforcement of overall policy efforts for improvement of bank management. Promotion and expansion of computerization of work systems will stimulate improvement and enhancement of sharing and standardization of information internally within banks, including improvement of accounting systems and raising of office work processing capacity. From the viewpoint of computer systems the NBK's system development project is expected to have the biggest impact on commercial banks in terms of inducement and promotion of the commercial banks' own internal computer networks. However, although the three largest banks, in particular, are actively building their own internal computer systems, even there the systems can hardly be said to be internally uniform and consistent in that they are marked by a considerable degree of incompatibility of software, lack of interchange ability of hardware and differences in development procedures. Since development of the present NBK project comprises programs to be carried out in line with development procedures for the sake of resolving such problems, it is considered that it can serve as an important reference and guide for other commercial banks

as well and not just the biggest three in terms of development procedures, development setup, etc. in their efforts to develop their own systems.

Another aspect is the need to foster the attitude typical of Japanese banks in development and construction of computer systems of "following suit," i.e. of all the other banks going to a new, more advanced system that one of them has built so as not to fall behind. With inducement and development of computerization of commercial banks, it will also be possible to raise the technical level of the personnel who participate in such projects.

(2) Inducement of Computerization of Enterprises in General

Introduction and operation of the payment system centering on the NBK is expected to have far-reaching effects, including furnishing of means of settlement with finality within the NBK, reduction of settlement-related risks, shortening of settlement time and diversification of means of settlement. With promotion of computer-based systemization in enterprises in general as well in response to that, it is very possible that in the near future the need will arise for capability to hookup with the integrated systems represented by the NBK system and the commercial banks' own internal systems. That is also very likely to induce computerization of enterprises in general, with resulting increasing impact of the technical experience gained in development, commissioning and running of the NBK system and the commercial banks' own internal systems on enterprises in general as technology transfer within Kyrgyz itself.

15-1-4 Overall Evaluation

As we have seen, not only is the new payment system project judged to be more than feasible financially, but the economic benefit of implementation of the new payment system will be enormous in view of the fact that settlement the same day on an on-line, real-time basis will set free large amounts of floating funds that have been held up to now because of retardation of settlement, as reflected by the extremely high calculated EIRR: 32%. In other words, it is considered that the direct economic effect of speeding up of settlement will be very great indeed.

Furthermore, reduction of settlement risk, coupled with such speeding up of settlement, is expected to have a very great far-reaching and ramified indirect effect on

the economy as a whole in terms of control of inflation, improvement of enterprise management, etc. Additionally, development and improvement of the financial and payment system will help to restore the general public's confidence in financing and financial institutions and make banks seem closer and friendlier, which in turn will have a salutary effect on inclination to save and lead to larger savings deposits in banks.

Boosting of savings is the most important national task for economic development as the first link in the chain "more savings --> more investment --> expansion of consumption --> expansion of production." Moreover, development of the payment system will make diversification of financial services possible, thereby contributing to raising of the standard of living by increasing convenience, creating more leisure time and so on.

Finally, as for the technological aspect, the computer network of this project represents a network system on a scale not yet experienced in Kyrgyz. As a system making use of the latest technology, it will not only contribute to raising of the technical level of the technical personnel and others directly and indirectly involved in the project but will also promote rationalization and greater efficiency of work processing by stimulating computerization of the whole economy. Furthermore, it is expected to contribute to the fostering of related branches, including the computer hardware and software industries, and to creation of more new employment opportunities.

15-2 Proposals

As mentioned above, the improved payment system will have a broad and inestimable impact on the activation of Kyrgyz economy. So to speak, the improved payment system is an essential requirement for shifting to a market economy.

If any notice is taken of hectic development of the present international economy and prompt advance of technological innovation, the new payment system should go further than satisfying the requirements at hand. It goes without saying that a payment system must be established with computer networks that freely use the latest technologies in response to social, economical and financial development expected in the 21st century. In order to materialize this project, we make the following proposal.

15-2-1 Macroeconomics and Improved Financial Payment System

Kyrgyz economy is now experiencing temporary confusion and stagnation to accompany to a market economy.

