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State autonomy, political power and public policy : a study of Brazilian development.

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STATE AUTONOMY, POLITICAL POWER AND PUBLIC POLICY:
A STUDY OF BRAZILIAN DEVELOPMENT

A Dissertation Presented

by

LUIZ PEDONE

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 1989

Department of Political Science

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Approved as to style and content by:



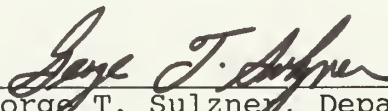
Eric S. Einhorn, Chairperson



Howard J. Wiarda, Member



Carmen Diana Deere, Member



George T. Sulzner, Department Head
Department of Political Science

DELUSIONS OF GRANDEUR

René Magritte, 1948 *

- * Painting by Belgian Surrealist Painter (1898-1967). The Hirshorn Museum and Sculpture Garden, Washington, DC.

TO MAITÉ
amor antigo

TO

PAULO VIEIRA DA SILVA,
(in memoriam)

professor and friend

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Of course I am solely responsible for all errors, committed or omitted, found in this dissertation.

ABSTRACT

STATE AUTONOMY, POLITICAL POWER AND PUBLIC POLICY:

A STUDY OF BRAZILIAN DEVELOPMENT

MAY 1989

LUIZ PEDONE, B.I.E., GEORGIA INSTITUTE OF TECHNOLOGY

M.P.A., UNIVERSIDADE DE BRASILIA

Ph.D., UNIVERSITY OF MASSACHUSETTS/AMHERST

Directed by: Prof. Eric S. Einhorn

This dissertation examines the relationship among state, political power and public policy in Brazil during its authoritarian regime (1964-74) and the more liberalized regime (1974-85). In order to study the autonomy of the Brazilian state with respect to classes, state elites and societal forces a framework is developed using Neo-Marxian and Neo-Weberian concepts. The methodology to study the public policies includes decision reconstruction, reputational and structural analyses using investment data and political action as evidence. Chapters III and IV study how each regime influenced differently the decision and implementation of the infrastructure, industrial and mining policies. During 1964-74 the political and financial autonomy of state enterprises -- and the state in general -- prevailed. Autonomy became increasingly restrained by political liberalization and the economic crises of the 1974-85 period. Two case studies (Itaipu and Tucuruí Hydro-power Projects)

exemplify both periods. The decision to build Itaipu obeyed primarily national security interests. The implementation was influenced by Brazilian and international interests. Contrasted with Itaipu, Tucuruí's decision depended on international industrial and financial interests as well as on powerful national groups and government elites. This dissertation concludes that the study of public policies is an important way to analyze political power and state-society relations. By comparing development policies, participation and influence patterns are uncovered and conclusions postulated. First, the overlap between the leadership of the Hydro-projects does not indicate a pattern of a group equally influencing more than one policy area as assumed by pluralism. Second, the peasants and working class did not influence either policy-making process. Third, only dominant economic interests benefited from the Hydro-projects. Fourth, state autonomy was high on the Itaipu decision but low during its implementation. In Tucuruí, it was limited on both phases. Thus, it is posited that reduced state autonomy and the model of development adopted precluded the ability to carry out integral social development demanded by the majority. As a result of this lacuna, elections have helped the demise of the military regime but they were no guarantee of legitimate democratic government in the post-1985 period and inclusionary access to policy-making process.

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LIST OF ABBREVIATIONS

ABDIB	The Brazilian Association for the Development of Basic Industries (<u>Associação Brasileira para o Desenvolvimento das Indústrias de Base</u>)
ABI	The Brazilian Press Association (<u>Associação Brasileira de Imprensa</u>)
ABINEE	The Brazilian Association of Electrical and Electronic Industries (<u>Associação Brasileira das Indústrias Eletro-Eletrônicas</u>)
ABMAQ	The Brazilian Association of Machinery Manufacturers (<u>Associação Brasileira da Indústria de Máquinas-Ferramenta</u>)
ACESITA	Itabira Special Steel Co. (<u>Companhia Aços Especiais Itabira</u>)
AERP	Public Relations Advisory Board (<u>Assessoria Especial de Relações Públicas da Presidência da República</u>)
ALBRAS	<u>Alumínio do Brasil S.A.</u>
ALCAN	Aluminum Company of Canada
ALCOA	Aluminum Company of America
ALUMAR	<u>Alumínio do Maranhão S.A.</u>
ALUNORTE	<u>Alumina do Norte do Brasil S.A.</u>
AMFORP	American Foreign Power Company
AMZA	<u>Amazônia Mineração</u> (CVRD/US Steel)
ANDE	Paraguayan National Electricity Administration (<u>Administración Nacional de Electricidad</u>)
ARAMAR	Aeronautics and Navy Laboratories
ARENA	National Renovating Alliance (<u>Aliança Renovadora Nacional</u>)
BEFIEIX	<u>Benefícios e Incentivos à Exportação</u>
BNCC	National Bank for Cooperative Credit (<u>Banco Nacional de Crédito Cooperativo</u>)

BNDES	National Bank for Economic Development (<u>Banco Nacional do Desenvolvimento Econômico e Social</u>)
BRASPETRO	Brazilian Petroleum (Petrobrás foreign subsidiary)
CACEX	Foreign Trade Department (<u>Carteira de Comércio Exterior do Banco do Brasil</u>)
CAEMI	<u>Companhia Auxiliar de Empresas de Mineração</u>
CANAMBRA	Canadian-American-Brazilian Consortium
CAPEMI	<u>Caixa de Pecúlios, Pensões e Montepio-Beneficente S.A.</u>
CBA	<u>Companhia Brasileira de Alumínio</u>
CBTA	<u>Companhia Brasileira de Tecnologia Atômica</u>
CDI	Industrial Development Council (<u>Conselho de Desenvolvimento Industrial</u>)
CDE	Economic Development Council (<u>Conselho de Desenvolvimento Econômico</u>)
CEB	Base Ecclesiastical Communities (<u>Comunidades Eclesiais de Base</u>)
CELUSA	<u>Centrais Elétricas Urubupungá</u>
CEMIG	<u>Centrais Elétricas de Minas Gerais</u>
CENAL	National Alcohol Commission (<u>Comissão Nacional do Alcool</u>)
CENIBRA	<u>Celulose Nipo-Brasileira S.A.</u>
CESP	<u>Companhia Energética de São Paulo</u>
CHERP	<u>Companhia Hidrelétrica do Rio Pardo</u>
CHESF	<u>Companhia Hidrelétrica do São Francisco</u>
CIEM	The Itaipu Electromechanical Consortium (<u>Consórcio Itaipu Eletromecânico</u>)
CIP	Interministerial Price Council (<u>Conselho Interministerial de Preços</u>)
CIPGC	Interministerial Council for the Greater Carajás Program (<u>Conselho Interministerial do Programa Grande Carajás</u>)

CLT	Labor Code (<u>Consolidação das Leis Trabalhistas</u>)
CMN	National Monetary Council (<u>Conselho Monetário Nacional</u>)
CNAEE	National Council for Water and Electric Energy (<u>Conselho Nacional de Aguas e Energia Elétrica</u>)
CNE	National Energy Commission (<u>Comissão Nacional de Energia</u>)
CNEN	National Nuclear Energy Council (<u>Conselho Nacional de Energia Nuclear</u>)
CNI	National Confederation of Industry (<u>Confederação Nacional das Indústrias</u>)
CNP	National Petroleum Council (<u>Conselho Nacional do Petróleo</u>)
CODI	<u>Coordenação de Operações da Divisão de Informações</u>
COFAVI	Vitória Iron and Steel (<u>Companhia de Ferro e Aço Vitória</u>)
CONCEX	National Council of Foreign Trade (<u>Conselho Nacional de Comércio Exterior</u>)
CONEMPA	Paraguayan Construction Firms Consortium (<u>Consortio de Empresas Constructoras Paraguayas, srl</u>)
CONSIDER	National Council for the Non-Ferrous and Steel Industry (<u>Conselho Nacional de Siderurgia e Não-Ferrosos</u>)
COSIPA	Paulista Steel Company (<u>Companhia Siderúrgica Paulista</u>)
CPA	Customs Policy Council (<u>Conselho de Política Aduaneira</u>)
CSN	National Steel Company (<u>Companhia Siderurgica Nacional</u>)
CSN	National Security Council (<u>Conselho de Segurança Nacional</u>)
CST	Tubarão Steel Company (Kawasaki Steel/Finsider) (<u>Companhia Siderúrgica Tubarão</u>)
CTA	Technological Aerospace Center (<u>Centro Tecnológico Aeroespacial</u>)
CVRD	Rio Doce Valley Company (<u>Companhia Vale do Rio Doce</u>)
DASP	Public Service Administrative Department (<u>Departamento Administrativo do Serviço Público</u>)

DNAEE	National Department for Waters and Electric Energy (<u>Departamento Nacional de Aguas e Energia Elétrica</u>)
DNER	National Highway Department (<u>Departamento Nacional de Estradas de Rodagem</u>)
DNPM	National Department of Mineral Research (<u>Departamento Nacional de Pesquisas Minerais</u>)
DOCEGEO	<u>Rio Doce Geologia e Mineração S.A.</u>
DOCENAVE	<u>Vale do Rio Doce Navegação S.A.</u>
DOPS	Division of Social and Political Order, Federal Police Department, Ministry of Justice
ELETROBRAS	<u>Centrais Elétricas Brasileiras S.A.</u>
ELETRONORTE	<u>Centrais Elétricas do Norte do Brasil S.A.</u>
ELETROSUL	<u>Centrais Elétricas do Sul do Brasil S.A.</u>
EMBRATEL	<u>Empresa Brasileira de Telecomunicações S.A.</u>
EMBramec	<u>Mecânica Brasileira S.A.</u>
ENERAM	Coordinating Committee on Energy Studies for the Amazon Region
ESG	Superior School of War (<u>Escola Superior de Guerra</u>)
FGTS	Time of Employment Compensation Fund (<u>Fundo de Garantia por Tempo de Serviço</u>)
FIBASE	<u>Insumos Básicos Financiamentos e Participações S.A.</u>
FIESP	Federation of Industries of the State of São Paulo
FINAME	Special Agency for Industrial Financing (<u>Agência Especial de Financiamento Industrial</u>)
FHF	Federal Highway Fund (<u>Fundo Rodoviário Federal</u>)
FURNAS	<u>Furnas Centrais Elétricas</u>
GCIS	Consulting Group for the Steel Industry (<u>Grupo Consultivo da Indústria Siderúrgica</u>)
IAA	Sugar and Alcohol Institute (<u>Instituto do Açúcar e do Alcool</u>)

IBDF	Brazilian Institute of Forest Development (<u>Instituto Brasileiro de Desenvolvimento Florestal</u>)
IBGE	Brazilian Institute of Statistics and Geography (<u>Instituto Brasileiro de Geografia e Estatística</u>)
IBRASA	<u>Investimentos Brasileiros S.A.</u>
IBS	Brazilian Steel Institute (<u>Instituto Brasileiro de Siderurgia</u>)
IDB	Inter-American Development Bank
IFC	International Finance Corporation
IMF	International Monetary Fund
INPA	National Institute of Amazon Research (<u>Instituto Nacional de Pesquisas da Amazônia</u>)
INPI	National Institute for Industrial Property (INPI)
INTERBRAS	<u>Petrobrás Internacional</u>
IPEN	Nuclear Energy and Research Institute
IPES	Institute for Economic and Social Research (<u>Instituto de Pesquisas Econômicas e Sociais</u>)
IRDB	International Bank for Reconstruction and Development
ITAIPU	<u>Entidade Itaipu Binacional</u> - Itaipu Binational Entity
ITAMARATY	Ministry of Foreign Relations (<u>Ministério das Relações Exteriores</u>)
ITAMON	Itaipu Industrial Construction Ltd. (<u>Construções Industriais Ltda - Montagem Eletromecânica da Hidrelétrica de Itaipu</u>)
IUEE	Sole Tax on Electric Energy (<u>Imposto Unico sobre Energia Elétrica</u>)
IUCLQ	Sole Tax on Liquid Fuels (<u>Imposto Unico Sobre Combustíveis Líquidos</u>)
ITT	International Telephone and Telegraph Co.
KWU	Kraftwerk Union
LIGHT	Brazilian Traction, Light and Power of Canada,

LMSA	Light Metal Smelters Association
LTN	Bills of the National Treasury (<u>Letras do Tesouro Nacional</u>)
MDB	Brazilian Democratic Movement (<u>Movimento Democrático Brasileiro</u>)
MIC	Ministry of Industry and Commerce (<u>Ministério da Indústria e do Comércio</u>)
MRN	<u>Mineração Rio do Norte</u>
MME	Ministry of Mines and Energy (<u>Ministério das Minas e Energia</u>)
MF	Ministry of Finance (<u>Ministério da Fazenda</u>)
NAAC	Nippon Aluminum Amazon Corporation
NAI	Nuclei of Articulation With the Industries (<u>Núcleo de Articulação com a Indústria</u>)
NUCLEBRAS	<u>Empresas Nucleares Brasileiras S.A.</u>
NUCLEN	<u>Nuclebrás Engenharia S.A.</u>
NUCLEP	<u>Nuclebrás Equipamentos Pesados S.A.</u>
OAB	Brazilian Bar Association (<u>Ordem dos Advogados do Brasil</u>)
ORTN	Bonds of the National Treasury (<u>Obrigações Reajustáveis do Tesouro Nacional</u>)
PAEG	Government Plan of Economic Action (<u>Plano de Ação Econômica do Governo, 1964</u>)
PCB	Brazilian Communist Party (<u>Partido Comunista Brasileiro</u>)
PDS	Democratic Social Party (<u>Partido Democrático Social</u>)
PDT	Democratic Labor Party (<u>Partido Democrático Trabalhista</u>)
PETROBRAS	<u>Petróleo Brasileiro S.A.</u>
PETROQUISA	<u>Petrobrás Química S.A.</u>
PIN	Nacional Integration Plan (<u>Plano de Integração Nacional</u>)

PMDB	Party of the Brazilian Democratic Movement (<u>Partido do Movimento Democrático Brasileiro</u>)
PND	National Development Plan (<u>Plano Nacional de Desenvolvimento</u>) (I and II)
PNDIMNF	National Program for the Development of the Non-Ferrous Industry (<u>Programa Nacional para o Desenvolvimento da Indústria de Minerais</u>)
PORTOBRAS	<u>Empresa Portos Brasil S.A.</u>
PP	Popular Party (<u>Partido Popular</u>)
PSD	Social Democratic Party (<u>Partido Social Democrático</u>)
PT	Worker's Party (<u>Partido dos Trabalhadores</u>)
PTB	Brazilian Labor Party (<u>Partido Trabalhista Brasileiro</u>)
RFFSA	Federal Railway Network (<u>Rede Ferroviária Federal S.A.</u>)
SBPC	<u>Sociedade brasileira para o Progresso da Ciência</u>
SEPLAN	Secretary of Planning (<u>Secretaria de Planejamento da Presidência da República</u>)
SEST	Secretariat of State Enterprises Control (<u>Secretaria de Controle das Empresas Estatais</u>)
SIDERBRAS	<u>Siderurgia Brasileira S.A.</u>
SIPRON	Parallel Program (<u>Serviço de Proteção ao Programa Nuclear</u>)
SNI	National Information Service (<u>Serviço Nacional de Informações</u>)
STI	Secretariat for Industrial Technology (<u>Secretaria de Tecnologia Industrial</u>)
SUMOC	Currency and Credit Superintendence (<u>Superintendência da Moeda e Crédito</u>)
SUDAM	<u>Superintendência do Desenvolvimento da Amazônia</u>
TELEBRAS	<u>Telecomunicações Brasileiras S.A.</u>
TELESP	<u>Telecomunicações de São Paulo S.A.</u>
UDN	National Democratic Union (<u>União Democrática Nacional</u>)

USELPA Usinas Elétricas Paranapanema
USIMINAS Usinas Siderúrgicas de Minas Gerais S.A.
UNICON Union of Constructors (União de Construtoras Ltda.)
VALENORTE Valenorte Alumínio
VALESUL Valesul Alumínio

GLOSSARY OF TERMS

<u>abertura</u>	the gradual process of political liberalization from the authoritarian rule, begun in 1973 which was transformed into the transition regime under civilian rule in 1985.
<u>autarquia</u>	a semi-independent government body.
<u>Castelista</u>	a supporter of Castello Branco, the first General-President (1964-67). The internationalist faction of the military, which derived their ideology from ESG when Castello Branco directed it.
<u>Diretas Já!</u>	the mass campaign for direct presidential elections during the first semester of 1984, which ended up with the defeat of the Dante de Oliveira Amendment proposing direct elections in November 1984. As a result of the defeat, Tancredo Neves was able to gather support for his indirect election through the Electoral College.
<u>estatização</u>	"statization," or the process of expansion and diversification of state intervention and control over the economy.
<u>empreiteira</u>	a large civil construction company.
<u>empreiteiro</u>	the owner or the executives of large civil construction companies.
<u>Geiselista</u>	Supporter of Ernesto Geisel, the fourth General-President (1974-79), which followed the footsteps of <u>castelismo</u> , with some nationalist inclination.
<u>grandeza</u>	a predominantly military vision of Brazil's Emerging Power status, "grandeur."
<u>Itaipu</u>	stone that sings, in Tupi-Guaranian.
<u>Itaorna</u>	rotten stone, or stone that moves, in Tupi-Guaranian.
<u>Mineiro</u>	a native or resident of the State of Minas Gerais.
<u>Paulista</u>	a native or resident of the State of São Paulo.
<u>técnico</u>	a public official with university level education in engineering, economics, law, management, usually responsible for presenting alternative

policies in governmental planning and
implementation.

