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Power- Comparative Review. Investments and Self-Financing
Power Review IMF Control Group

1958-1970



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Power - Comparative Review - Investments and Self Financing Power review - IMF
Control Group - 1958 - 1970

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Investment self-financing.

I. Central Group is composed of:

1 Argentina - Water and Power Corporation
(8) 1957/58 - 1965.

(6) 2 Cyprus - Cyprus Elect. Corp. 1959-64.

(10) 3 France - EDF 1950-59.

(6) 4 Malaysia - NEB 1959-64.

(6) 5 Mauritius - Central Elec. Board 1959-64.

(5) 6 Mexico - CFE 1960-64.

(6) 7 Mexico - Mexlight 1958-63.

(11) 8 Nigeria - Elec. Corp. of Nigeria 1953/54
- 1963/64

(5) 9 Rhodesia - Southern Rhodesia Electricity
Supply Commission 1960-64.

(9) 10 Pakistan - KESC 1955-63.

(5) 11 Rhodesia, Zambia and Malawi -
Central African Power Corp. 1960-64.

(3) 12 Thailand - Yankee Elec. Auth. 1962-64.

(6) 13 Uganda - Uganda Elec. Board, 1959-64.

II Data given in the "IMF Staff Paper" of March 1968 (Performances of Government-owned corporations) can be summarized as follows:

	Electricity		All Sectors	
	Latin American	All	Latin American	All
No. of enterprises.	3	13	24	64.
Current Internal Cash as % of Gross Investment	18.4	21.1	3.6	10.8

Remarks:

1. The concept of Current Internal Cash used above is defined as: All operating revenues of the company (excluding Govt contributions, if any) less All current expenditures (including interest but excluding depreciation). Current Internal Cash is therefore

to be compared with the
Net Internal Cash Generation
plus amortization of debt (equal
also to Gross internal cash genera-
tion less interest paid on debt)
concept used in the Power Review.

2. Each year's account of each enter-
prise is given an equal weight in
the previous table, so that enterprises
whose accounts are available over
a long period are overrepresented
compared to those whose accounts
were available for only a few years,
and small concerns are overrepresented,
and large concerns underrepresented,
in the averages.

3. The composition of the control group
indicates that the accounts used
in the IMF paper are not recent ones

(the most recent ones are dated 1964) and are not therefore strictly comparable to the data available in the Power review which covers periods ending in 1970.

III Current internal Cash as % of Gross Investments, for the 10 companies of the Power review, is as follows:

Company	Period	Non-weighted average of Current Cash as % of Investments
SEGBA		
Furnas	1964-70	44.5
EEEB		
EPM		
CFE	1958-70	20.4 (35.1 ^{2/1})
Average Latin American (non-weighted)		
EELPA	1964-70	52.3
VRA	1966-70	194.8

NEB	1958-70	48.1
PUB	1963-70	62.4

Average all utilities (non-weighted)

a) if Power Consumption Tax
is considered as part of CFE's
revenues.

EPM (P₁ mln).

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Gross Revenues	30.64	39.62	46.78	49.79	81.49	100.02	109.02	136.96	164.21	202.54	252.45	286.69
Op. Costs	13.96	18.13	22.43	27.14	41.24	45.97	55.40	72.35	89.42	106.27	112.50	125.75
d.w. Depreciation	(4.07)	(4.27)	(4.55)	(5.15)	(10.67)	(12.20)	(15.34)	(22.89)	(30.80)	(35.84)	(37.37)	(39.54)
Net Income	14.77	21.49	24.35	22.65	40.25	54.05	53.62	64.61	74.79	98.27	139.95	160.94
Interest	2.64	3.72	5.19	12.41	7.47	8.04	7.80	7.31	26.40	31.63	32.70	32.96
Debt Service (Hold)	12.09	5.83	7.93	13.10	14.72	21.92	15.38	35.71	58.86	61.54	105.87	111.48
n.i.c.g.	7.29	20.27	21.17	14.75	36.20	44.94	53.58	51.79	46.73	81.53	71.45	89.00
Gross i.c.g.	18.84	25.76	28.90	27.80	50.92	66.25	68.96	87.50	105.54	134.11	177.32	200.48
Investments	28.31	21.97	60.42	106.91	61.18	144.55	149.72	174.21	166.31	198.20	343.02	267.16
Exchange Rate (avg)	6.50	6.60	6.70	6.80	8.90	9.00	9.90	13.00	14.30	15.90	17.00	18.00