Hyperinflation, which reached 1,200% in 1993, has been gradually taking a turn for tranquillity. Although the effect of price liberalization prevailed and the rise of commodity price might come on a plateau temporarily, this situation can be considered to be the result of the austere fiscal policy and tightened policy for currency supply. Partially owing to the assistance from foreign governments and international organizations, the fiscal deficit decreased from -12% in 1992 to -6% in 1993 in GDP ratio.

The exchange rate of its original currency, the Som (introduced in May 1993) to U.S. dollar was temporarily devalued from value of 4 Som to 12 Som to the US dollar. Its value has been approaching stabilization since the middle of 1994.

Some more transitions should be observed before it can be judged whether these indexes indicate nothing but a temporary lull or whether they can be a footholds for business recovery in the future. However, the future the economy seems to be a little brighter for the present.

On the other hand, it is reported that the GDP (gross domestic product) has been continuing its decline by -16% compared to that in the previous year. The situation of employment is also becoming severer.

International trade in both import and export is also declining, accelerated by the dark clouds hanging low in the CIS countries economy and by the confusion in the payment system among CIS countries.

Under such circumstances, the business recovery in the future hinges on a great many problems that need to be solved, as described in Chapter 3 Macroeconomics. These problems include the promotion of transition to a market economy, increased and reinforced production, conversion of industrial structures and encouragement of preferential industries, particularly, promotion of export industries with reinforced

international competitiveness, effective use of domestic resources and preparation of industrial infrastructures.

Above all, the most urgent subject is the improvement of a financial and payment system that functions as a "software infrastructure" in market economy. Among these financial systems, the system regarded as the furthest from the realization is the payment system. Figuratively speaking, comparing national economy to a human body, a financial and payment system is an aorta running through the body. Thus, it goes without saying that the improved payment system is essential as a national project.

15-2-2 Proposals of Strategies for Developing a Financial System

The legal framework for the financial system of this country with the Central Bank and commercial banks as its core in its present state was prepared by the law "The Central Bank Reformation Law" and "Banking Low" established in 1992. However, many matters still remain to be prepared and improved. Many subjects still remain unsolved in the payment system that supports this framework, as well as in the actual management of the financial organizations positioned inside this framework.

Dividing these subjects roughly into those concerned with the Government and those concerned with the Central Bank controlling commercial banks, we hereby present our proposals as follows.

(1) Subjects concerned with the Government

1) Preparation of basic laws

The financial system occupies one of the pivots of the national economic system, and it is therefore, closely concerned with all of the economic activities based on the basic laws covering the whole range of the country's economic activities. At present, many of the basic laws in country are based on those established during the time of the Former Soviet Union. It is said that there are the many problems regarding application.

For example, Civil Code, Commercial Code and other basic laws are considered to be fully adjusted and revised to correspond to the new market economy.

2) Preparation of various relevant laws

Following the preparation of basic laws, the preparation of various laws relevant to each sector of economic activities becomes necessary. For example, Bankruptcy Act was established, however, it seems its application needs several relevant laws to be prepared. The main frame of exchange control seems to be already established by President Ordinance, however, exchange control finally requires to establish an exchange control law. Introduction of bills and checks are being examined at present, it is necessary to establish an internationally applicable law concerning bills and checks. In addition, prior to the preparation of these fundamental economic regulations and relevant laws, establishment of committees across the Government and the industries concerned, survey of actual examples in foreign countries or the revision of relevant laws inviting specialists from abroad may be an idea.

3) Establishment of special governmental financial organizations

As described in Chapter 8, in response to intensive demands for financing arising from industries at present, establishment of a Rehabilitation and Development Bank is recently reported.

The principle that the role played by the government should be minimized as soon as possible in market economy is correct, however, shortage of funds in industries positioned in a transient to market economy, in particular, shortage of long-term fund supply, is striking.