Tucuruí

a green grasshopper native of the Eastern Amazon.

CHAPTER I

INTRODUCTION

This dissertation focuses on the Brazilian state during the bureaucratic-authoritarian regime (1964-85). More specifically it studies two show-case examples -- Itaipu and Tucuruí. Itaipu is the world largest hydropower dam, a binational enterprise with Paraguay spanning the international waters of the Paraná River. The decision to construct Itaipu was taken at a time when geopolitical considerations predominated. Ongoing Argentine-Brazilian rivalry in the Southern Cone, exacerbated by growing Argentine nationalism, convinced many Brazilian elites that national security mandated the construction of Itaipu. The second development project that merits closer examination is Tucuruí, the largest totally Brazilian hydropower plant located in an important mining zone of the Eastern Amazon region. The decision to build Tucuruí included international considerations as well. The aluminum industry was to be the direct beneficiary of the Tucuruí project since it faced higher costs of electricity input in industrial economies as a result of the 1974 oil crisis. Yet even though the project faced severe drawbacks from the unfavorable international industry's prices, Tucuruí continued, defying sound economic planning in favor of grandiose export-led growth.

The underlying assumption of this study is that political power, policy-making and action of the Brazilian state during the bureaucratic-authoritarian regime can be better understood by examining the large-scale programs undertaken in the past decades, like the construction of Itaipu and Tucuruí. The country's economy, apparently doomed to remain in the export-led agrarian model of the oligarchies up to the 1930s, was vigorously redirected toward industrialization during the populist era that swept Latin America in the 1940s and 1950s. As the populist regime exhausted itself in face of transnationalization of production and markets, the Brazilian economy has achieved an unparalleled dynamism and diversification in the course of a few decades.

Both hydroelectric projects were only part of an integrated national development scheme to provide the country with the needed economic infrastructure to industrialize and become an industrial power on its own right. Electric energy became one of the preferred state investment sectors: both the hydroelectric and nuclear power programs were vastly expanded during the last two decades. In the petroleum sector Brazilian production has increased tenfold since the first oil shock, and an Alcohol Program has been instituted to replace, in part, gasoline as fuel for automobile transportation. In the steel-making and mining sectors the state oversaw programs promoting import substitution and the export of non-ferrous semi-processed

products in addition to ores which had been traditionally exported. The state, multinationals, and local capital joined together in a coordinated effort to offset the chronic deficit in the production of fertilizers and petrochemical products. In all these sectors, these efforts were instituted to help Brazil escape from an unprecedented economic crisis brought on by the balance of payments crisis in the mid-1970s and the debt crisis and adjustments of the 1980s.

The development programs and projects that once marked the Brazilian uniqueness in the Latin American development now need to be re-examined, highlighting specific efforts to transform the Brazilian political model of decision-making as well as the economy. After twenty years of authoritarian regime time has come to re-examine a few policy decisions of the period. This re-evaluation can be a learning process on how the decision-making process did not respond to society demands and how it needs to be more responsive on a more democratic regime. Moreover, the recent years's context of decreased capacity to invest,¹ of the state-owned enterprises's operational and financial disarray, and of crippling debt crises (internal and external) is particularly timely to examine the influence of these two prototypical projects on the economy.

The state decisions and actions are here presented as the outcome of an historical, structural, economic, and political process related to the economic development of a particular sort

in a specific social formation. Then, generally, state actions are analyzed from the point of view of specific patterns of development. This broad analysis, however, is not conducive to a complete understanding of state actions; they must also be studied by taking into account the internal dynamics of state apparatuses. This form of examining policy-making and politics demands a conception of the state as both a social relation of domination and as a permanent institutional-bureaucratic apparatus with interests of its own.

An analytical framework for developing these broad lines as a general orientation for concrete analyses is presented in Chapter II. The theoretical aspects of the relations between the state, capitalist development, and society are analyzed, conveying a general concept of the state as a player, influencing and being influenced by the economy and the polity. Within this chapter the specific study of the bloc-in-power and state relative autonomy are defined as analytical references for the exploration of concrete state actions and politics presented in later empirical chapters. These concepts of bloc-in-power -- provisionally understood as the relationship between political power and the class structure of society -- and of state relative autonomy -- as the manipulation of a state agency under study by dominant classes, other state agencies or international institutions -- shall be relied upon in this dissertation, showing that these concepts provide excellent analytical tools

for better conveying the rich and theoretically important information contained in the case studies.

Analyses of state actions and policies cannot be done, however, without a thorough evaluation of the structure and processes that characterized the pattern of development. Thus Chapter III attempts to address the question through a historical analysis of the Brazilian case. In the past five decades Brazilian development has undergone certain periods characterized by continuities and discontinuities. During the first period, lasting broadly from the late 1930s until the early 1960s, import-substitution industrialization and the state's emergence as a producer in many basic industrial sectors induced deep transformations in the Brazilian economy. The foundations of state intervention in the economy were laid during this period with the creation and expansion of sectoral state productive enterprises in petroleum, steel, mining and electric power.

The watershed year of 1964 marked a rupture with the populist regime and its inclusionary social policies but not with the policy of state intervention in the economy. The exclusionary policies of the authoritarian regime (1964-85), directed towards rapid development of the economy, outweighed the priority given to social policies. Chapters III and IV analyze the three markedly different periods of the authoritarian regime, each having its own political power configuration and its own policy priorities and modes of state action. In the period 1964-

67 an important institutional and political reorganization of the state occurred. These reforms created a renewed financial structure for capital accumulation, facilitated by the increasingly authoritarian character of politics, and setting the stage for further changes. The second period (1967-1974) can be seen as the embodiment of prior institutional-political transformations. The consolidation of the internationalized development pattern associated with the state and with national capital coincided with the increased institutionalization of authoritarianism, which during this period was erroneously thought to be permanent. The economy was once again jolted by a new surge of activity, spurred by accelerated capitalist accumulation generated by special foreign and internal conditions. In the political arena radical opposition was effectively suppressed by the formidable legal and clandestine police-state apparatuses.

During the third period, 1974-1985, crisis shook the pattern of Brazilian development on both the political and economic fronts. Neither the institutionalization of the authoritarian order nor the promises of the economic "miracle" had materialized, and the rulers turned a strategy of gradual liberalization ("abertura") that allowed some room for the reorganization and restructuring of the polity. In recent years, especially since 1977, civil society has also reorganized itself, moving from timid factory stoppages to full-blown rallies

demanding "Direct Elections, Now!"² On the economic front, despite an early accumulation drive in capital goods and basic primary input products, a combination of slow growth, recession, high inflation and mounting foreign debt have dominated the scene.

Chapter III and IV reconstruct the decisions on specific policies and state action during these three periods, in an effort to delineate the dynamics of interests influencing the sectoral policies. The analysis focuses on the historico-structural changes of each state sector, presenting the mobilization of different groups, classes and institutions in the politics of each of the sectors. The state actions and decisions are examined taking in consideration the relative state autonomy -- that is, the capacity to decide the sector's own objectives and policies (political autonomy) and the capacity to implement them (financial autonomy).

Chapter IV analyzes empirically the last period, 1974-1985, in terms of the decisional outputs of the last two authoritarian regime's presidential terms (1974-79 and 1979-85) in the fields of energy, industrial and mining sectors, and compares them with results. In this manner not only does the analysis seek to understand the dynamics of the decision-making process by analyzing the actors and their political power, but also how the implementation of the development projects was affected during the years of crises.

Chapter V reconstructs the basic patterns of interest articulation that has marked the formation, decision and adoption of Itaipu Hydroelectric project. Itaipu involved neighboring Paraguay as a partner in the binational enterprise, and Argentina as a potential power contender in the project. Political aspects of the long-term implementation of the project are stressed in order to demonstrate the underlying motives, and to map out how they evolved in subsequent years as the Itaipu project progressed. As this state policy involved a number of specific economic and political interests, they are described along with the question of "autonomy" and the consequences of this policy initiative.

Another important project in the electric power sector is analyzed in Chapter VI, the Brazilian state's decision to undertake the construction of the Tucuruí Hydroelectric Project in the Amazon region. In this chapter, the changing global environment surrounding the implementation of the project is analyzed showing how the articulation of interests have evolved internationally. For example, the Tucuruí infrastructure project viability was directly related to the interests of the international bauxite/aluminum industry and the national mining sector in the Greater Carajás Program -- important players in the export-led strategy of the late 1970s and early 1980s. Yet, even with falling international aluminum prices the infrastructure

project went on unhurt, characterizing an instrument for maintaining economic demand and for the debt adjustment process.

The last chapter summarizes the major empirical conclusions about the public policies and large scale development projects with an attempt to contribute to a conceptual understanding of the articulation of the bloc-in-power and of politics of power in the past two decades. Bringing the analysis up to date, some of the conclusions of this dissertation will explore basic patterns of policy-making and policy implementation observed during the authoritarian, military regime, which were uncovered by the empirical analyses of the case studies. Additionally, this dissertation will try to connect the case studies of state intervention to the question of democracy in Brazil.

Endnotes

1. - The second set of three turbines, out of a total of eighteen, at Itaipu power plant and the nuclear power program have, at the time of this writing, been postponed to suit adjustment policies in the economy.

2. - "Diretas-Já!," was the slogan for the 1984-direct-presidential election campaign in Brazil's major cities.

CHAPTER II

THE STATE, CAPITALISM AND POLICY ACTION

The fundamental role of the state in semi-peripheral societies is one of the principal reasons why recent analyses have focused on the state, not only as a facilitator for private capitalist accumulation but also a major producer of goods and services. The state therefore has played a key part in the accumulation process itself.

It is not clear, a priori, which method is best suited for analyzing of role of the state in semi-periphery countries like Brazil in recent decades. Recognizing that there is no one best method in the social sciences, one can begin by suggesting that any method should at least contain a set of criteria that accurately depict the sources and means of state action. At the very least, such a method should also present the means to evaluate how successful the state policy actions were in promoting and maintaining economic and political stability in peripheral social formations. One of the reasons for concentrating analytical efforts on the state and its policy action is that in past decades the society-centered diffusionist modernization theories, such as Rostow's development stages or Lipset's industrialization-democracy nexus,¹ have lost their explanatory power: stable polity and economy characteristic of

liberal democratic capitalist central societies failed to materialize in these semi-peripheral societies.

Once these premises about the strategic importance of the state are established, the central categories for an analysis of the Brazilian state during the authoritarian experience should convey how the state and state-building are related to the particular semi-periphery economic development and how the state is influenced by the political form of domination. These two relationships are presented in the next sections, drawing from pertinent state, capitalism, and political power theoretical and methodological literature. These categories allow one to analyze the policy process, both in phases of formation and decision, examining how capitalist development imperatives and political domination categories can indicate the nature of the regime and policy output in this particular social formation. By analyzing the state's structures and actions, this framework lays out the actors and power relationships, both within and outside the state, and their mosaic of interests and resources mobilized when these entities interact.

Thus, the perspective set forth in this chapter results from reviewing the Weberian and Marxist literature on capitalist development and state growth, and the literature that deals with the specificity of the dependent-peripheral-capitalist development case. It likewise is dependent upon literature analyzing political power and classes, and how policies and state

action may result from this relationship. This perspective provides insights into the dynamics of specific state action and the policy-making process by addressing the degree of relative autonomy of the decision-makers from the state, state agencies or state enterprises while at the same time defining the relationship between the decision-makers and the dominant classes in a particular social formation. This perspective furthermore addresses the question of shifting interests and powers that mutually shape and structurally transform the patterns of production and of domination that unfold into institutional arrangements. This system of analysis leads to a clearer understanding of the development of specific institutions of dominance and control over determined periods of time.

This chapter will first examine the relationship between the state and capitalist development, including the specificity of development in the peripheral societies. Secondly, the relationship between state bureaucracy and class is examined to elucidate the concept of bloc-in-power, while paying careful attention to Brazilian state enterprises. Thirdly, some of the major theoretical assumptions about the question of state action and state autonomy are addressed, with a particular focus on the Brazilian case.

A. State and Capitalist Development

The development of capitalism in center countries is marked by an increase in the functions and powers of the state over society and economy. While this occurred in democratic social formations, the politicization of socioeconomic activities deepened. A series of activities once thought of as being essentially private became politically controlled and publicly scrutinized. The alternative to the increased conflict over the politicization of the capitalist system was state expansion; that is the submission of all activities to some form of regulation. This power was accompanied by the unprecedented growth and exercise of citizen's rights in the political and social sphere mediated through political organizations and institutions, at least in the liberal democratic social formations.

Historically, capitalism has been associated with the increase in state intervention, either through regulatory policies, services dispensed or directly productive activities. Capitalist development, as analyzed by Max Weber, requires a complex division of labor and new ways to administer economic resources.

For Weber, interpenetration of state and capitalism in concrete historical instances were thought to lead to a higher degree of rationality, state objectivity and neutrality. The

growth of bureaucracy increasingly concentrated management resources in the hands of few. As he stated,

This concentration occurs, for instance, in a well known and typical fashion, in the development of big capitalist enterprises, which find their essential characteristics in this process. A corresponding process occurs in the public organizations.²

Efficiency and profit motive were fundamental causes for the bureaucratization process. Therefore capitalist economic transformation was the main force behind growth of the state:

Today it is primarily the capitalist market economy which demands that official business administration be discharged precisely, unambiguously, continuously and with as much speed as possible. Normally the very large, modern capitalist enterprise are themselves unequalled models of strict bureaucratic organization.³

Despite the state neutrality and objectivity conveyed by Weber, the state has been historically associated with determined interests. The capitalist relations of production have evolved in conjunction with the separation of the public and private arenas previously joined under feudalism. This meant separation of producers from their means of production, the separation of the state from production, and the separation of the coercive functions from individual production units. As capitalism transformed the relations of production, it required increased protection from the state in order to successfully

implant the new mode of production. These developments contributed to the increase in the coercive capacities of the state, beginning first with the domination of a territorial base and then going on to surplus extraction and increased differentiation of the state itself.⁴

Marx's work is a richly detailed account of capitalist relations of production, but little is said about the social relations of domination in the sphere of the state and its formation. Nevertheless, the relationship between the expansion of the bureaucracies results from the association of interests linking the state bureaucracies to the capitalist class. For Marx, the emergence of a relationship between state-capital requires increased complexities, refined capacities, and technologies of production, assuming a simultaneous growth of the state, exactly because the state is a contradictory expression of the economic transformation.⁵

When examining late-peripheral capitalist social formations the distinctive characteristic of capitalist development is its dependent nature. Three variants of dependency (dependência) theory have been developed in the last decades. Gunder Frank proposed that the dependent capitalism was nothing but a form of development of underdevelopment, limited by metropolis impositions. It focused on the process of accumulation in the metropolis rather than the mediating process of accumulation taking place in the periphery.⁶ Since it is

impossible to have autonomous capitalist development in the periphery, according to this strand of dependência theory, the result is continued underdevelopment. Marini and Dos Santos criticized this strand of dependência because of its faulty premises: instead of centering the analysis on internal class relationships, the state, and struggle within the societies, it focused on how the center industrial capitalism would prevent changes from occurring in the periphery. However, two of the outcomes predicted -- regional subimperialism by the more advanced peripheral economies and revolutionary social movements -- only occurred partially.⁷ The assumptions ignored the fact that peripheral industrial accumulation involve accommodations of interests, both on the periphery and the center, not fulfilled by prior capitalist development.

In another variant of dependência, which chronologically pioneered these studies, the Economic Commission for Latin American (ECLA) economists, led by Argentine Raul Prebisch analyzed Latin-American capitalist development mapping its mono-culture and extractive economic activity. The nature of capitalist development required positive state intervention through a policy of import-substitution-industrialization designed to increase purchasing power, create jobs, and to bridge the technology gap thus offsetting the lack of economic integration and reducing vulnerability of export-oriented economy.⁸ It also prescribed the dependent states to reform

education system and institute agrarian reform. To placate the national capitalist class, increasingly threatened by populist politics, this model foresaw the state defending infant industries against hostile foreign capital, and stimulating demand via state-owned enterprises.⁹ The structural limits to import-substitution-industrialization predicted by theorists of this strand of dependência, however, were out of date by the late 1960s. The advent of bureaucratic-authoritarian regimes in Latin America led to capitalist development, opposed to what was argued.¹⁰

The third strand of dependência takes into account the exhaustion of the expansion of capitalist development in center countries, the process of internationalization of markets and production in association with domestic capital. Because of this exhaustion, the political situation in specific periphery societies, in particular in Brazilian society, has deteriorated, leading to an opening of the economy toward the outside. A parallel required condition was political stability.