EEEB

n.i.c.g.		34.51	35.22	32.30	26.00	29.42	23.26	22.74	79.64	59.70	116.21	130.49
Interest	1.49	1.98	3.67	10.95	25.81	28.63	34.75	40.75	47.10	64.40	78.89	92.41
Amortization		6.04	5.93	13.10	14.12	11.86	41.02	49.83	41.07	66.79	41.32	72.36
Total Debt Service		8.02	9.60	24.05	39.93	40.49	75.77	90.58	88.17	131.19	120.21	164.77
Gross i.c.g.		42.53	46.55									
Fixed Investments		42.56	71.64	157.12	170.99	203.82	156.36	192.74	66.52	144.66	213.62	145.58

Electricity Corporations: Sample on annual basis,

Gicg: $\frac{GFI}{GFI}$
 GFI $\frac{GFI}{GFI}$

- Argentina 1, Mexico 2 (o.w. CFE 1960-64), Cyprus, France, Malaysia (1959-64), Mauritius, Nigeria, Rhodesia, Pakistan, Zambia and Malawi, Thailand, Uganda.

	Electricity		All Sectors	
	Latin American	All	Latin American	All
No of enterprises	3	13	24	64
% activity Gross Internal Cash Gen ^t	21.0	27.2	2.1	8.0
% activity Gross Fixed Investments	114.2	129.2	58.4	74.3
% activity Government transfers (net)	59.6	33.7	42.3	32.9
% G. Invest ^t Gross Internal Cash Generation	18.39	21.05	3.60	10.77
% Gross Invest ^t Government transfers (net)	52.19	26.08	72.43	44.28

(only?) In this table, each corporation is given equal weight, and in the statistical analysis each corporate year is given equal weight.

N.B.1: ~~Gross~~ Internal Cash Generation include:
 All ^{operating} Revenues of the utility (less Government contributions, if any) — All current expenditures (including interest, but excluding depreciation). That is, this concept of Internal Cash Generation is equivalent to our Gross Internal Cash Generation less Interest (= Net Internal Cash Generation + Amortization).

N.B.2.: Gross Fixed Investments: Δ_{t-1}^t Gross Fixed Assets at cost.

Same concepts applied to our utilities give:

	Gross Internal Cash	Interest	Internal Cash Generation	Investments	Internal Cash/Investment	Weighted Averages
	1	2	3 = 1-2	4	5 = 3/4 (%)	
SEGBA: A	151.26	39.39	113.10	338.85	33.4	1962-65
B	376.55	72.52	304.03	284.26	106.9	1966-70
FURNAS: A	irrelevant			226.50	irrelevant	1958-63
B	303.63	103.92	199.71	474.51	42.1	1964-70

Investments

EELPA: A	23.99	5.71	18.88	43.11	42.4	1964-70
VRA: A						
B	32.09	20.11	11.98	16.56	72.3	1966-70
CFE: A	171.47	39.80	131.67	836.91	15.7	without tax 1958-64
	270.01		230.21		27.5	
Mexico Power Sector	B	319.26	295.74	1168.29	25.3	without tax 1965-69
			778.22		458.96	39.3
NEB: A	73.19	26.98	46.21	139.57	33.1	1958-65
B	117.36	36.45	80.91	145.54	55.6	1966-70
PUB: A	43.35	12.63	30.72	68.43	44.9	1963-66
B	87.99	22.73	65.26	87.38	74.7	1967-70
EPM: A	15.20	3.57	11.63	32.43	35.9	1959-62
B	64.16	11.28	52.88	110.57	47.8	1963-70
EEEB: A	21.42	2.46	18.96	40.25	47.1	1960-62
B	33.89	12.72	21.17	72.47	29.2	1963-66
C	54.04	17.11	36.93	34.40	107.3	1967-70

Average:

Non-weighted
Averages

SEBBA	(713.2/9)	79.2	1962-70
Furnas	(311.4/7)	44.5	1964-70
EEEB	(786/11)	71.5	1960-70
EPM	(607.9/12)	50.7	1959-70
EELPA	(365.8/7)	52.3	1964-70
VRA	(974.0/5)	194.8	1966-70
NEB	(625.5/13)	48.1	1958-70
CFE	(265.4/13)	20.4	1958-70
	(456.8/13)	35.1	
PUB	(1063.4/13)	81.8	1958-70
	(499.0/8)	62.4	1963-70
Average	3605.5/58	62.2	Non-weighted
	3796.9/58	65.5	
Average on Latin American utilities:	Furnas { 576.8/20	28.8	Non-weighted
	CFE { 768.2/20	38.4	
Average all	3041.1/53	57.4	
	3232.5/53	61.0	
	2775.7		