On the other hand, observing from the standpoint of this country where restructuring of industries and encouragement of preferential industries are cried for, it is difficult to cope with this situation only through commercial banks concentrating on short-term financing for the present. Thus, the functions of financing organizations for development are highly expected. Due to the present situation where dark clouds are hanging on the savings by people in general, operations of long-term funds with low interest rate are limited. Therefore, expectation for financial funds and foreign aid funds is large. However, the problems are how the organization is prepared, in

particular, how the talents are fulfilled, how the fund procurement is reinforced, and how the ability to examine creditability is reinforced. In addition to the collection of domestic fund resources, the application of assistance from foreign governments and international organization will be essential.

It will be also an important subject to establish exclusive financing organizations for encouraging small and medium-sized companies which form the wide skirts of industries, to establish credit complementing organizations for the promotion of financing by commercial banks for small and medium-sized companies positively. Judging from the industrial structure of this country, financing organizations exclusively divided into the agricultural sector, and commercial and industrial sector can be also considered.

4) Establishment of organizations for promoting preparation of improved financial systems

Financial system are related to al the sectors in economic activities. Therefore, an organization will be established for the purpose of planning improved financial system (for example, similar to the Financial System Examination Committee), including not only the persons concerned to financial business, but also relevant authorities and private well-informed people. In this organization, improvement programs on medium and long-term viewpoint and gradual implementation programs according the degree of emergency will be established. In addition, it will be very useful for the members of the proposed organization to see personally on the spot the prevailing financial systems, particularly, money markets in the advanced countries as well as to participate overseas training courses. It will be advisable to examine the possibilities to use the technology training courses operated by ODA in many countries.

(2) Subjects of the Central Bank

1) Firm maintenance of independency and neutrality

Needless to say, the most important missions imposed on the Central Bank is to firmly maintain independency from the Government, neutrality and fairness to commercial banks as well as to maintain financing in due order as the guardian for national currency.

2) Supervision of commercial banks

Bank inspection should be reinforced for maintaining the soundness of bank property. Complete observation of three rules i.e. loan limit ratio to single company, liquidity control and deposit reserve ratio control as well as fairness for bank inspection are important.

3) Effective implementation of financial policy and encouragement of money markets

Urgent requirements are preparation of diversified and effective measures taken for financial policies (for example, a gradual transition from the credit auction system to the official bank rate, from the foreign currency auction to the foreign exchange markets, and the fulfillment of open market policies, etc.), establishment of money markets, particularly, short-term inter-bank markets, and encouragement of T/B secondary markets. Along with the conversion in progress from national enterprises to private companies, foundation of capital markets and establishment of investment banks are also urgently needed.

4) Positive participation to the improved payment system

Judging from the present situation of commercial banks in operation, it seems to be difficult to step up sole application of the improved payment system which is indispensable for the development of the money markets, and the necessity of positive participation by the Central Bank is considered necessary. Particularly, for the purpose of enabling the finality by the Central Bank for inter-bank payment, flexible application of temporary

overdraft during daytime and Lombard facility (with mortgage) should be also examined as the subjects for the Central Bank.

5) Reinforced internal system

The above said reinforcement of the Central Bank functions essentially requires the reinforced internal system of this bank itself, and urgently needed are promoted rationalization of internal work through computerization, preparation of accounting standards, and, above all, encouragement of human resources.

(3) Supervision and guidance by the Central Bank, and subject of commercial banks

As a matter of course, the soundness of the property possessed by commercial banks is primarily the matter relevant to the self-help efforts made by commercial banks themselves. However, in addition to the fact that it is not long since the present commercial banks have been reorganized or newly established according to the serious change as the transition to market economy, they are facing the deterioration of operation due to the stagnation of economy along with the alteration of economic systems. Consequently, they have been forced to rely on the guidance afforded by the Central Bank. The subjects for securing the property of commercial banks are as follows.

1) First of all, it is necessary for them to attempt reinforcing deposit in the sector of fund procurement and to be released from excessive dependence of the Central Bank.

Reinforcement of deposit or savings is now the subject not only for commercial banks but also for the whole national economy. The multiplier effect brought by increased deposit in the sector of fund procurement operation has been already described.

2) Commercial banks are requested to decrease bad loans as soon as possible through enhancing their ability to screen and supervise borrowers' creditability in the sector of fund operations.