Dependencistas of this branch have striven to demonstrate that capitalist development is possible in the periphery, despite its "distortions." The uniqueness of this branch of dependência was its associated-development character which required state intervention to mediate, channelling and altering the direction of capitalist development.¹¹ In a further study departing from previous ECLA or dependência studies under "development of

underdevelopment" or imperialism viewpoint, a crucial difference has been observed. The broadened role that the state previously performed -- i.e., the regulation of the economy and direct involvement in a few strategic sectors of the economy -- was now deepened. The state now invested in industrial and productive enterprise, either alone or in joint ventures involving transnational or national capital.¹² Both the specificity of the state as productive enterprise acting in the market and its specificity as state agency have occurred.¹³

The double insertion of public enterprises requires future analysis to focus on the state's intervention in the economy as being an answer to structural deficiencies, such as the ever-important task of providing basic economic inputs and infrastructure while occupying strategic sectors, and to focus on the state's specificity as an organization that at least in theory represents the public interest. Thus these economic institutions have a political dimension of their own, being then, the site of articulation and channeling of conflict in class interest in the society and economy.

State enterprises act as private firms but they do not give up their interventionist role. State-owned enterprise, inserted in the market, become agents of capital accumulation, entering markets in which the costs of enticing private capital to invest are greater than the costs of state entrepreneurship. State enterprises act in the essential, though less dynamic

sectors of the economy. Additionally the policies of state enterprises can stimulate new waves of private sector investment. By directly affecting the capital goods sector through procurement policies, state enterprises become in fact, growth sustainers by first

... ensuring that they follow up investment initiated elsewhere in the economy,... [as it] augment[s] demand for their goods and service. Secondly ... they provide basic social overhead capital essential for private capital accumulation and inputs of general use.¹⁴

Having examined the relations between the state and the capitalist economy with its specific dependent peripheral character and having also identified the forms taken by the state in its entrepreneurial form, an examination of the political relationships of the state with classes and class interests is now due.

B. State, Political Domination, and Public Policies

In a determined social formation of capitalist nature there are classes, institutions and players that contend for power to politically control the relations among the dominant and dominated classes. Specific segments of the dominant class make up the governing class -- or the "bloc-in-power"¹⁵ -- and the bureaucratic apparatus of the state. Each of these relations

reflects political practices that inform and contribute to the formation of public policies, representing demands from both the dominated and dominant classes . There are also sets of relations representing the mediating institutions of the state-society relations which may be political parties, patron-client relations, or other forms of corporatist representation. The political arena is the site where the interests and practices are played to change and direct policy in the struggle for its formation.

Political domination, or the distribution of power that is inherent to policy struggle, is a reflection of the state's relationship with society. In a democratic regime, political domination entails power distribution being more spread out and being held by different competing economic, ethnic, social groups. The process of power distribution and the characteristics of the continued unfolding of new arrangements reflects changes in the structure of power. In authoritarian regimes, which can assume different forms, political domination produces a particular pattern of policy output and a specific set of beneficiary classes. Personalist domination patterns, portrayed by a caudillo or a junta, whether civil or military reflects passive acceptance of domination. Bureaucratic-authoritarian exclusionary¹⁶ regimes have coercive capacities to impose public policies that benefit select groups. Inclusionary authoritarian regimes fit the same bureaucratic pattern but

reveal a limited engagement of select organized sectors creating the veneer of legitimacy absent from the exclusionary regimes. Other authoritarian capitalist regimes have been studied but they do not reflect Latin American regimes in general, or the Brazilian case in particular.¹⁷

The mechanisms of interest representation can likewise be classified in pluralist societies where a vast number of organized interest compete for policy adoption. Corporatism is one mode of sector representation in society yet corporatism manifests itself differently in a democratic or authoritarian regimes. Whereas in democratic regimes it assumes a consociational form,¹⁸ in the authoritarian mode of political control corporatism is ambivalent. On one hand, its "statizing" face is responsible for the growth of the state in areas already "statized" and beyond. On the other hand its "privatizing" shows segmented state institutions opened to organized interests' representation.¹⁹

1. State and Classes

The intrinsic character of the political domination is the existence of a set of separate classes, both dominant and dominated. Discussing the presence of a dominant class does not automatically and a priori imply, in class perspective of analysis between class and the state, that there is a ruling or

governing class, as defined in the Gramscian concept bloc-in-power. Political power in dominant classes does not translate into state power by fiat. The relation between state and classes needs to be systematically researched. Better understanding this relationship, its dynamics and results, can better elucidate these relations in specific social formations and specific periods of time.²⁰ Consistent examination of the state-class relationship gives better epistemological results when accompanied by simultaneous examination of public policies under the optics of a determined regime type.²¹

To focus our analytical framework on the relationship between state and class and their consequent policies and regimes, one should examine the three separate methodological approaches recently presented by Neo-Marxists. To some, expanding on Marx's and others' writings,²² instrumental class analysis examines the power resources that classes have that can be mobilized when articulating with the state in specific moments of policy formation. As it is based on decision reconstruction techniques of analyzing group access to policy-making so it also resembles pluralist analytical method of political domination.²³ Yet this instrumentalist version of class analysis is a re-edition of managerial/elite approaches. Simply examining the background and institutional affiliations of elite members²⁴ and looking at socialization processes , education and the kinship relations of public officials are inadequate for

determining the degree of power held by elites. The assumptions at work here deal with the affinity between state officials and dominant classes, as they have same interests, same background, same socialization.²⁵

Secondly, the Neo-Marxist structural approach, however, concentrates instead upon the rationality or the internal logic of capitalist modes of production that imposes structural limits to voluntaristic state action favoring the capitalist class. The structuralists claim that just declaring that the state serves the capitalist class from background/reputation analysis, or from decision reconstruction, as the instrumentalists do, is insufficient to prove effective enlace (correlation) between state policies and dominant classes because, as Poulantzas points out,

The direct participation of the members of the capitalist class in the state apparatus and in the government, even when it exists, is not the important side of the matter. The relation between the bourgeois class and the state is an objective relation. This means that if the function of the state in a determinate social formation and the interests of the dominant class in this function coincide, it is by reason of the system itself: the direct participation of the members of the ruling class in the state apparatus is not the cause but the effect, and, moreover a chance and a contingent one, of this objective coincidence.²⁶

The fundamental advantage of this structuralist version over the instrumentalist approach is that it provides an

explanation of why policy outputs in capitalist social formations reflect the interest of capitalism, even when the capitalist class is not in direct control of or does not exert influence over the decision-making within the state apparatuses. However, there are drawbacks to this approach. The most important one is the extraordinary difficulty in determining precisely how the capitalist mode limits state action at any historical moment. Miliband, in reply to Poulantzas, has pointed out the difficulties of realizing just how constraining are those 'structural constraints' set out by the structuralists.²⁷ Additionally, the structuralist version fails to give an account of what are the political mechanisms that guarantee that the state is in fact captured by the capitalist class. Specifically, critics fault the structuralist version for not explaining the concrete mechanisms that the state uses to generate policies necessary to maintain capitalism.²⁸ Moreover, this version of class analysis does not consider the possibility that class struggle may force the state to adopt policies that are detrimental to capitalist accumulation.²⁹

Finally, recent works on the state, political control and public policies, recognizing that conceptual problems cannot be fully overcome, have come closest to understanding class, society and state relationships by utilizing both instrumentalist and structuralist methods. The state must be conceptualized as structurally limited by the internal logic of the mode of

production and also as a set of institutions and agencies subject to manipulations by dominant classes and class fractions. As a corollary, the degree that policies can be understood by one or the other method is, then, "historically contingent."³⁰

In some historical periods state policies can be explained as the self-reproduction of the state-structure, dominating and controlling demands from society. In others state policies are subject to manipulations by the dominant class and fractions thereof. The extent of state action and policies that can be understood by either causal categories is always subject to empirical verification. So, as Gold, Lo, and Wright state,

The state is always relatively autonomous: it is never completely autonomous (that is, free from active control by the capitalist class) nor simply manipulated by members of the ruling class (that is, free from all structural constraints).³¹

Because the relations among state and classes convey policies according to the political organization of the dominant classes the methodology for analysis of state action also offers a dynamic model of how the bloc-in-power shapes class struggle in society and how, in turn, the conflicts over policy within the bloc-in-power and the state are shaped by the same societal organizations, institutions, state actions and conflicts that it helped create.³²

C. State Action: Structural Duality and Autonomy

The previous sections have shown how state intervention and the state bureaucratic apparatus can be related, both when performing regulatory functions and when intervening directly in productive activities in the economy, particularly the late peripheral dependent ones. It also examined the political implications of the power structure in a class divided society may have when discussing the way public policies relate to specific regime-types or mechanisms of interest representation. This section presents some clues to why state interventions are preferentially performed through state enterprises showing how these are structurally dual institutions and how their autonomy can variate according to different state actions. In the course of this section some preliminary hypotheses about state autonomy will be presented, particularly state enterprises autonomy and policy action, which will be investigated later.

Some authors concerned with the role of state enterprises, emphasize the question of autonomy to extremes, considering all possibilities for state action, while others tend to reduce the importance of autonomy placing emphasis on objectives and financial environments.³³ This framework will consider state objectives, i.e., programs, projects and financial schemes, juxtaposed to the concept of autonomy, since objectives

and their financing are central to policy formation and decision. Autonomy, then, is a central variable to be investigated, when analyzing development programs and their projects/policy output.

State enterprises are instruments for intervening directly in productive and infrastructure activities. As such, there are political and economic determinants for the state choosing a specific form of intervention. Some of the economic factors frequently cited are the provision of basic inputs, maintaining the level of employment and the importance of occupying strategic sectors thus replacing both local and foreign capitalists who are risk averse or financially limited.³⁴ Although most reasons focus excessively on production of technical or economically vital strategic supplies, state enterprises have appeared under political determinants as well. For example, states launched numerous projects under the influence of development ideology and motivations relating to a particular political project on one hand,³⁵ or because they desire to set up a site for articulation and compromise of competing interests.³⁶

As different as these determinants may be, they apply to different patterns of creation and evolution of state enterprises, both within and across social formations. However, in late capitalist social formation, the general determinants are the objective requisites of capitalist development. Political or ideological considerations are less

crucial in late capitalism of Latin America than they were in Gerschenkron's view for late-comers in Europe. Historical and structural factors caused Latin America's late industrialization to impose requisites on the economy that could only be met by state intervention. Only states have the financial capacity for long-maturing, low-return activities which private capital is unwilling to undertake or to which there have been determining events, such as wars or internal conflicts, that obligated the state to fulfill.³⁷ Political or ideological considerations are, nevertheless, important when one considers that state enterprises are not merely separate policy-making and decision-making arenas, each pursuing its own goals according to the nature of the activity, but rather a coherent totality where directions are given by governments and "headed, and more or less well coordinated, by an executive authority."³⁸

As noted earlier, some of the Marxist theory of the state literature emphasizes the objective requisites of capitalist development -- the interests of local and foreign capital -- that force the state to provide basic inputs for their conditions of existence. These Marxists theorists also stress the fact that private capital has no interest in performing low return, long-maturation activities. Opposing this Marxist view, non-Marxist literature draws attention to market failures and comparative advantages that state enterprises have with respect to their financial capacities.³⁹ In both cases the state is

responsible for duties which serve the objective requisites of capitalist development. Initially the state promotes infrastructure and development while protecting infant industries.⁴⁰ These policies are usually followed by state intervention in other industrial and productive activities as the objective requisites become more complex, requiring greater sums of investments for large-scale projects.

However, this model of state supported development does not fully explain, nor does it possess the internal consistency necessary to understand state ownership in late capitalist social formations of Latin American states -- especially the most advanced ones: Mexico and Brazil. It also fails to explain why the form and extent Brazil and Mexico's late industrialization included extended support of the state by international capitalist institutions. In fact, this has forced the state to act in accordance to exogenous structural factors, turning the state into a last resort of the dynamics of international capital.⁴¹ Furthermore, viewing the state as responsible for objective requisites of capitalist development alone does not fully illuminate the constraints imposed on the state by the process of internal class interaction. And reversely, this also avoids viewing the state as occasionally being "for itself," i.e. fully autonomous from class and class interests as if no other social group has power enough to control it and push forward its own project.⁴²

Therefore, demonstrating need for state enterprises is not enough to understand the creation and growth of state enterprises and their actions in late capitalism; a more complete analysis must look into capacities to promote capitalist accumulation while highlighting historically constraints and causal linkages.⁴³ This analysis specifies the mechanisms by which the capitalist imperatives and political demands of the dominant classes are translated into state enterprises policies and actions. As seen earlier, by viewing the state as a reflection of dominant classes, the Marxist instrumentalist version fails to specify that link. In other non-Marxist analyses the state is viewed, irrespective of class struggle, as a rational response to problems in the economy and efficiency considerations. But this approach also fails to specify the mechanisms mentioned above inherent in policy formation. Both versions do not provide an integrated approach to investigating the nature of the state.

An integrated approach, then, should try to understand the process of a state enterprise's appearance and growth while relating state-building to the capitalist development processes, and the state to society relationships. These relationships must be analyzed not only in the confines of national boundaries but also considering the

...embeddedness of nations in changing transnational relationship, such as wars and interstate alliances or

balances of power, market flows and the international division of labor, and patterns of intellectual communications or cultural modeling across national boundaries.⁴⁴

This international dimension highlights the vulnerability of late capitalist social formations with respect to international financial crises, the dependency situation in a process of capitalist accumulation, and the lack of sovereignty with respect external actors or crises that affect domestic economies.

These state enterprises' actions should also be inserted into the broader political process which translates the struggle over objective requisites into problems and policies to be tackled by the state. This sets the stage for examining competing projects and interests. State enterprises, not being static entities performing routine tasks, are rather part of a political process that mediates interests and demands of diverse forces while at the same time defending their own interests. As power struggle unfolds, the state enterprises's actions involve attempts to enlarge their own jurisdiction, attempts to mobilize external and internal resources and allies and attempts to coalesce with other agencies engaging in long-range commitments and projects involving multi-actors.

Assuming this view is correct, it then supersedes the solely entreguista logic or the "solidarity of interest" logic by which the state enterprises set up programs and projects only to provide crucial basic inputs for multinational firms.⁴⁵ It

also goes beyond the "state for itself" logic which purports a plot to capture the state by military or technical elites. It also contradicts the models that view state enterprises as rational and pragmatic responses to structural economic problems.⁴⁶ All of these views avoid approaching the state as part of an essentially political process of decision, embedded in historico-structural analysis of state building and state action.

1. Structural Duality

The establishment of state enterprises was closely related to the initial economic and political conditions of capitalist development in early stages of industrialization. Subsequently, state enterprise actions bring forth additional analytical preoccupations. State enterprises's actions occur simultaneously in the context of market forces and of micro-economic interests, and in the context of political forces and macro-economic interests. Organized in this manner, state enterprises are recurrently referred to in the debates over their role in capitalist economies as dual structural units: that is, both a distinctive form of state agency and at the same time, a special form of private enterprise. This ambiguous identity results from its double insertion on different spheres of social relations that have a particular logic of action, and are at

times contradictory: the state apparatus and the market economy.⁴⁷

It is important to observe their specific organizational format and the particular strategies of intervention as market inserted organizations producing goods and services. Obviously, the nature of the activity, its degree of concentration and the spectrum of articulations within sectors, influence state enterprises' behavior. Some sectors, related to external markets, submit to pressure from the international economy and sector's capital interests. As an illustration of this phenomenon, take for example the Brazilian state mining sector which has been historically dependent, in large part, on foreign markets located in the industrial economies.⁴⁸

Technical factors and industrial dynamics are elements constraining the micro-economic level of state enterprise operations because they face the same social relations of production as private economic units. So profit motive, market competition, and pricing policies are internalized by state enterprises that assume an unlikely role of an entrepreneurial organization within the state.⁴⁹

Yet, exactly because they perform a public function, state enterprises face macroeconomic and political constraints by reason of their involvement in social/political relationships within society (i.e. classes, clients, suppliers, employees).

This implies that state enterprise practices are ambiguous. They sometime act as private enterprises involved in competition for markets and resources, profit maximization, the logic of capitalist accumulation and an antagonistic social relations of production with their employees. But they remain state apparatuses: their practices are political, conforming to a larger "public interest", dictated by centralized authority and/or political demand from society.