%	Aggregates over the Period:	
SEGBA : 33.4	113.1 / 338.85	1962-65
Fmmas : 33.5	13.20 / 39.34	1964-65
CFE : 17.8	171.63 / 965.61	1958-65
EEEB : 46.7	45.71 / 97.89	1960-65
EPM : 41.2	29.05 / 70.48	1959-65
(Latin American : 34.5) ←	Non-weighted average of the %.	
EELPA : 47.6	4.43 / 9.30	1964-65
NEB : 33.1	46.21 / 139.57	1958-65
PUB : 64.1	50.70 / 79.13	1958-65
All : 317.5/8	39.7	

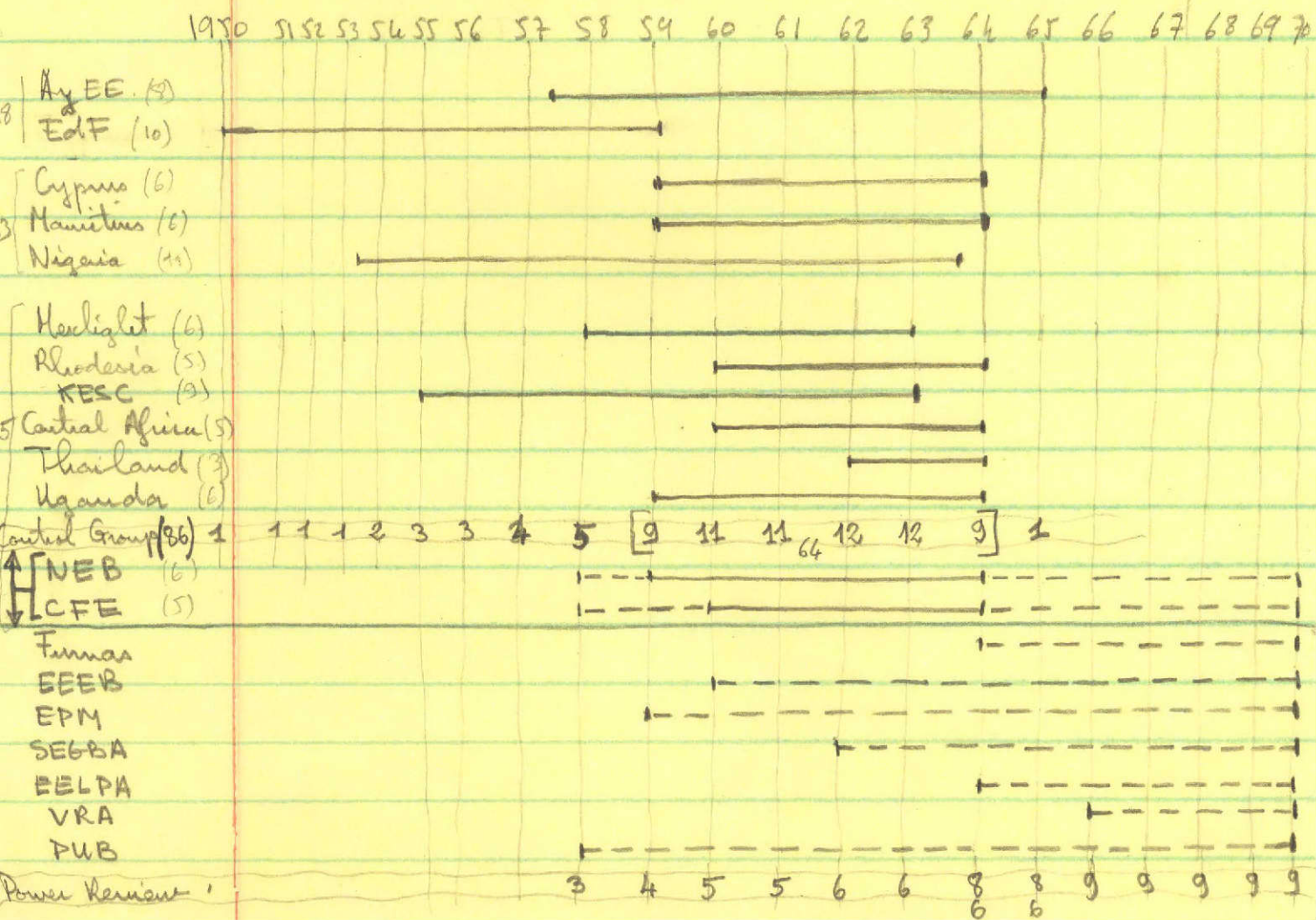
Malaysia : - (1958)	→	236.4/7 : 33.8	(- 55.4 / 1)	} Taking out years before Bank disbursements
PUB : - (1958 / 1963)	→	70.5/2 : 35.3	(- 630.6 / 6)	
EPM : - (1959 / 1961)	→	165.0/4 : 41.2	(- 196.6 / 3)	
EEEB : ϕ				
<u>Total</u> :	Latin American :	798.1/32 : 24.9	(- 196.6 / 3)	
	All :	1,205.8/43 : 28.0	(- 882.6 / 10)	