3) They are requested to discourage the relationship with specific companies, in particular, with national enterprises for mutual sharing of stocks.

4) For securing thoroughgoing principles as commercial banks, they are obliged to fulfill the regulations applied by the Central Bank, make efforts to help themselves and attempt to complete the awareness of the management on their own responsibility.

And for the purpose of preparing and developing the base of management for the future, they are requested to satisfy the following conditions.

5) Systematization, rationalization through computerization and standardization of internal business work

6) Reorganization of branch networks, particularly, rearrangement of branch offices mainly targeting deposit increase

7) Encouragement of talents

8) In parallel to the diversification of business, promotion of free competition among banks through accelerated specialization

9) Application to diversified financial services

10) Application to internationalization

The most important subject is to recover the reliability not only on the Central Bank but also on all the financial organizations from the people through the above said efforts. Needless to say, without people's reliability on banks, reinforced saving which is the subject of national economy cannot be realized.

15-2-3 Construction of a New Payment System through Computer Networks and its Materialization

This is to present a proposal concerning the expected way of cooperation which is ought to be among the Government, the Central Bank and all the people concerned, for the purpose of constructing a new payment system through computer networks and its materialization, which is the final subject of this survey.

(1) Necessity of cooperation by all the persons concerned

In the first place, as already described, both the Government and the Central Bank are requested to understand that the preparation of an improved system is a subject of national economy which is an essential condition required for recovering the economy of this country and is the most important project which all the persons concerned must make possible efforts for its realization, and both the Government and the Central Bank should persuade and appeal all the persons concerned including commercial banks, sharing such awareness with all of them.

(2) Preparation of telecommunication circuits and preferential use

For example, communication circuits which are indispensable for the improved payment system essentially require cooperation from the Ministry of Communication which controls communication circuits. Concerning the preparation of communication networks in the future, understanding and cooperation are necessary from the Ministry of Communication, international organizations, foreign governments and others, so that the improved payment system may be taken into consideration in such preparation. In addition, mutual communication exchange among parties concerned is essential in order to materialize the preferential use of communications circuits by the improved payment system.

(3) Legal preparation relevant to electronic letters

Then, in the new payment system, payment is completed through on-line real time electronic information communication. Consequently, legal preparation relevant to electronic letters becomes necessary. (Regarding the direction of preparation, refer to the ANNEX 8 of the Main Report.)

(4) Positive participation in payment system by the Central Bank

one of the key point of recovering the reliability from the people on the Central Bank and commercial banks is the realization of a prompt and safe payment system. This means the payment system where the Central Bank has finality. For this reason, flexible application of a temporary overdraft during daytime and

Lombard facility (with mortgage) by the Central Bank for inter-bank payment should be examined.

In addition, supply of physical facilities and sites as well as positive cooperation in the sectors of organization, operation, maintenance, control and staff training in each area related to the improved payment system will be also indispensable.

(5) Establishment of promotion organization in the Central Bank

As the Central Bank is requested to positively participate in the implementation of this improved payment system as the leader, it will be necessary for this bank to establish in this bank an organization dedicated to the promotion of the programs for this improved payment system.

This organization will be equipped with not computer specialists, but also financial, administrative, legal specialists and participants from commercial banks. The leader is required to be the person who is preferably entitled to take leadership among the authorities and commercial banks.

(6) Organization of the "Improved Payment System Committee" (tentative name)

This improved payment system is a long-term program of which implementation is estimated to exceed 2000, and the system using a large scale computer network that is the initial case attempted in this country. Therefore, this program requires cooperation afforded from each governmental Ministry and Agency.

Consequently, "Improved Payment System Committee" (tentative name) will be organized including the responsible persons dispatched from each Ministries concerned (at least including the Ministry of Communication, the Ministry of Finance and Goskominvest) to be lead by the responsible person of the Central Bank. A system provided with tight and positive cooperation needed for promoting this program will be established, where adjustment of interests among each Ministry will be also made.

The participation from commercial banks in this Committee is also expected. The participation of the company representatives from related industries will further reinforce this Committee. The functions of this Committee will be to examine the

improved payment system from a broad view and to support and supervise as the steering committee the activities of an implementation team to be organized.