State enterprises's practices will be more market-oriented or more public interest-oriented depending on the nature of the goods produced or services performed. If goods and services are sensitive to political factors (fuel, electricity), then state enterprises will have dual behavior, oscillating between preoccupation with efficiency when procuring goods and services to be delivered to society⁵⁰ and preoccupation with politics when pricing the same goods and services.

The structural duality of state enterprises allows them access to resources not readily available to private firms or other state agencies, such as income from the sale of goods and services, access to internal and external financial markets and stock issuance in the country and abroad. State enterprises outcompete private enterprises in the labor market as well, attracting executives with competitive salaries other state agencies cannot offer either. Furthermore, as state agencies, they have privileged political access which permits them to

maintain institutional conditions fostering their permanence as legitimate state units.

While state enterprises contain a structural duality oscillating between private concern and public interest behavior, this does not mean that they operate solely in one manner or another. By having dual logic of action, state enterprises can only seek to expand their operations if the expansion can be politically justified or reflect the public interest. Project and program expansions, then, must be legitimized under a set of negotiated objectives, defined under the general political direction of the central authority. The legitimation process will depend on the regime, which can take several forms: plebiscites, legislative votes, or negotiations under the form of exclusionary or limited inclusionary politics.⁵¹ At the same time when implementing programs and projects, state enterprises fight to maintain autonomous action unencumbered by other forces.⁵²

This leads to another question: that of state autonomy and its particular subcategory of state enterprise autonomy.

2. State Autonomy

The variable "state autonomy" is related to the state - polity, state-economy and intra-state agencies relationships. Whereas on the broader level, state action is related to the

general political forces guiding and establishing the rules of the game, that is, the scope and limits of political transactions among social classes; on a more specific level the "bloc-in-power," or the "classe governante," organizes the political guidelines that shape political practices that in turn structure the policy process.

Understanding the policy-making process, as an essentially political process, includes determining the political contexts in which policy decisions are made. One of these contexts is the agency-society context (state enterprises for that matter) where all actors, classes, and class interests outside the state negotiate and define policies. The second, is the politico-institutional context where intra-state rivalry, or competition within the same sector are played out; this is best exemplified by highly centralized Presidential decision-making councils. Thirdly, the international relations context illuminates the relationships between internal and external forces. These relationships can be both with actors in the more advanced industrial centers (banks, clients) and with actors in nations in the immediate regional range.

Once policy-making as a political process is established in one of these specific contexts, a few dimensions of state autonomy in the policy-making process can be examined. State enterprise action, inserted into one of the three contexts mentioned above, will consequently be more autonomous or more

dependent in relation to class and class interest, to other agencies and institutions that compete in the state apparatus, or to national interests. It should be noted that the state is not simply a conglomerate of bureaucratic agencies where certain sectoral interests are played out. The state has different sites for interest articulation at various levels and jurisdictions, which allow for intra-sector and inter-sector negotiation and accommodation.

Having acknowledged the existence of the many sites for interest mediation and conflict resolution in the state apparatus (agencies, state enterprises, and other bureaucracies), state policy-making and action is an outcome of the effective capacities to decide on policy initiatives and pursue policy objectives. As far as state autonomy is concerned, the policy process will be a function of (a) the primacy of the policy area or the sector within the capitalist development and economy measured by the weight and strategic position of the sector with respect to the overall economy; (b) the importance or primacy of the institution, i. e. the relative position of the agency or state enterprise in the state structure, with an account of how the institution gained or lost prominence over time, due to shifting importance on policy area or the amount of resources managed; and (c) the availability and management of resources at the disposal of the state agency or enterprise which should be evaluated in terms of quantity and degree of control. To further

clarify the autonomy variable, the concept of "resources" needs to be refined into power resources and managerial resources; both of which cannot be evaluated resorting only to quantitative evaluation.

Detailing resources, it can be seen that power resources involve both political power and institutional power. Political power resources are related to the primacy position of an agency. Their political power, existing because of its hegemonic position in the state power and authority structure, reflects the acquisition of powers and capacities to influence the political process of state action and policy-making.⁵³ As state enterprises relate to the dominant sectors of society they are capable of selecting interests and groups for articulating, aggregating and organizing interests inside the state. Political power resources will provide the capacity to allocate other resources and decide on policies. Political power resources are revealed by determining state enterprise's capacity to coerce or induce other interests. The more central agencies are in control of strategic information the more political power they have. The political autonomy of an agency or state enterprise then depends on the agency's being an arbitrating sphere where dynamic interests are played out. By becoming the center of mediation among conflicting interests the agency becomes more autonomous from other power holding agencies and social classes.

Institutional power resources represent effective capacity to enlarge an enterprise's role in state decision-making and action capabilities. This is reflective of the institutional capacities to define an appropriate area of policy, including the coordination of other agencies and overseeing allocation in a particular sector.

Institutional power resources are then another aspect of political power resources available to an agency. The autonomy or dependence of institutions will be a reflection of the capacities described above.

Managerial resources are probably the most critical factors distinguishing sectors and agencies from one another. They can be classified into financial resources, and into administrative/technical capacities intrinsically involved in the process of decision-making and state action.

Administrative or technical resources will provide the requisites of an agency to act and decide. So the ability to compete in the labor market for executive and technical personnel strengthens or diminishes managerial autonomy. For example, in the communications and telephone state sector enterprises, Embratel (Empresa Brasileira de Telecomunicações S.A.) and Telebrás (Telecomunicações Brasileiras S.A.) have amassed vast amount of technical/administrative expertise, which in effect increased these state agencies autonomy in the formulation and

decision of policy for the sector. Whatever was decided by these two companies was the state policy for the sector.

Dependence on budgetary appropriations hinders state agency autonomy. State agencies will seek financial sources which are negotiation-free (for example, automatically appropriated funds) while at the same time they will seek to increase self-financing capability.

In addition, a state enterprises will avoid to become dependent on an exclusive source of funding for its action. When lacking the capacity for self-financing, state enterprises will procure diversified, flexible sources in such a way that its finances will not suffer if one source is lost by being able to compensate its budget from other sources.

The state enterprises and state banks have the privilege to invest capital and disregard pressures from the institutions which provide the funds and any other outside interference, except those originating from central decision-making agencies. Effective long term control of financial resources is a necessary but not sufficient condition for achieving a high degree of relative autonomy.

D. Concluding Remarks With Some Hypotheses About the Brazilian State Action

The above review of the literature on capitalist development and political power provides a theoretical framework

for analysis of state action, with special emphasis on the dependent, peripheral, late industrialized capitalist social formation of which Brazil is a prime example. Since Brazil has a capitalist state geared to, in general, favor capitalist accumulation, then the central questions become why and how has this process of capital accumulation been favored by the Brazilian state.

In general terms, why is related to the class structure of Brazilian society; therefore any answer to why Brazilian state favored capitalist accumulation has to describe classes within the context of bloc-in-power: the class composition, the ways classes have become part of it, the conditions for dominating excluded classes and, most importantly, which class fraction predominates.

A discussion of how capital accumulation took place necessarily entails a historico-structural analysis of policy areas and policy outcomes that identify which interests, classes and class fractions have been favored in the process of capitalist development. Once the answer to the question of how capitalist accumulation has been arrived at, it then becomes important to analyze recent state action to better comprehend the Brazilian process. This is best done through an analysis of elites and institutions involved in public policy-making and through reconstructing fundamental policy decisions for state action. For this purpose I have selected two case studies, the

Itaipu project and the Tucuruí project, both of which exemplify the mobilization of Brazilian and international capital and direct action by the state.

One of the key indicators of the process of state-civil society relations emerging from the literature previously discussed is state autonomy, whose major components were described before but that have also been encapsulated by Theda Skocpol in the following passage

State autonomy is not a fixed structural feature of any governmental system. It can come and go. This is true not only because crises may precipitate the formulation of official strategies and policies by elites or administrators who otherwise might not mobilize their own potentials for autonomous action. It is also true because the very structural potentials for autonomous actions change overtime, as the organizations of coercion and administration undergo transformations, both structurally and in their relations to societal groups and to representative part of government.⁵⁴

Thus, this dissertation focuses on the autonomy of the state to formulate and implement public policies during the last two decades. It examines the process of capitalist development that occurred under the military regime, and it will distinguish two characteristically different policy-making processes that took place under the aegis of this authoritarian regime. During the first period (1964-1974) a hypothesis of high degree of relative state autonomy can be presented. Analyzing the class alliance of the bloc-in-power and the specific policy outputs -- that is, the

role of the state in the economy, the role of foreign capital, and the role of repression against political forces -- serves the purpose of demonstrating the dynamics of making and implementing policies. We expect to provide the elements which determine the high degree of relative state autonomy on a selected number of state policies under study and, in particular a thorough analysis of the Itaipu Binational Project.

An adequate understanding of the 1964-74 period -- of the insulated phase of the authoritarian regime -- is important for at least two reasons. First, many have extracted important lessons from the Brazilian military exclusionary regime and have applied them to other countries, not only in Latin America but elsewhere in the Third World. One often-heard statement is that Brazilian high economic growth rates were due to the severe repression imposed upon the opposition and to authoritarian exclusionary policies which have systematically favored capital in detriment of labor. Therefore it was argued that modernization and development predominantly occurred under authoritarian and non-democratic regimes.⁵⁵ Second, that authoritarian insulated, exclusionary regime represented a temporary phase which could not last if Brazil was to transform itself into a developed, middle-range power, according to the blueprint established by the military. A less authoritarian regime, a new international alliance and a revamped economic model capable of dynamizing the Brazilian economy was necessary

to achieve that. Thus the importance of discussing these topics for they may provide clues to future political and economic directions in Brazil and in Latin America.

The Brazilian authoritarian regime (1964-85) arose with the failure of efforts to consolidate a hegemonic arrangement within the bloc-in-power. Increased praetorianism reduced state autonomy during the period immediately preceding the 1964 coup d'etat. With none of the classes powerful enough to attain hegemony over the other participants in the alliance -- a typical Latin American pre-coup situation -- the military became the sustainers of the power pact, stepping into power and promptly de-activating civil society's instruments of interest representation (unions, parties, universities, armed forces's low-rank organizations, peasant organizations) through repression and suppression of political life.⁵⁶ Not only did the military close institutions and use physical coercion to intimidate leaders and activists but it also employed ideological instruments to encapsulate the interests of society in a bureaucratic and authoritarian manner.⁵⁷ It can be inferred from the available literature that the expansion of state autonomy in the period subsequent to 1964 was effected to insulate the state from demands from both the dominant and the dominated classes while expanding it into sectors crucial to maintaining the authoritarian character of the regime, i. e., the security and information communities, the national security

organizations, the financial and extractive capabilities and the strategic productive and infrastructure areas of the state. While some policy areas and class interests remained on the sidelines, other areas were captured by the capitalist classes and interests.

No single hegemonic class fraction gained control of the state and attained policies favorable to its particular goals. In fact there has been a symbiosis of interests in certain areas as shown by Evans.⁵⁸ How these classes articulated, either among themselves or with the state elites and institutions and how they managed to gain the upper hand or to lose it, is an indicator of the competition among the fractions of the capitalist class for policies within the state. Which class managed to ally formally or informally with the military center of decision-making and their proxies in the economic decision-making bodies, or even with the ruling party, forming political alliances at the state or federal level, has always shifted with time. Unable to dominate core policy-making apparatuses of the state, the dominant classes and their fractions sought to control fragments of the state apparatus, as Abranches has shown.⁵⁹ Nevertheless, central policy-making circles remained highly autonomous, insulated from outside influence during the first phase of the military authoritarian regime, 1964-74.

For the later stages of military rule, 1974-85, it seems that policies which worked for the late 1960s and early

1970s became increasingly counterproductive to the interests of specific sectors of the capitalist class. Furthermore, increasingly discontent capitalist class fractions increased pressure for a political transition of the regime, best represented by the campaign against "statism" of the mid-to-late 1970s. At the same time, these discontented fractions of the capitalist class supported the opposition political project in which they could potentially gain direct control over policy formation. The capitalist class was further distressed by external constraints to continued growth caused by a sequence of crises of the world economy.

Internally, the 1974, 1978 and 1982 Congressional elections challenged the military regime, continually creating political obstacles for the realization of the long term authoritarian political projects.⁶⁰ Within the confines of the bureaucratic-authoritarian regime, the Geiselistas⁶¹ faction of the military had to regain power lost to internal repressive forces, since overall state autonomy of the previous period had created an indomitable monster within the state that other factions still grappled with. The central apparatus of the state regained power under the Geisel Administration (1974-79) and was allowed to enforce a modicum of coherence in state action while submitting the state to a rational, centralized policy-making process. At first, the initial response to the world capitalist crisis of the mid-1970s was a renewed spurt of grandiose projects

in virtually all strategic areas of energy and basic inputs, a design similar to the highly repressive, autonomous years. But with the conditions of continued international crises that provoked serious imbalances in the Brazilian economy and the virtual end of internal guerrilla threats, it became increasingly irrational for the state and for the capitalist classes to preoccupy themselves excessively with security and with the "emerging power" notion that flowed from the ideological doctrine of "national security and development." State action and state policies needed changes in order to adapt to the new domestic and international situation. A hypothesis of a diminished autonomy of the state can be presented at this point.

These tensions were observed by O'Donnell, Cardoso and Reis, who pointed out the linkage of opposition groups to capitalist class fractions as conducive to a tenable abertura project.⁶² As the economic and political conditions increasingly deteriorated (especially after 1980 when inflation and unemployment hit the Brazilian economy) state organizations lost their autonomy as decision-makers and formulators of policy. Meanwhile, other elites in the power pact began a political offensive against state bureaucracies exemplified by the "antistatist" campaign launched by the Paulista fraction of capitalist class. These elites, together with lawyers, press organizations, the renewed labor and the progressive Church movements, requested liberalization of the regime, end of

exception laws, political amnesty, lifting of censorship, the right to strike and gubernatorial and presidential elections.⁶³ Whereas the convergence of a renewed labor movement and the resurgence of the civil society organization contributed to the loss of state relative autonomy, this can equally be attributed to the deterioration of the international financial situation, the interest and debt crisis of 1979-1982, and to the second oil crisis in 1979, all of which rendered state action ineffective.

The specific energy sector and its bureaucracy dealt with in this dissertation, typified the developments outlined above. Eletrobrás, Itaipu Binacional and Nuclebrás, the all-encompassing systems of electric energy (including nuclear) bureaucracies, together control a vast system of subsidiaries/concessionaires which to a large degree were consolidated in the phase of greatest state relative autonomy, 1964-1975. The nature of the "holding companies", the volume of resources, their articulation with national security apparatuses, their articulation with capitalist industrial sectors, their capacity to generate and to borrow financial resources were so great that it was possible for them to have a high degree of relative autonomy. One of the indicators for the sector's relative autonomy is that, up to 1974, Eletrobrás's own policy recommendations were adopted in their entirety as the policy for the Electric Energy Sector as a whole by the National Department of Waters and Electric Energy (DNAEE, Departamento Nacional de

Aguas e Energia Elétrica) and the Ministry of Mines and Energy (MME, Ministério de Minas e Energia), both of which relinquished their legal mandate to formulate sectoral policy. Another indicator is the energy sector's ability to set prices for goods and services and raise tariffs allowing high financial leverage and reinforcing their financial strength vis-à-vis national and international financial institutions. Yet another indicator is the level of articulation of interest to the central apparatus of the state, i.e. the security community, and the relatively low participation of capitalist class fraction in the decision-making process. Only after the general objectives had been established with the military regime, were other actors permitted to participate.⁶⁴ All three elements are linked to the framework of analysis set previously.

Following the 1974 oil crisis and the new political accommodations of state-civil society relations after 1975, the level of autonomy of the electric sector was significantly lowered. The electric sector policy-making functions were adjusted to the overall energy policy, now centralized at the Presidential level (Presidência da República) and at the National Security Council (CSN, Conselho de Segurança Nacional). Significantly, when the energy sector resisted its loss of relative autonomy, the energy bureaucracy was pressured by several national and international capitalist class interests, which were keen to guarantee the execution of the energy

infrastructure program. In the years that followed, energy policy became subject to intense competition among diverse interests which have contributed to the present financial disarray.

In summary, some tentative hypotheses which will be tested in the following chapters have been presented. Special attention will be paid to the relative autonomy of the state, both at the level of general state action and more specifically at the level of the electric energy sector. Two empirical case studies will be examined in order to separate out and define different political projects pursued by different elites and institutions and in order to analyze the decision-making processes of state action in general and the Brazilian state in particular.