778 / 992.9

2412.5

3028.7

	Up to 1965		Up to 1970		68-70
(1962) SEGBA	(150.0/4)	37.5	(713.2/9)	79.2	
(1964) Fumas	(69.9/2)	35.0	(311.4/7)	44.5	
(1960) EEEB	(266.4/6)	44.4	(786.0/11)	71.5	
(1959) EPM	(361.6/7)	51.7	(607.9/12)	50.7	
(1958) CFE	(146.8/8)	18.4	(265.4/13)	20.4	
	(266.3/8)	33.3	(456.8/13)	35.1	
Latin American	(934.8/33)	28.0	(2683.9/52)	51.6	
	^{994.7/35} (1044.3/33)	28.4 31.6	(2875.3/52)	55.3	
(1964) EELPA	(100.8/2)	50.4	(365.8/7)	52.3	
(1966) VRA			(974.0/5)	194.8	
(1958) NEB	(291.8/8)	36.5	(625.5/13)	48.1	
(1958) PUB	(701.1/8)	87.6	(1063.4/13)	81.8	
All	(1917.7/49)	39.1	(5712.6/90)	63.5	
	^{2088.4/53} (2037.2/49)	39.4 41.6	(5904.0/90)	65.6	



<u>PUB</u> : Investments	5.57	6.94	3.13	5.09	6.33	11.96	22.37	17.74	16.36	13.63	26.85	18.80	28.10	68.43	87.38
n.i.c.g.	2.56	3.15	3.38	4.14	5.39	6.71	7.25	4.40	6.35	8.51	10.64	11.91	14.27	24.71	45.33
Interest	2.14	2.36	2.37	2.37	2.37	2.38	2.70	3.49	4.06	4.79	5.19	5.35	6.80	12.63	22.73
Amortization	1.87	2.05	2.09	1.84	1.94	1.21	1.23	1.39	2.18	3.48	4.61	5.20	6.64	6.01	19.93
Gross i.c.g.	6.57	7.56	7.84	8.45	9.70	10.30	11.18	9.28	12.59	16.78	20.44	23.06	27.71	43.35	87.99
Internal Cash/Invest th (%)	79.5	74.9	174.8	119.4	115.8	66.2	37.9	32.6	52.1	88.0	56.8	91.0	74.4	44.9	74.7
<u>EEEB</u> : Investments			6.45	10.69	23.11	19.20	22.65	15.79	14.83	4.65	9.10	12.56	8.09	60.62	63.66
n.i.c.g.			5.23	5.26	4.75	2.92	3.27	2.35	1.75	5.57	3.75	6.84	7.25	40.85	72.47
Interest			0.30	0.55	1.61	2.90	3.18	3.51	3.13	3.29	4.05	4.64	5.13	15.24	10.39
Amortization			0.91	0.89	1.93	1.59	1.32	4.14	3.83	2.87	4.20	2.43	4.02	2.46	12.72
Gross i.c.g.			6.44	6.69	8.29	7.41	7.77	10.00	8.71	11.73	12.00	13.91	16.40	21.42	33.85
Internal Cash/Invest th (%)			95.2	57.4	28.9	23.5	20.3	41.1	37.6	181.5	87.4	73.8	139.3	17.1	29.2
<u>EPM</u> : Investments		4.36	3.33	9.02	15.72	6.87	16.06	15.12	13.40	11.63	12.47	20.18	14.84	38.62	38.70
n.i.c.g.		1.12	3.07	3.16	2.17	4.07	4.93	5.41	3.98	3.27	5.13	4.20	4.94	32.43	110.57
Interest		0.41	0.56	0.77	1.83	0.95	0.89	0.79	1.06	1.85	1.99	1.92	1.83	9.52	35.93
Amortization		1.37	0.27	0.38	0.09	0.70	1.54	0.76	1.69	2.26	1.31	4.31	4.37	3.57	11.29
Gross i.c.g.		2.90	3.90	4.31	4.09	5.72	7.36	6.97	6.73	7.38	8.43	10.43	11.14	2.11	16.34
Internal Cash/Invest th (%)		57.1	100.3	39.2	14.4	69.4	40.3	40.9	42.3	47.5	51.6	42.2	62.7	35.9	47.8

1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970

499.0