Prior to establish the programs for the improved payment system, it will be very useful to carefully observe the payment mechanisms, financial organizations and financial markets in advanced countries on the spot for the purpose of promoting the recognition of the effect and the importance of the proved payment, and to participate in overseas research and seminars according to necessity.

(7) Installation of a training center

The implementation plan of the improved payment system proposed in this report includes the costs for preparing necessary work manuals and the expenses for operator training to be implemented prior to starting the first and the second phases of the new payment system.

However, even at present, the lack of information processing engineers in bank is serious. That means, in order to maintain smooth operation after starting up the new system in the future, updating training and quality improvement of information processing engineers and operators constitute essential requirements. Thus, it is eagerly asked to install a training center group education for this purpose can be carried out. The training center should be used not only for educating information processing engineers but also used as a education center for talents supporting the new payment system, which will be the center for teaching the whole range of financial business. The outline of the proposal for establishing a training center is described in detail in Chapter 12.

(8) Cooperation from commercial banks

Commercial banks shall aware that the new payment system is not only indispensable for developing money markets and useful for preparing the base for financial systems but also promises great convenience for the Central Bank, commercial banks, customers and companies. Thus, commercial banks are requested to cooperate for the realization of the new payment system and its whole operations involved.

(9) Operation through self-help efforts

As said above, the materialization of the new payment system will further require a large amount of capital procurement. Particularly, the operation and maintenance after introduction require, as a matter of course, self-help efforts made by the parties who receive the convenience directly, such as collection of fees and other necessary work.

(10) Procurement of introduction funds

The payment system itself is originally equipped with public characteristics and brings long-term and widespread benefits to national economy. However, on a short-term basis, it is not always easy to immediately balance incoming and outgoing. Its introduction required a remarkably large amount of funds as calculated by our survey team. It will be ideal if these funds are paid by private funds such as those of commercial banks which directly enjoy convenience. However, financial organizations in this country facing economic deterioration accompanying the transition process to market economy do not seem to have a reserve of money to bear such funds at all. And yet, this improved payment system is an essential condition for the transition to market economy. Under such circumstances, the authorities concerned are requested to understand this situation and make possible efforts so that the public funds may be available for introduction, and if possible, the assistance from foreign governments or international organizations may be acquired as the funds required for introduction. For this purpose, the Central Bank is requested to take leadership.

15-2-4 Expectations by the JICA Study Team

Before concluding this report, the JICA Study Team expresses its expectations as follows.

The Government of this country promptly directed its policies toward the restoration of the national economy through transition to a market economy, and it received the support of foreign countries and international organizations.

Successful results are gradually arising concerning various points such as inflation, fiscal income and revenue, and exchange rates. However, it is not easy to quickly grow

out of the social and economic systems that were controlled under the command economy over 70 years. In particular, once an economy falls, its restoration requires long-term and patient efforts. In response to the people's serious demand for stabilized economy and improved living under a tough economic situation, a long-term economic vision that clarifies the route toward economic development through a transition to a market economy will also help to secure stabilization in the future.

Political stabilization is one of the essential conditions necessary for economic development. The development of the national economy and stabilization of living conditions in parallel to this are the subjects that should not be solely imposed on the governmental authorities, but they should be borne by all the people together.

Another important subject is, for example, reinforcement of savings. As privatization of state enterprises is being positively campaigned at present, saving promotion does not concern only financial organizations, but also a national problem to secure the flow from saving to investment – reinforced production – developed national economy. In addition, as we have learned through our experiences in Japan, it is very useful to develop campaigns to encourage all people (for example, a month to promote savings) regarding important subjects such as increases of export, improved awareness of their own management responsibilities, improved productivity by QC activity and energy saving.

These are the reasons why the Study Team has drawn up a plan for the improved payment system. The system can be considered one of the most important infrastructures in market economy as a long-term project geared toward the 21st century. The Team expect to be able to contribute to the development of this country to the maximum extent under the coordinated cooperation of the Government, the Central Bank, commercial banks and other persons concerned.