Endnotes

1. - During the 1950s and early 1960s diffusionists presented a theory that political and economic development of backward areas could be achieved by industrialization, through creation of a middle class and dissemination of liberal democratic institutions, modelled according to postwar North American and Western European institutions. Seymour Martin Lipset, "Some Social Requisites of Democracy" in James Bill and Robert Hardgrave (ed.), Comparative Politics: The Quest for Theory (Columbus, OH: Charles Merrill Publishing Company, 1973) and Political Man: The Social Bases of Politics (New York: Doubleday/Anchor Books, 1960) linked industrialization with democracy. That theory lacked internal consistency since it could not explain why Nazi Germany, Fascist Italy and Pre-1945 Japan were industrialized and non-democratic. Walt W. Rostow, The Stages of Economic Growth (Cambridge, Eng: Cambridge University Press, 1971, 2nd edition) sets a five-stage-continuum from agricultural-traditional society to an industrial-modern society. Latin America's industrialization did not stem from technological advancement as purported by Rostow, but instead from an inverted industrialization process, which initially began with the production of Department II items (wage goods), followed by Department III items (durable consumer goods), and lastly by Department I industrialization (capital goods), all dependent on technology and investment from the center countries. At the same time agricultural activities continued in a combination of pre-capitalist and capitalist practices. Gabriel A. Almond and G. Bingham Powell Jr., Comparative Politics: A Developmental Approach (Boston: Little & Brown, 1966), claimed that increased differentiation of political structures would foster the dissemination of liberal-democratic political values; they were contradicted by the rise of bureaucratic-authoritarian regimes in Latin America, which in fact blocked democracy.
2. - Max Weber, "Bureaucracy" in Hans Gerth and C. W. Mills, From Max Weber: Essays in Sociology (New York: Oxford University Press, 1970), p. 221.
3. - Max Weber, ibid, p. 215.
4. - Karl Polanyi, The Great Transformations (New York: Reinhart, 1944); Alexander Gerschenkron, Economic Backwardness in Historical Perspective (Cambridge: Harvard University Press, 1962); Theda Skocpol, "Bringing the State Back In: Strategies of Analysis in Current Research," in Peter Evans, Dietrich

- Rueschemeyer and Theda Skocpol (eds.), Bringing the State Back In (Cambridge, GB: Cambridge University Press, 1985), pp. 3-37.
5. - Karl Marx, in Grundrisse. Introduction to the Critique of Political Economy (New York: Vintage Books, 1973), and in Capital (Moscow: Progress Publishers, 1971), discusses the consequence of capitalist development as the production technology and different kinds of labor constantly expand centralizing and "enabling the industrial capitalists to extend the scale of their operations" and constantly enlarged process of development of public and private bureaucracies.
6. - Andre Gunder Frank, Capitalism and Underdevelopment in Latin America (New York: Monthly Review Press, 1967).
7. - Rui Mauro Marini, Subdesarrollo y Revolución (Mexico: Siglo XXI Editores, 1969) and "Brazilian Subimperialism," Monthly Review 9 (Feb. 1972): 14-24. Theotônio dos Santos, Socialismo o Fascismo: el nuevo caracter de la dependencia y el dilema latinoamericano (Mexico: Edicol, 1978).
8. - The original Prebisch's 1949 was later expanded and presented in the ECLA 1951 Conference in Mexico with the title of Problemas Teóricos y Prácticos del Crecimiento Económico also published by Economic Commission for Latin America, The Economic Development of Latin America and its Principal Problems (Lake Success, New York: United Nations, 1950). Celso Furtado, Osvaldo Sunkel, Anibal Pinto have continued working on the theme during the 1950s and 1960s. Celso Furtado's analyses continue to be mandatory references. See his Economic Development of Latin America: A Survey from Colonial Times to the Cuban Revolution, trans. by Suzette Macedo (Cambridge, Eng and New York: Cambridge University Press, 1970, revised and enlarged 1976), English translation of Formação Econômica da América Latina (São Paulo: Companhia Editora Nacional, 1969), later republished with the title of A Economia Latino-Americana: Formação Histórica e Geral Contemporânea (São Paulo: Companhia Editora Nacional, 1976). An earlier classic theoretical work on development was Celso Furtado Desenvolvimento e Subdesenvolvimento (Rio de Janeiro: Ed. Fundo de Cultura, 1961) republished later under the title Teoria e Política do Desenvolvimento Econômico (São Paulo: Companhia Editora Nacional, 1967, revised and enlarged 1971); many were his books on Brazil but one of the most illuminating is Um Projeto para o Brasil (Rio de Janeiro: Ed. Saga, 1969). Furtado recently revisited the clash of ideas of the 1950s in A Fantasia Organizada (Rio de Janeiro: Paz e Terra, 1985).
9. - Fernando Henrique Cardoso, Empresário Industrial e Desenvolvimento Econômico no Brasil (São Paulo: Difusão Européia do Livro, 1962).

10. - Maria da Conceição Tavares e José Serra, "Além da Estagnação: Uma Discussão Sobre o Estilo de Desenvolvimento Recente do Brasil," in José Serra (coord.), América Latina - Ensaio de Interpretação Econômica (Rio de Janeiro: Paz e Terra, 1979), pp. 210-51.
11. - Fernando Henrique Cardoso e Enzo Faletto, Dependency and Development in Latin America (Berkeley: University of California Press, 1979); Fernando Henrique Cardoso, "Associated-Dependent Development: Theoretical and Practical Implications," in Alfred Stepan (ed.) Authoritarian Brazil: Origins, Policies and Future (New Haven: Yale University Press, 1973). Theotônio dos Santos has shown the primacy of the multinational enterprise transforming the nature of dependence in the postwar period. "The Structure of Dependence," American Economic Review Vol. 60 (May 1970): 231-36, and Imperialismo y Dependência (Mexico: Fondo de Cultura, 1978).
12. - Peter Evans, Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil (Princeton: Princeton University Press, 1979); Thomas Bruneau and Philippe Faucher (eds.) Authoritarian Capitalism: The Contemporary Economic and Political Development of Brazil (Boulder: Westview Press, 1981); Isaac Kerstenetzky, Werner Baer and Annibal Villela, "Changing Role of the State in the Brazilian Economy," World Development 1, 11 (November 1973).
13. - Sérgio H. Abranches, "Empresa Estatal e Capitalismo: Uma Análise Comparada," in Carlos Estevam Martins (ed.) Estado e Capitalismo no Brasil (São Paulo: Hucitec, 1977); Thomas Trebat, Brazil's State-Owned Enterprises: A Case Study of The State as Entrepreneur (Cambridge: Cambridge University Press, 1983); Sérgio H. Abranches, "Estado e Desenvolvimento Capitalista: Uma Perspectiva de Análise Política Estrutural," DADOS 20 (1979): 47-69.
14. - Sérgio H. Abranches, "Patterns of Public Entrepreneurship in Brazil," ANPOCS (Associação Nacional de Pós-Graduação em Ciências Sociais) Meeting, Petrópolis, RJ, 1982, p. 7, mimeo.
15. - This concept was introduced by Antonio Gramsci in his writings on class structure and the situation of each class in the social structure. It corresponds to his "historical bloc," and it refines the classical notion of a monolithic dominant class to better consider the degree of class fragmentation and the corresponding social determination of sectoral or fractional class interests in capitalist societies, according to developments of the concept later done by Nicos Poulantzas, Political Power and Social Class, transl. by Timothy O'Hagan

(London: Verso Editions, 1978) and "The Problem of the Capitalist State," in Robin Blackburn (ed.) Ideology in the Social Sciences (New York: Vintage Books, 1972), especially pp. 240-245. Poulantzas observed that all concrete social formations industrial, financial, commercial and agrarian fractions of capital did not always have the same historical role, interests, and political power in concrete experiences of capitalist development, coalescing and conflicting according to specific moments of capitalist accumulation.

16. - Guillermo O'Donnell, Modernization and Bureaucratic Authoritarianism: Studies in South American Politics (Berkeley: University of California Press, Institute of International Studies - Politics of Modernization Series 9, 1973).

17. - Fascism, Salazarism, Nasserism, or harsh military dictatorship characterized by domination of all spheres of society, including the cultural sphere. Most extreme example is in militarily occupied countries, strategically situated in relation to the superpowers.

18. - Arend Lijphart, Democracies: Patterns of Majority and Consensus Government in Twenty One Countries (New Haven: Yale University Press, 1984) and Democracy in Plural Societies: A Comparative Exploration (New Haven and London: Yale University Press, 1977) examines comparatively the mechanisms of interest representation in what he calls consociational regimes. See also his specific case studies, Arend Lijphart (ed.), Conflict and Coexistence in Belgium: The Dynamics of a Culturally Divided Society (Berkeley: Institute of International Studies/University of California Press, 1980) and The Politics of Accommodation: Pluralism and Democracy in the Netherlands (Berkeley: University of California Press, 1968).

19. - Guillermo O'Donnell, "Corporatism and the Question of the State," in James Malloy (ed.) Authoritarianism and Corporatism in Latin America (Pittsburgh: University of Pittsburgh Press, 1977), pp. 47-87.

20. - Ralph Miliband, Marxism and Politics (Oxford: Oxford University Press, 1977).

21. - Dietrich Rueschemeyer and Peter Evans, "The State and Economic Transformation: Toward an Analysis of the Conditions Underlying Effective Intervention," especially pp. 50-62, in Peter Evans, Dietrich Rueschemeyer and Theda Skocpol (eds.), Bringing the State Back In (Cambridge: Cambridge University Press, 1985), pp. 44-77.

22. - Marx's work speaks of the state executive class as "the committee for managing the common affairs of the whole bourgeoisie" in Karl Marx and Frederick Engels, "The Communist Manifesto," Selected Works, Vol. I, p. 36. This classic version has been followed by many, one being Ralph Miliband, The State in Capitalist Society (New York: Basic Books, 1969), and the latest being Bob Jessop's, The Capitalist State (New York: New York University Press, 1982).
23. - Pluralist methodology of analysis of political domination was best developed in the works of Robert Dahl, Moderna Análise Política (São Paulo: Atlas, 1970); Who Governs? Democracy and Power in an American Community (New Haven: Yale University Press, 1961); of Charles Lindblom, "The Science of 'Muddling Through,'" Public Administration Review 19 (Spring 1959): 79-88; The Policy-Making Process (Englewood Cliffs: Prentice-Hall, 1978); of Grant McConnell, Private Power and American Democracy (New York: A.A.Knopf, 1967); and of Nelson Polsby, Community Power and Political Theory (New Haven: Yale University Press, 1963) among many others. However this resemblance stops short of being complete since instrumentalist Marxists relate groups and organizational influence on policy-making to the class structure of a specific social formation. The pluralist methodology has not been very much used to explain Latin American political domination and policy outputs, since the absence of full participation in decisions limits the application of the model. With democratization this methodology might be more used.
24. - C. Wright Mills, The Power Elite (London: Oxford University Press, 1956), esp. pp. 3-30, 269-324; Robert Alford and Roger Friedland, Powers of Theory: Capitalism, the State, and Democracy (London: Cambridge University press, 1985) esp. pp. 1-34, 161-270.
25. - Following and expanding on the work of C.Wright Mills in the American case C. William Domhoff has written extensively about the elite model of political domination analysis: Who Rules America? (Englewood Cliffs: Prentice-Hall, 1967), The Higher Circles (New York: Random House, 1970) are his works bearing an examination of cities political control and domination of government policy area. In the Latin American case perhaps the most respected elite analysis have been Alfred Stepan's works on the Brazilian and Peruvian military elites, which entailed a larger Weberian organic-statist model that viewed the state as shaping society: The Military in Politics: Changing Patterns in Brazil (Princeton: Princeton University Press, 1971) and The State and Society: Peru in Comparative Perspective (Princeton: Princeton University Press, 1978).

26. - Nicos Poulantzas, "The Problem of the Capitalist State," in Robin Blackburn, (ed.) Ideology in Social Science (New York: Vintage Books, 1972, 1973), pp. 238-253, his emphasis.
27. - Ralph Miliband, "Reply to Nicos Poulantzas," in Robin Blackburn (ed.), op. cit., pp. 253-262.
28. - David Gold, Clarence Lo, Erik Olin Wright, "Recientes Desarrollos en la Teoria Marxista del Estado Capitalista," in Heinz R. Sonntag y H. Vallecillo (eds.) El Estado en el Capitalismo Contemporaneo (Mexico: Editora Siglo XXI, 1976), especially pp. 31-37, 52-59. For an English version see "Recent Developments in Marxist Theories of the State - Part I," Monthly Review 27 (Oct. 1975): 29-41, and "ibid - Part II," Monthly Review 28 (Oct. 1975): 36-51.
29. - Erik Olin Wright, Classe, Crise e o Estado (São Paulo: Alfa-Omega, 1984) - Translation of Class, Crisis and the State. (London: New Left Books, 1978).
30. - Gold et all, op.cit., p. 53.
31. - Gold et all, op. cit., p. 54.
32. - Theda Skocpol, "Bringing the State Back In: Strategies of Analysis in Current Research," in Evans, Rueschemeyer and Skocpol (eds.), op. cit., p. 25 and passim urges us to understand the state as the primary institution for mediating, channeling, controlling struggles in societies and among elites for policies.
33. - In the first category Fred Block has taken the state autonomy to its extremes in his analysis of state action. See "The Ruling Class Does not Rule: Notes on the Marxist Theory of the State," Socialist Revolution 7 (1977): 6-28. Theda Skocpol emphasizes state autonomy in her States and Social Revolutions (Cambridge and New York: Cambridge University Press, 1979). Nora Hamilton's work analyzes the Mexican state autonomy as contained by the process of subordinate class formation that became an active participant in the 1938 nationalization of petroleum companies, The Limits of State Autonomy: Post Revolutionary Mexico (Princeton: Princeton University Press, 1982). Going to the other end, Ralph Miliband, "State Power and Class Interests," New Left Review 138 (1983): 57-68, Martin Carnoy, The State and Political Theory (Princeton: Princeton University Press, 1984) and Silvia Raw, The Political Economy of Brazilian State-Owned Enterprises: 1964-1980 (PhD Dissertation, University of Massachusetts, Amherst, 1984) have treated the state autonomy as less important than objectives and finances of the state agencies.

34. - Thomas Trebat, "An Evaluation of the Economic Performance of the Public Enterprise in Brazil" (Ph.D dissertation, Vanderbilt University, 1978), pp. 7-10, and also in his book Brazil's State-Owned Enterprises: a Case Study in State Entrepreneurship (Cambridge: Cambridge University Press, 1983).
35. - Philippe Faucher, "Empresa Pública como Instrumento de Política Econômica," Revista de Economia Política (April-June 1982): 79-105, esp. pp. 83-85.
36. - Sérgio Abranches e Sulamis Dain, A Empresa Estatal no Brasil: Padrões Estruturais e Estratégia de Ação (Rio de Janeiro: Grupo de Estudos do Setor Público/FINEP, 1978), p. 4.
37. - Gerschenkron, Economic Backwardness..., and also his analysis of the state strength in Austria in comparison with the rest of Western Europe, exactly because this strength is based in historical and structural events that forced widespread nationalization of the economy (demonetarization of the economy due to rampant inflation, loss of Eastern Europe markets after World War II, and tariffs and rent control), Alexander Gerschenkron, An Economic Spurt that Failed: Four Lectures in Austrian History (Princeton: Princeton University Press, 1977).
38. - Theda Skocpol, States and Social Revolutions (Cambridge: Cambridge University Press, 1979), p. 29. See also Raymond Duval and John Freeman, "The State and Dependent Capitalism," International Studies Quarterly, 25.1 (March 1981): 108.
39. - The first case is best exemplified by the entreguista literature that stresses the "selling out" to foreign capital by the state, Euzébio Rocha, "Petróleo: Um Depoimento à Nação," Cadernos de Debate, 4 (1977), while the second is best exemplified by Leroy Jones and Edward Mason, "Role of Economic Factors in Determining the Size and Structure of Public-Enterprise Sector in Less-Developed Countries," in Leroy Jones (ed.) Public Enterprises in Less-Developed Countries (Cambridge: Cambridge University Press, 1982), pp. 17-44.
40. - Cited by Fernando H. Cardoso and Enzo Faletto, op. cit., p. 129 ff.
41. - Douglas Bennett and Kenneth Sharpe, "The State as Banker and Entrepreneur," Comparative Politics 12 (January 1980).
42. - Peter Evans, Dependent Development, p. 215.
43. - Peter Evans, Dietrich Rueschemeyer and Theda Skocpol "On the Road Toward a More Adequate Understanding of the State," esp. pp. 355-360 and Peter Evans and Dietrich Rueschemeyer, "The

State and Economic Transformations: Toward an Analysis of the Conditions Underlying Effective Intervention," p. 57 both in Evans, Rueschmeyer and Skocpol (eds.), op. cit., respectively pp. 347-367 and 44-77.

44. - Evans et al., "On the Road toward a More Adequate Understanding of the State," in Bringing the State Back In, op. cit.
45. - Euzébio Rocha, op. cit. employs the concept of selling out to foreign economic and political interests, while Maria da Conceição Tavares e José Serra, "Além da Estagnação ...," in José Serra, op. cit., p. 227, use extensively the second concept.
46. - Walder de Goés, "Empresários, Militares e Tecnocratas," paper presented at ANPOCS (Associação Nacional de Pós-Graduação em Ciências Sociais) Meeting in Nova Friburgo, RJ, October 1981, mimeo. See also Wanderley Guilherme dos Santos, Centralização Burocrática e Renovação de Elites: Estudo Preliminar sobre a Administração Federal Descentralizada (Rio de Janeiro: IUPERJ, 1979) and "A Elite Invisível: Explorações sobre a Tecnocracia Federal Brasileira," Revista de Administração de Empresas 3 (1980): 67-82, and René Dreifuss, A Conquista do Estado: Ação Política, Poder e Golpe de Classe (Petrópolis: Vozes, 1981). For the strictly economic rationality of state enterprise see Leroy Jones and Edward Mason, op. cit..
47. - Sérgio H. Abranches, A Questão da Empresa Estatal: Economia, Política e Interesse Público (Rio de Janeiro: Grupo de Estudos sobre o Setor Público/FINEP, 1978) and also his "Patterns of Public Entrepreneurship in Brazil," op. cit.
48. - See Silvia Raw, The Political Economy of Brazilian State-Owned Enterprises: 1964-1980 (Phd dissertation, Department of Economics, University of Massachusetts, Amherst, 1985) and Leroy Jones and Lawrence Wortzel, "Public Enterprise and Manufactured Exports in Less-Developed countries: Institutional and Market Factors Determining Comparative Advantage," in Leroy Jones (ed.), op. cit., pp. 217-244 and Dani Rodrik, "Changing Patterns of Ownership and Integration in the International Bauxite-Aluminum Industry," in Leroy Jones (ed.), op. cit., pp. 189-216.
49. - Philippe Faucher, "A Empresa Pública como Instrumento de Política Econômica," Revista de Economia Política 2 (April-June 1982): 79-105; Werner Baer, The Brazilian Economy: Its Growth and Development (Columbus, Ohio, Grid Publishing, 1979), especially chapter 7, "Brazil's Extended Public Sector"; Judith Tendler, Electric Power in Brazil: Entrepreneurship in Public Sector (Cambridge: Harvard University Press, 1968).

50. - The Brazilian petroleum company, Petrobrás (Petróleo Brasileiro S.A.) procures oil to refine under risk contracts in Brazil and elsewhere in the world in joint ventures in Arab and African countries. See Getúlio Carvalho, Petrobrás: Do Monopólio aos Contratos de Risco (Rio de Janeiro: Forense Universitária, 1976).
51. - See notes 16 and 17 above.
52. - See Silvia Raw, op.cit., pp. 56-7.
53. - The Gramscian concept of hegemony refers to the prominence of cultural and ideological direction, control and manipulation by the dominant classes of civil and political society, which made the state in Gramsci's thinking. This concept goes beyond Leninist concept of hegemony, which emphasizes the purely political aspects of hegemony, or other authoritarian power structures that set as objective the displacement from the state, through violence and physical coercion, of all adversary political forces. Both Gramsci and Poulantzas have underlined the importance of the hegemonic social classes; Gramsci remembered the class basis of ideological hegemony rooted in the decisive function that the dominant classes exert on core economic activities, Antonio Gramsci, Selections From the Prison Notebooks, ed. and trans. Quentin Hoare and Geoffrey Nowell Smith (New York: International Publishers, 1972) especially chap. "State and Civil Society," pp. 206-276. For Poulantzas a hegemonic class is one which translates its economic interests into political interests of domination, corresponding to the ideological and domination functions of the state. As stated by Poulantzas, "Better yet: as long as these function have as primordial objective the maintenance of the unity [of a social formation] they correspond to the political interest of the dominant class." Nicos Poulantzas, "A Noção de Estado em Marx," in Fernando Henrique Cardoso and Carlos Estevam Martins (orgs) Política e Sociedade (São Paulo: Companhia Editora Nacional, 1979, 2 vols.), p. 61, translation done by the author. Thus, this concept of hegemony developed by them suggests that authoritarian regimes, irrespective of their violent practice cannot maintain themselves in power without seeking legitimation or acceptance.
54. - Theda Skocpol, "Bringing the State Back In: Strategies of Analysis in Current Research," in Bringing the State Back In, op. cit., p. 14.
55. - Guillermo O'Donnell, Modernization and Bureaucratic-Authoritarianism..., op.cit.

56. - Alfred Stepan, The Military in Politics: Changing Patterns in Brazil (Princeton: Princeton University Press, 1971) and (ed.) Authoritarian Brazil: Origins, Policies and Future (New Haven: Yale University Press, 1973).
57. - Maria Helena Moreira Alves, The Formation of the National Security State: State and Opposition in Military Brazil (PhD Dissertation, Massachusetts Institute of Technology, 1982). See also The State and Opposition in Military Brazil (Austin: University of Texas Press, 1985).
58. - Peter Evans, Dependent Development: The Alliance of Multinational, State and Local Capital in Brazil (Princeton: Princeton University Press, 1979) has demonstrated the convergence of interests in a triple-alliance or tripod model of development implemented by the military government in the petrochemical sector.
59. - Sérgio Abranches, The Divided Leviathan: State and Economic Policy Formation in Authoritarian Brazil (PhD Dissertation, Cornell University, 1978 - University Microfilms International, 1983) has described this fragmentation process for industrial policy on his study of the Council for Industrial Development (Conselho de Desenvolvimento Industrial - CDI), the institutionalization of decision-making for the steelmaking sector - National Council for the Steel and Metallurgical Industries (Conselho Nacional de Siderurgia e Metalurgia de Não-Ferrosos - CONSIDER), and the export-import policy at the Banco do Brasil's Department of Foreign Trade (Carteira de Comércio Exterior - CACEX). Cardoso presents the idea of "bureaucratic rings," inside of which bureaucracy, private sector and necessary ideology agents met to advance action in a policy area. Fernando Henrique Cardoso, Autoritarismo e Democratização (Rio de Janeiro: Paz e Terra, 1975).
60. - Bolivar Lamounier (ed.) Voto de Desconfiança: Eleições e Mudança Política no Brasil: 1970-1979 (Petrópolis: Editora Vozes, 1980) and "Impacto das Eleições na Abertura Brasileira, 1974-1982" (Paper presented at the Conference "Democratizing Brazil?" Yale University, New Haven, March 4-6, 1983); see also Robert Wesson and David Fleischer, Brazil in Transition (New York: Praeger, 1986) for a comprehensive analysis of the transition; for a detailed account of political parties reinstitution since 1979, congressmen shuffle and rearrangement in new parties as well as elections outcome see his Brazil's Economic and Political Future (Boulder: Westview Press, 1986) in recent years; Wanderley Guilherme dos Santos "As Eleições e a Dinâmica do Processo Político Brasileiro," DADOS 14 (1977) has examined the also the municipal elections of 1972 and 1976 which have been marked by resilient traces of old cleavages at the

local level, which were significant enough to contribute for losses of the federal government-backed faction.

61. - Faction of the military officers that had a commitment with President General Ernesto Geisel (1974-1979) to promote the political liberalization of the regime.

62. - Fábio Wanderley Reis, "Brazil: Estado e Sociedade em Perspectiva," Cadernos do DCP (December 1974); Fernando Henrique Cardoso, Autoritarismo e Democratização, op. cit., especially Chap. 5, 6, 7. Guillermo O'Donnell, "Reflections on the Patterns of Change in the Bureaucratic-Authoritarian State," Latin American Research Review 13, 1 (Winter 1978): 3-38; later, O'Donnell returned to the same subject analyzing the difficulties to answer the democratization question for the bureaucratic exclusionary regimes of Latin America in "Tensions in the Bureaucratic-Authoritarian State and the Question of Democracy," in David Collier (ed.) The New Authoritarianism in Latin America (Princeton: Princeton University Press, 1979), pp. 285-318.

63. - The São Paulo business newspaper Gazeta Mercantil promoted, in 1977, an opinion poll with 5000 businessmen to choose ten representative of the business class who were the most articulated and legitimated among the class, outside the officially chartered confederations. Eight of these elected signed a "Manifesto of the Eight" in which they were highly critical of the governmental policies, what in fact corresponded to supporting opposition and social movements demands.

64. - Former President General Emilio G. Médici (1969-1974) narrates an episode in which former Minister of Finance, Delfim Netto, had announced the results of negotiations with foreign banks in New York. The news were stamped in the next day in Brazilian newspapers, day that Delfim was arriving in Brazil. Upon arrival in Brasília and his routine meeting in the Planalto Palace, Médici offered Delfim the Presidential chair, forcefully telling Delfim to sit down on it and occupy the presidential chair. Delfim understood important announcements such as that were the sole responsibility of Médici. Cf. Antonio Carlos Scartezini, Segredos de Médici (São Paulo: Marco Zero, 1985).

CHAPTER III

POLITICAL POWER AND STATE ACTION UNDER THE AUTHORITARIAN-EXCLUSIONARY REGIME: INSULATION AND AUTONOMOUS POLICY-MAKING

The central purpose of the next two chapters is to present an historico-structural account of Brazilian state action and policy-making process during the military regime. This analysis is divided into two distinct periods, one analyzing the more insulated, authoritarian period of policy-making and state action (Chapter III), and another in which policy-making was influenced by the political liberalization and economic crises (Chapter IV).

In the ensuing sections, basic state action and the basic structure of political power are discussed and analyzed. These analyses are aimed primarily at mapping out the degree of state autonomy by focusing on directly associated state actions, processes of state-building and the dynamics of interest competition in the overall political and policy-making process.

We begin with a brief description of state interventionism, state-building and policy-making during the period prior to 1964. In this historical review we will demonstrate that the role of the Brazilian state as an intervening agent was paramount in the process of capitalist development and was established long before the military came to power.

A. Background Analysis on Political Power and
State Action in Brazil: The Foundations
of State Intervention and Political Power

The Brazilian case is particularly illustrative of the relationship between policy-making, political power and the state. Since the inception of the nationalist/populist regime in 1930, led by Getúlio Vargas, a strong and bureaucratized state has expanded its intervention in the economy, most importantly through productive functions. The state under Vargas, and especially after the establishment of the Estado Novo (1937-45) became the dynamic center of economic transformation, creating the conditions for the import-substitution-industrialization which would continue after Vargas's removal from power in 1945.

The period 1930-45 represents the beginning of the industrialization process, and the process of consolidation of a new alliance among the dominant sectors of society. Brazilian oligarchical system of interest representation operative during the República Velha (1889-1930) saw their political power reduced, but not extinguished, with the emergence of sectors of the urban, industrial bourgeoisie which established strong connection with the central government.¹ Industrial capitalism was this bourgeoisie's conscious project which in the 1930s institutionalized new ways of participating in the decision-making process, consolidated during the authoritarian period of the Estado Novo (1937-45).² The industrial bourgeois class

utilized the state-created institutions such the Federal Council of Foreign Trade (CFCEX, Conselho Federal de Comércio Exterior, 1934), the Technical Council of Economics and Finance (CTEF, Conselho Técnico de Economia e Finanças, 1937), the Nacional Council of Industrial and Commercial Policy (CNPIC, Conselho Nacional de Política Industrial e Comercial, 1944) to legitimize their direct influence over the policy-making process within the bureaucracy. This consultative and corporative structure, geared to policy-making in the financial and economic area, generalized the practice of direct and closed negotiation between the state and the private sector in order to consolidate Brazilian capitalism. In fact, such insulated decisions from ample sectors of society and was a resilient trace of the Brazilian policy-making process throughout.³

The consultative and corporative decision-making institutions were an ingredient of the conscious project of modernizing the state bureaucracy in such a way that some sectors of the bourgeoisie -- the exporters, national industrialist and selected agrarian interests -- had privileged access to policy formation and decision-making during the first Vargas period.

Other such institutions were created after the First Vargas period. In 1945 the Superintendency of currency and Credit (SUMOC, Superintendência da Moeda e do Crédito) took up _ Central Bank functions. Despite being a division of the powerful Bank of Brazil (Banco do Brasil) its action was influenced by

foreign interests, primarily regarding repatriation of profits.⁴ During Juscelino Kubistchek's government (1956-61) the principal policy-making mechanism -- the Executive Groups -- mediated the interests of the national and international capital. Capital interests related to capital and consumer goods production received special treatment under the Target Plan. All this was facilitated by the overcoming of ideological resistance to state intervention in the economy and state entrepreneurship.⁵ The plethora of administrative and financial mechanisms created for the implementation of the Target Plan needed coordination, which was achieved through the innovative Executive Groups, composed of representatives of government agencies and the private sector, determining the scale and volume of production, guidelines and incentives.⁶ In addition to policy-making, the Executive Groups made decisions on the utilization of earmarked Funds which were not subject Congressional oversight and control.⁷ Later, in the late 1960s, these policy-making apparatus were institutionalized into a single "non-decision-making, bureaucratized agency ... to approve what dominant groups wanted approved."⁸ Between 1946 and 1964 sixteen agencies -- or mechanisms of interest representation -- were created (or reorganized), fragmenting the decision-making process among state agencies, each possessing a high degree of relative autonomy from central state and were highly instrumental in capitalist modernization.⁹

The literature analyzing the political economy of the Brazilian state productive sectors -- steel, mining, petroleum, electric power -- as well as the political aspects of the organization of the National Economic Development Bank (BNDE, Banco Nacional de Desenvolvimento Econômico, 1953), and the efforts to initiate automobile production discusses policy formation and implementation between 1930 and early 1960s. Luciano Martins explored the concept of "conservative modernization" under the aegis of an authoritarian regime (1937-1945) when state steel sector was implanted in 1941.¹⁰ In the same work, he analyzed the petroleum sector, the creation of the BNDE and the implantation of the auto industry -- all between 1950 and 1960. Luciano Martins analyzed the interaction between public decision-makers and entrepreneurs, both domestic and foreign, concluding that, despite changes at the political level, the entrepreneurs remained highly dependent upon the state, and articulated their interest through informal channels or corporative mechanisms. Therefore, a series of fragmented relatively autonomous agencies emerged, being at the same time "apparatus of domination, an exclusive arena for the elites and arbiter of conflicts among them."¹¹

During the 1930s, as the implementation of Vargas's policies became entangled with the domestic struggle between Fascism and Communism,¹² the military leaders forced Vargas to institutionalize an authoritarian, intervening state which, as

stated by Goes Monteiro, Vargas's Chief of Staff of the Armed Forces,

... must have power to intervene and regulate all collective life and discipline the nation, creating the organizations and apparatuses adequate to organize our economy.¹³

In contrast with the corporative mechanism of interest representation, a second group of agencies and state-owned enterprises were organized soon after the inception of the Estado Novo with the high degree relative state autonomy proposed by the military. The National Council of Petroleum (CNP, Conselho Nacional do Petróleo, 1938), Rio Doce Valley Company (CVRD, Companhia Vale do Rio Doce, 1942), National Steel Company (CSN, Companhia Siderúrgica Nacional, 1941) resulted from the action of the powerful groups within the state who sought highly autonomous policy-making and implementing mechanisms.¹⁴ Several political and social forces were unleashed, imbued with an ideology of national regeneration and a state-building mission.¹⁵

In the steel industry an intricate decision-making process took place involving foreign private interests, Brazilian private groups and the strong military heavily inclined to autarky, i.e. to achieve self-sufficiency in steel supply as a national policy.¹⁶ Most proposals to the steel problem were suggestions involving the private domestic and foreign interests. These were sidelined in favor of a statist solution, despite

consultations with U.S. Steel throughout the negotiations.¹⁷ Other state-owned steel companies were established with the ownership of the State Governments of Minas Gerais and São Paulo.¹⁸

The state mining company -- CVRD -- was initially set up as exporting firm, and would later consolidate and expand its operations so as to become in the 1970s the largest iron ore producer and exporter firm in the world -- responsible for 14 percent of seaborne trade.¹⁹

With respect to petroleum, the international example of Argentina, Uruguay, Bolivia and Mexican nationalizations of their respective industries prompted the Estado Novo regime to establish a regulating agency, the National Petroleum Council (CNP, Conselho Nacional do Petróleo, 1938). The decision to make oil a monopoly however would only be made in 1953. CNP protected Brazilian private refineries from takeovers, permitting foreign capital to invest only in importing and distributing, planned the petroleum industry as a public utility overseeing all phases, and decided a uniform price nationwide on all oil products and also a Sole Tax on Liquid Fuels (IUCL, Imposto Unico Sobre Combustíveis Líquidos). The decision to form the state oil company pitted a statist, nationalist solution against a free-enterprise system preferred by the foreign and domestic private interests. This confrontation lasted for almost a decade (1943-49), delaying Petrobrás decision. The monopoly campaign would resume later

under different a composition of forces, including the middle class, the non-Communists nationalist and Leftist military, and a Leftist civil alliance including Socialist, Communist and other progressive sectors, basically a hodge-podge of political forces each striving to control the movement. The monopoly solution was achieved in Vargas second Administration (1951-54) through a "Petroleum is Ours!" popular campaign.²⁰

State action in the electric energy sector, dominated by the much opposed foreign-owned monopolies,²¹ was also advanced under the tutelage of the state. The proposal for the state monopoly Eletrobrás (Centrais Elétricas Brasileiras, presented in 1953 to be organized along the same lines as Petrobrás) was effectively stalled, by powerful associated Brazilian and foreign interests, in Congress until 1962.²² Nevertheless, state electric power policies were conducted at Vargas's Economic Advisory Board. With increased electric power bottlenecks posing problems for industrialization, the States took up the role of the foreign companies by setting up a series of state-owned enterprises. Financing mechanisms were established at the federal level for the electric energy sector.²³ Credit for the construction of generating power plants was available through the National Bank for Economic Development (BNDE). This interested BNDE since delaying the inception of Eletrobrás yielded windfall political power to BNDE,

whose control over finances gave it command over resources distributed throughout the country.²⁴

State action is ultimately the result of the complex political process of deciding how and where to use scarce economic resources. As the Brazilian productive structure transformed itself, becoming more heterogeneous, new class fragments became part of the power pact participating primarily in the internationalization of the internal market, in view of dampened labor's demands. Goulart's period (1961-1964) was marked by highly active policy initiatives with dismal outcomes. State action attempted to resolve the structural deficiencies of the economy and society. Goulart's Triennial Plan, incorporating structural and institutional reforms, ignited the political struggle over the type of capitalism Brazil should pursue. In society and in the state agencies endless debates over land reform, educational reform, urban renewal, labor laws reform and more importantly, profit remittance were fought, bringing state action to paralysis and impasse. The political coalition that worked together during the Target Plan, was definitively shattered.²⁵ What ensued was a deteriorating political and economic situation that led to a conspiracy by forces of the opposition concentrated in the Institute for Economic and Social Research (IPES).²⁶

State intervention in the Brazilian economy from Vargas to Goulart was of a dialectical nature, shifting from populist-

nationalist protectionism to a liberal and pro-foreign capital policies. Capital accumulation was thus concentrated in the most dynamic sectors -- those dominated by multinationals -- before taking place in state productive enterprises. Economic factors were certainly crucial to the demise of Goulart's power pact: recession, inflation, problems of balance of payments, foreign debt, internal debt, all combined to exacerbate institutional inadequacies and structural economic bottlenecks. Nevertheless, the breakdown of the constitutional regime had clear political components. The constant tension between populist-nationalist policies and liberal orthodox, pro-foreign policies are represented in the brief description above. Public policies in the Estado Novo, the Vargas's second term, and the Goulart years focussing on the welfare of the working class clashed with those implemented during the Eurico Dutra (1946-1951) and Kubistchek periods. Dutra and Kubistchek pushed policies that promoted the internationalized associated-depedent mode of development. the dialectical tension between these two poles was temporarily smothered with the authoritarian regime after 1964, which for the next twenty-one years was to promote a paradoxically enlarged state role while trying to foster a regime of economic liberalism.

The pattern of capitalist development had projected new and powerful actors into the political arena. The multinational durable consumer goods interests rapidly combined with the

interests of other political actors in Kubistchek's "fifty years in five" developmentalist project. As this coalition rapidly eroded during the early sixties it gave way to intense conflict between labor and capital exacerbated by the mobilization of popular segments of society and the increased ability of the working class to articulate effectively its demands. In addition, the political alliance failed to coopt crucial fractions of foreign and domestic capitalist interests forming the basis of opposition to Goulart's interventionism. Although a popular uprising and turn to a socialist regime was highly unlikely at the time, there were real threats to capital accumulation and to the pact of domination. As pressures from the lower classes increased the military clamped down. The military regime instituted a "redemption project," whose initial task was the dismantling of working class institutions and parties, in order to demobilize the working classes, in particular industrial labor unions.

B. The Military Coup and the First Military Rule:
The Period 1964-67

The regime established in the aftermath of March 1964 was a rupture with the populist regime of the past. It assumed a different pattern of state institutionalization, different structures of power and of authority as well as exclusionary execution of public policies.²⁷ The new bloc-in-power, of which

the military represented the most powerful segment, had two common bonding elements: 1) the identification of Communist threats with the mobilization of the working classes, peasants, students, lower ranks of the military, and 2) the political will to stave off these threats in order to maintain domination over society. In addition to these two elements the new bloc-in-power wanted to revert the populist-nationalist economic model and pursue a model of growth that in effect would exclude a number of social sectors from the benefits of development.

In order to succeed, this project needed the exclusion of threatening political actors, together with the incorporation of classes and class fractions capable of promoting capitalist development. After seizing power in March 1964, pro-labor organizations within the state previously devoted to the implementation of populist-inclusionary policies were dismantled. New economic policies promoting orthodox liberal economic programs were began, strengthening and expanding the role which international oligopolies would play in the Brazilian economy in the next years. The military regime, controlling the coercive apparatus used the National Security with Development Doctrine as a blueprint for their new Brazil. This doctrine had been taught at the Superior School of War (ESG, Escola Superior de Guerra) in Rio de Janeiro for a decade, preparing cadres of military officers, técnicos, and entrepreneurs for this long-term political project. This time, military intervention in Brazil was

to be different from the previous temporary interventions. The traditional role of the military as a "moderating power" -- returning political control to civilians soon after crisis was over²⁸ -- was now shelved in favor of long term domination of all aspects of society.

1. The Military in Power and Closure of Politics

The winning coalition -- the military, the conservative land-owners, the traditional urban upper class, and the modernized urban middle class which feared the economic instability of Goulart regime -- formed a contradictory alliance. For them, the previous regime showed the unpreparedness, the corruption, the weakness and sheer incompetence of civilian politicians in conveying the stability needed for development. This conservative coalition was soon dominated by hegemonic military and technocratic factions defining the political and economic direction and state action. The modernization of the state bureaucracy, the adaptation of political institutions to the needs of the authoritarian regime and the reorganization of the economy, displaced traditional interests. The landowners and factory owners, fragments of the domestic bourgeoisie, quickly found themselves alienated from the political project of bureaucratic-authoritarianism.

The coalition of the dominant classes began to change as soon as the political groups of the populist regime were effectively controlled, the populist civilian and military leadership purged, and their organizations suppressed. The modern industrial and financial class fragments, expressions of the modern capitalism, dominated the new coalition, while the military occupied the central positions in the exercise of power and authority. The traditional land-owning class who fought against Communism in the rural areas and against agrarian reform also remained, albeit as a minor partner, in the new bloc-in-power.²⁹

Furthermore, the Superior School of War (ESG) was convinced that the development of Brazil's modern industrial and financial infrastructure could not be accomplished by the politicians.³⁰ The ESG's Doctrine of National Security purported the ideology and strategy of future Brazilian development. The doctrine related the pursuit of permanent objectives that were to be achieved by policy implementation to attain current objectives. Among the permanent objectives it was established that the ESG was solely responsible for defining national security interests, such as sovereignty, national integration, social peace, international recognition, and a particular interpretation of democratic values including limited freedom of speech, limited personal freedom, and control of the right to form political parties and hold elections. However,

attainment of the permanent objectives was possible through the implementation of policies (current objectives) dealing with conjunctural problems, and had emerged from the analyses and suggestions of classes and seminars at ESG. The ESG was in essence a vehicle for disseminating the dominant national security ideology.³¹

The first military government headed by Humberto Castello Branco, the former Chief of Staff of the Armed Forces, provided the military regime with new institutions such as the National Informations Service (SNI, Serviço Nacional de Informação) that gave the state prompt access to information and intelligence for decisions in the public and in the private sphere.³² Although the military found little difficulty in controlling the political activities of labor unions and student organizations they realized how hard it was to avoid the internal politicization of the military. Eager to prevent the suggestion of any disunity, purges and exclusionary policies helped the dominant hard-line faction give the appearance of a ruling monolithic military establishment. At the same time, implementing these policies made the hard-liners advance into positions of command.³³ The increasing self-sufficiency of the military, in contrast with the relative weakness and dependence of the domestic bourgeoisie, consolidated their hold over the state.

The increased authoritarianism of the military was demonstrated in the deactivation of the existing political parties. This took place after the 1965 Gubernatorial elections in the states of Minas Gerais and Guanabara resulted in victories considered detrimental to the regime. As a consequence political activities were funnelled into two parties, one supporting the military regime -- National Renovating Alliance (ARENA) -- and another opposing it -- the Brazilian Democratic Movement (MDB).

The Program of Economic Action of the Government (PAEG) contained diagnoses of the most pressing causes of declining growth rate. GNP growth was the only statistic the military thought necessary to legitimize their rule. The PAEG proposed policies to remedy the economic recession which were not explicitly exclusionary but required increased use of a strong hand to obtain compliance. The economic policies, breaking away from Furtado's Triennial Plan, diagnosed inflation as the principal problem to be tackled since it endangered economic growth.

Additionally, the implementation of the military development cum security project required adequate organization of the state in the area of modern regulatory and financial institutions. Fiscal policy aimed at increasing the extraction of resources, and policies that curtailed the political use of administrative and technical resources, were deemed essential to stimulate economic growth and implement the "restorative"

development project. The 1964 Monetary and Financial Reform transformed the Currency and Credit Superintendency (SUMOC) into the Central Bank of Brazil (BACEN, Banco Central do Brasil) and instituted the National Monetary Council (CMN, Conselho Monetário Nacional). The National Monetary Council became the most important site for mediation of capitalist interests. Classes and actors sidelined in the previous period, including domestic and multinational industrial interests, national and foreign banks, export sectors, state agencies and state enterprises were now convoked to participate in the decision-making process. Now that labor unions were effectively controlled and a new labor and wage legislation were in effect, the decisions of the National Monetary Council dealt with the share of capital accumulation that each fragment of capital would receive, banking financial gains, agricultural subsidies or industrial fiscal incentives.³⁴

The tax system was re-elaborated paying attention to the creation of non-inflationary means of getting revenues. The tax reforms were aimed at increasing the extractive capacity and included the creation of indexed bonds and bills of the National Treasury (ORTN and LTN) used for indexing mortgages, housing loans, construction industry, rents and debts.³⁵

Efforts were made to regain the confidence of foreign lenders and investors -- government, multilateral and private alike. In that same year, 1964, the World Bank, the IMF, and private foreign banks resumed financing to Brazil.

In one of the first actions of the military government, Castello Branco changed the job stability regulations introduced in the 1943 Labor Code to facilitate the capitalist relations of production. According to the old rules, tenure was granted to workers with ten years or more of employment, which resulted in numerous labor lawsuits against multinationals and Brazilian firms. In 1966, the Time of Employment Compensation Fund (FGTS, Fundo de Garantia por Tempo de Serviço) was instituted, eliminating job tenure and instituting a flat compensation over the amount of time on the job. The new attractiveness of the Brazilian labor laws for the multinational firms were directly related to the depressed wages and unencumbering labor code.

2. State Enterprise Action in the Period 1964-67: Reform and Institution-Building

The discussion above showed how reform of state institutions or the installing of new ones has directly affected the character of the regime. The action of the state enterprises in this period, as shown below, was also marked by reform and extended institutionalization, not only in sectors historically established but also in new areas. Some of the long-lasting traits instilled in this period of reconstitution of the state institutions were:

- a) depoliticization of the state enterprises and agencies;
- b) subordination of their objectives to national Security and Development objectives;
- c) adoption of entrepreneurial mode of operation;
- d) loss of the social functions it had before 1964.

Yet, these traits were contradictory. The objectives of state enterprises were subordinated to National Security and Development objectives but they were implemented by state enterprises managed as private enterprises. The central decisions and objectives were taken at the top-echelon levels of the National Security Council and the presidential level after which they were carried out by state enterprises. This form of state action was established in the 1967 Administrative Reform Act which mandated "centralization of decision and decentralization of decision execution" as a rule.³⁶

Despite the initial efforts of the Program of Economic Action of the Government (PAEG), inflation remained high and economic recovery slow (see Table 3.1). The military was willing to combat inflation at any cost, no matter how detrimental to the society at large. Reducing it involved a harsh package that included recessive policies, emphasized modernizing institutional reforms, enhanced financial capacities of the state and controlled labor in order "to make capitalism work."³⁷

TABLE 3.1
MACRO ECONOMIC INDICATORS

Years	Real GDP growth rate (%)	Inflation rate (%)	Exports (a)	Imports (a)	Trade Balance (a)	Current Accounts Balance (a)	Gross Foreign Debt (a)	Net Foreign Debt (a)
1960	9.7	30.5	1.3	1.3	.0	- .5	3.1	2.8
1961	10.3	47.7	1.4	1.3	.1	- .2	3.1	2.6
1962	5.3	51.3	1.2	1.3	- .1	- .4	3.2	2.9
1963	1.5	81.3	1.4	1.3	.1	- .1	3.2	3.0
1964	2.9	91.9	1.4	1.1	.3	.1	3.1	2.9
1965	2.7	34.5	1.6	.9	.7	.4	3.5	3.0
1966	3.8	38.8	1.7	1.3	.4	.1	3.7	3.3
1967	4.8	24.3	1.7	1.4	.2	- .2	3.4	3.2
1968	11.2	25.4	1.9	1.9	.0	- .5	3.8	3.5
1969	10.0	20.2	2.3	2.0	.3	- .3	4.4	3.7
1970	8.8	19.2	2.7	2.5	.2	- .6	5.3	4.1
1971	12.0	19.8	2.9	3.2	- .3	- 1.3	6.6	4.9
1972	11.1	15.7	4.0	4.2	- .2	- 1.5	9.5	5.3
1973	14.0	15.5	6.2	6.2	.0	- 1.7	12.6	6.2
1974	9.5	34.5	8.0	12.6	-4.7	- 7.1	17.2	11.9
1975	5.6	29.4	8.7	12.2	-3.5	- 6.7	21.2	17.1
1976	9.7	46.3	10.1	12.4	-2.3	- 6.0	26.0	19.4
1977	5.4	38.8	12.1	12.0	.1	- 4.0	32.0	24.8
1978	4.8	40.8	12.7	13.7	-1.0	- 7.0	43.5	31.6
1979	6.8	77.2	15.2	18.0	-2.7	-10.7	49.9	40.2
1980	7.9	110.2	20.1	23.0	-2.8	-12.8	53.8	46.9
1981	-1.6	95.2	23.3	22.1	1.2	-11.7	71.9	64.4
1982	.9	99.7	19.0	18.3	.7	-15.4	83.2	79.2
1983	-3.2	213.2	21.9	15.4	6.5	- 6.8	91.6	87.1
1984	4.5	238.8	27.0	13.9	13.1	- .05	99.7	87.8
1985	8.3	235.1	25.6	13.2	12.4	- .65	99.7	88.1

Source: Conjuntura Econômica, August 1986, 1984, 1980; Economic and Social Progress in Latin America, 1986 Report, Inter-American Development Bank, pp. 220, 394, 396.
(a) in current US\$ billion.

Following the prescription of the package of policies with respect to state agencies and state enterprises, the main objective was to eliminate politics in their daily operations and to cover the deficits and losses caused by the political use of their funds. This was a particularly Herculean task since many state agencies lacked self-financing capability. Those agencies that had an income confronted three main factors, among many, contributing to their financial situation: a) the rates of public utilities were eroded by inflation; b) public goods and services together with industrial products manufactured by the state enterprises were priced extremely low to maintain political stability; and c) pricing policies contained heavy subsidies to industrial consumers (See Table 3.2 - Price Indexes. Public Goods and Services, 1962-1974 below).

State enterprises and agencies, supposedly purged from political clientelism by now, turned to the adoption of private management practices in an effort to increase their efficiency. One of the first measures taken was reviewing the tariffs and prices for their goods and services so they could reach "realistic tariffs" which would free them from fiscal budgets.³⁸ However, steel prices remained partially frozen in order to generate benefits to the private economy, particularly the auto industry.

Another measure was to have separate personnel policies from those of the Civil Service. While direct Civil Service

salaries were frozen, the salaries of the state enterprises employees were calculated on a different scale: the technical/managerial staff of the state enterprises were paid

TABLE 3.2
PRICE INDEXES.
PUBLIC GOODS AND SERVICES, 1962-1974.

(1965-67=100)

Years	INFLA- TION (a)	PETRO- LEUM Index (b)	ELECTRICAL ENERGY Index (b)	STEEL Index (b)	RAILROAD FREIGHT Index (b)	PUBLIC SERVICE TARIFFS Index (c)
1962	51	13	8	18	15	8
1963	81	24	15	31	22	15
1964	92	45	30	54	45	33
1965	34	80	68	84	70	66
1966	39	99	98	99	108	101
1967	24	120	134	117	123	133
1968	25	155	156	152	119	159
1969	20	195	202	190	196	197
1970	19	225	257	253	260	254
1971	20	276	305	319	322	315
1972	16	350	366	360	322	392
1973	16	401	405	432	360	443
1974	35	641	512	653	477	526

Sources: a - Conjuntura Econômica, from Table 3.1, p.80.
b - Trebat, Brazil's State-Owned..., Table 7.1, p.184.
c - utilities and urban transport aggregate prices including gas, water, electricity, telephone, bus and train.

salaries that competed with the private sector, making them able to attract better personnel.³⁹

Before 1964 The Federal Railroad Network (RFFSA, Rede Ferroviária Federal S.A.) and shipping line companies were extensively used as a source of employment and clientelistic, patrimonial pattern of action, resulting in political dividends for the Goulart regime. Their autonomy was most prejudiced as a result. The overstaffing and political price-setting for services before 1964 were drastically reversed in order to recoup losses sustained before 1964. However, these short run measures together with stopping unprofitable hauls were insufficient to compete with transportation via highways. In addition, the absence of secure sources of long term financing was detrimental for the financial autonomy of the sector. Furthermore, the decision process in the transportation sector was necessarily political: for example the RFFSA had to continue running the deficit-ridden suburban passenger service at low rates to prevent political unrest.⁴⁰

The electric power sector surmounted the anti-statist campaign with its holding company Eletrobrás. After a decade of "generation project-oriented" growth, the regional and state companies of the electric power sector were directed

to implant realistic rate-setting procedures, to manage Eletrobrás and its subsidiaries like private firms, and to respect public money as we respect private money.⁴¹

Obsolete rate-setting mechanisms made foreign companies, such as the Brazilian Traction, Light and Power of Canada, unwilling to invest in their operations in Brazil, what gave them high political leverage. The lack of foreign investment increased number of shortages and the likelihood of rationing, while providing poor service to about 80 percent of the Brazilian market. In 1964, just after coming into office, the Minister of Mines and Energy, Mauro Thibau, restructured the rate legislation, indexing assets, and reintroducing the return on investment on basic rates.⁴² Raising electricity rates was not so politically sensitive as increasing train fares but it indicated a clear pro-foreign-company stance which was resented.

This political opposition to favoritism toward foreign capital was easy to control since public protest was effectively suppressed under a harsh press censorship. Whereas higher rates benefited foreign companies it also generated financial and economic leverage of the state electric utilities companies. Eletrobrás was also able to increase its sources of funds with the compulsory loan collected from the regional and states companies, and with directly collected and earmarked fiscal resources, previously managed by the BNDE.

In the period 1964-67 Eletrobrás struggled to consolidate and to acquire the institutional resources that would allow it increased managerial, financial and political autonomy. Nevertheless, its regional subsidiaries and associated companies

owned by the states of the federation were at that point more important than Eletrobrás. Furnas, CHESF, São Paulo State generating companies -- CELUSA, CHERP and USELPA which merged into CESP --, and Minas Gerais's CEMIG were all large influential firms in their own right. Despite the long distance from the location of the generating power plants to the market, they were able to strike advantageous contracts for the sale of bulk electric power with the foreign-owned Light. This alone changed the relationship between the state regulatory agency CNAEE and the foreign-owned distributors, from a bribery-ridden, corrupt relationship to a concrete business venture.⁴³

In the petroleum sector, Petrobrás's new president, General Ademar de Queiroz (appointed by Castello Branco and a participant on the 1964 coup), attempted to insulate Petrobrás from political influence. While expanding its refining capabilities, Petrobrás expropriated private refineries. It also went through an institution-building process, reorganizing services and functions in a novel power-sharing system.⁴⁴ The substitution of political appointees by technical personnel laid the foundations for Petrobrás's increased efficiency, market share, and profitability in the future growth years. Control over the expropriated refineries lasted less than two years (1964-65), at the end of which time they were returned to the private sector. Two of these refineries, however, reverted back to Petrobrás control in the early 1970s as a result of an

expansion program. This overall rational policy targeted to put Petrobrás firmly in control of a refining capacity that by 1974 reached over 95 percent of all crude oil in Brazil.⁴⁵

Before 1964 the policy decisions taken by the high management of Petrobrás were essentially welfare-leaning causing, apprehension in the Armed Forces in face of the national security connotations of this industry. After 1967 entrepreneurial autonomous decisions by the military who controlled Petrobrás facilitated the expansion into distribution and petrochemicals. Both were compatible with national security objectives since they continued an autarkic pattern established earlier.

The deep crisis of the steel industry in the mid-1960s was caused by a decrease in the Gross Fixed Capital Formation of the sector of 55 percent in 1963 and 25.6 percent in 1964.⁴⁶ Managers of state-owned and private enterprises resented the price-freeze, the lack of control over power and managerial resources, and the excellent conditions given to imported steel. The BNDE, by controlling the finances of the sector, essentially dominated steel policy until 1965, diminishing the state steel sector's autonomy. Nevertheless, at the Brazilian Steel Institute (IBS), an informal arena for the steel sector's mediation, state and private entrepreneurs usually concurred about appropriate measures needed to confront falling profit rates and increasing financial costs, but they were at odds in dividing up the market.

To help organize the steel sector, BNDE and the international lending agencies (the World Bank and the International Finance Corporation - IFC) proposed a jointly sponsored study involving private interests, public interests and multilateral agencies. A commission was formed by the National Confederation of Industry (CNI, Confederação Nacional da Indústria), the Ministry of Industry and Commerce, the BNDE, the IBS, the World Bank and the IFC. They contracted Booz-Allen and Hamilton to analyze and recommend alternative solutions for the decapitalization of the steel industry and its future developments.⁴⁷ A controversial August 1966 Report followed, negating the political guidelines by recommending no further increase in Brazilian steel production. The Minister of Planning's defense of the Report, that it had been formulated on "strictly technical grounds" based solely on market indicators⁴⁸ was disproved by future research. It is now generally accepted that international oligopolies were fiercely competing for the potentially large and expanding Brazilian market and had influenced the expert's recommendations.⁴⁹ Politically out of touch, the Report was a major blunder that had the effect of rallying private and state enterprises in the Brazilian steel sector behind a revision of the Report recommendations, done by the Consultative Group for the Steel Industry.

With respect to the mining sector, this period was a fundamental shift from the nationalist solution pre-1964, which

put limits to exploration of Brazilian minerals by foreign firms. The 1967 Constitution and the new Mining Code reverted that permitting foreign firms to explore minerals in association with Brazilian firms or individuals. As an important source of foreign exchange, the military government facilitated the operation of multinational firms in the sector hoping that increased exploration would expand exports.

In terms of the mining sector's relative autonomy, the statist solutions of the past were criticized and modified. Instead stimuli to the participation of the private sector were introduced under the aegis of the newly reorganized National Department of Mineral Research (DNPM) and a revamped Mining Code. CVRD's continued autonomy was due to its high political, managerial and financial autonomy, which were essential to the proper functioning of export-oriented activities, which required flexibility and decision-making power.

C. Autonomous State Action in the Growth Cum Repression Period

1. Economic Recovery and Political Repression in the Period 1967-74

This period comprises the consolidation of the pattern of dependent-associated capitalist development which emerged in the late 1950s and whose political, institutional, and economic

foundations were laid in the aftermath of the coup from 1964-67. The military regime was increasingly dominated by the "hard-liners," who were able to impose their authoritarian-exclusionary views after Castello Branco's Minister of War, Costa e Silva, gained the upper hand in the succession and imposed the hard-line supremacy within the military. The Costa e Silva term (1967-69) was marked by the institutionalization of repression and was cut short by his stroke in August 1969. At that time, his SNI Head, General Emilio Garrastazu Médici (1969-74) came to power. Médici presided over a period of accelerated growth spurred by orthodox economic policies, the so-called "miracle." Unprecedented misery, documented by declines in every indicator of human welfare, however, necessitated increasingly authoritarian and repressive political conditions, to avoid the politicization of the widespread marginalization of the working poor.⁵⁰

This period corresponded to the institutional spread of the "national security state apparatuses"⁵¹ through the strengthening of the Presidency and the strengthening of the National Security Council and its executive arm, the National Information Service (SNI). The SNI became a pervasive network of information and security offices in all state organizations, enforcing ideological adherence to development and security concerns. The military executive arm was established at the Internal Operations Divisions (DOI), at the different Armies and

Commands throughout the country. In addition, military personnel started occupying decision-making positions in the state enterprises continually created in the 1967-74 period, in furtherance of the implementation of the ideology of development with security.⁵²

The Costa e Silva military government (1967-69) was marked by political protest and opposition initiated by politicians whose political rights had been taken. The hard-line military responded with increased repression to working class and student organizations. A defiant Congress during 1968 was again harshly repressed, culminating with the issuance of Institutional Act 5, which gave full dictatorial powers to the Costa e Silva regime. Each resistance movement of workers and students, corresponded to harsher repressive acts. Eventually these resisting movements adopted urban and rural guerrilla tactics -- which in turn generated the uncontrollable mushrooming of repressive apparatuses, legal and paramilitary.

After Costa e Silva's disabling stroke and death, Médici was elected in a "sui generis" poll taken among the top brass ignoring the constitutional claims to the presidency of civilian Vice-President Pedro Aleixo. Despite Médici's ultimatum to the military leaders that in order to accept the presidency they would have "to accept any mission he gave them," Médici in reality let the repressive apparatuses rampage about, in much the same way as he gave a free rein to state agencies to implement

autonomous policies.⁵³ During Médici's term (1969-74) the repressive apparatuses were given full support to combat the guerrilla and labor movements. Opposition was effectively crushed during this period -- the harshest dictatorial years of the military regime.⁵⁴

Another undeniable characteristic of Médici's term was economic growth, constantly celebrated by the Public Relations Advisory Board (AERP, Assessoria de Relações Públicas da Presidência da República) in an effort to legitimate the political regime. However the political regime was repudiated by the Brazilian society not only because of the events involving torture and disappearances, hushed under a veil of censorship, but also because of the inequitable distribution of results. Economic growth as an end in itself without distributive concerns and as a source of legitimacy, gave impetus to the grandiose projects that inebriated the military. The Transamazonian Highway, the Rio-Niterói Bridge, the Itaipu Hydro-Power Plant and the Angra I Nuclear Power Plant were intimately linked to the long-term Doctrine of National Security and Development. The "Brasil-Potência" (Brazil- Emerging Power) project continued throughout the 1970s, reflecting the Superior School of War's doctrine, which permeated the military and the technocracy in a "new entrepreneurial self-identity," in times of ineffectual Congressional politics.⁵⁵

In the economic sphere the Minister of Finance, Antonio Delfim Netto, who remained in office from 1967 to 1974, implemented large investment programs in the state productive sectors. In so doing the idle capacity of the capital goods manufacturing was preempted. This production was predominantly done by the multinational companies operating in Brazil since the Target Plan. The funds for such policy came from the renewed self-financing capacity, new investment attracted through subsidies and tax credits, and heavy reliance on debt-financing.⁵⁶ Embarking on expansionist policies was therefore not a product of a single decision but rather it derived from a combination of factors including a higher degree of relative autonomy for the state due to increased insulation from societal demands. Among these factors was the absence of political challenge due to intense repression, the regime's increased extractive capacities and the aggressiveness of the foreign capital in offering loans and suppliers' credits. For some critics there was no miraculous economic growth in this period; it could be explained by the cyclic nature of the Brazilian economy coupled with a special political and economic conditions.⁵⁷ The high growth rate of period 1967-74 averaged 10.4 percent per year (Table 3.1). Even more impressive, the industrial growth rate averaged 13.05 percent between 1968 and 1973.⁵⁸

However, the policy outcomes of this "growth cum repression" period can be better understood when income distribution figures are examined. The process of income concentration is inferred from the declining share of income received by the lower 80 percent of the working population between 1960 and 1970, from 45.5 to 36 percent.⁵⁹ Social conditions of welfare deteriorated with a surge in the number of slum dwellers (favelados), rising infant mortality rate, and generally poor living conditions.⁶⁰

Even though the economy boomed in high levels of private consumption and export growth, it was the state action that was crucial in providing the incentives to growth. As Baer states

A large proportion of Brazil's capital formation in the late 1960s and the first half of the 1970s consisted of public investment and investment activities in government enterprises (in 1969 this amounted to as much as 60 percent of total capital formation)... [I]ncreased steel production capacity, petrochemicals, iron ore mining, power generating capacity, urban rapid transit systems, and so on, would all be necessary regardless of the income distribution. One may, however, question the wisdom of the huge government investment in road building, which supported the capacity expansion of the automobile industry and made country increasing dependent on the consumption of petroleum, 80 percent of which is imported.⁶¹

The consequences of the institutional and financial reforms of the first years of the authoritarian regime were an expanded and more powerful role of the state in regulating,

financing and producing capacities. Decree Law 200, the 1967 Administrative Reform Act, enhanced the centralization of decisions and the decentralization of execution, while allowing for an unprecedented expansion of state activities in the productive sectors and facilitated the creation and transformation of public companies in the federal states into associated companies to holding federal companies.⁶² Figure 3.1 below depicts a guideline for state entrepreneurial action in the years that followed the Administrative Reform.

The regulating capacities of the state were increased when the Interministerial Price Commission (CIP) was organized. CIP controlled prices of basic products and had the power to obstruct credit from official banks and agencies for those who did not comply with its directives. CIP's ability to control prices resulted from the power to collect and to analyze the costs of production thoroughly, thus enabling it to control crucial sectors of the economy as well as wages and salaries. CIP was therefore able to manipulate price-control mechanisms, influencing the capacity of self-financing or limiting the profitability of entire sectors.⁶³

The financier role of the Brazilian state was modelled after the National Bank for Economic Development (BNDE), the main source of sectorial financing since the fifties. The National Housing Bank (BNH, Banco Nacional da Habitação) used the receipts of the Time of Service Guaranteed Fund (FGTS) to finance the

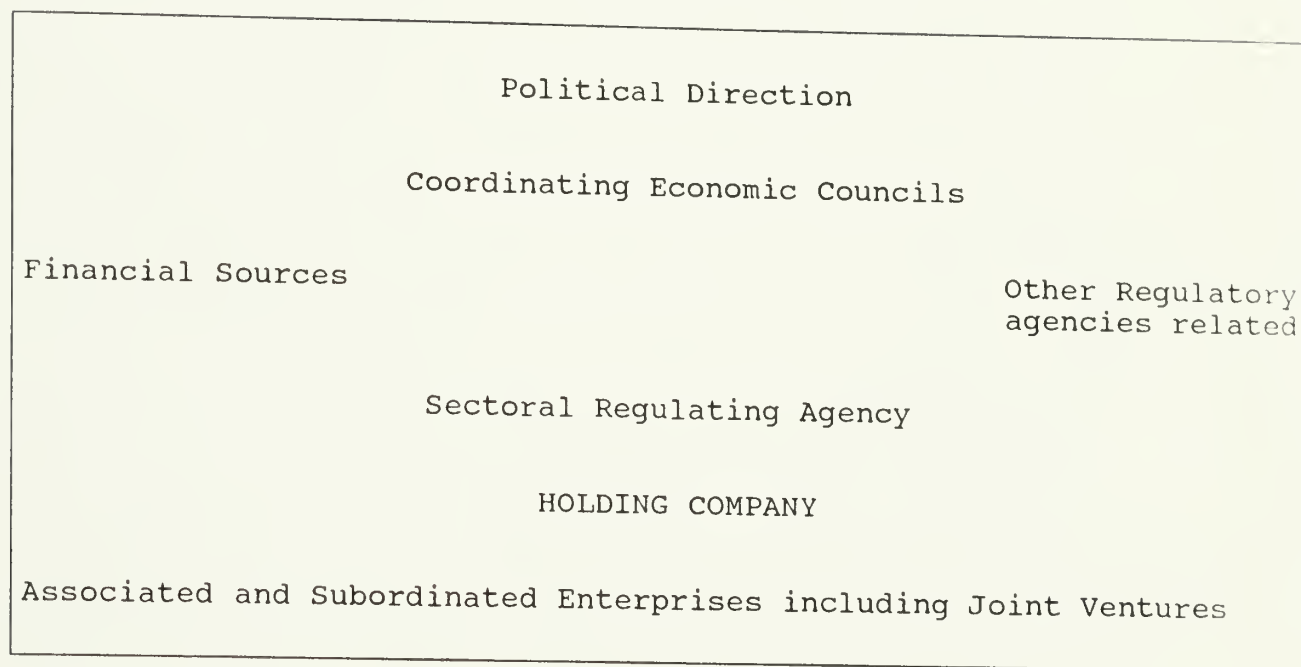


FIGURE 3.1 - GENERAL STATE ACTION. INSTITUTIONAL ARRANGEMENT

POLITICAL DIRECTION:

National Security Council
 Presidency
 Ministry
 other

COORDINATING ECONOMIC COUNCILS:

National Monetary Council (1964+)
 Economic Development Council
 (1974+)
 National Energy Commission
 (1979+)

SECTORAL REGULATING AGENCIES:

National Department of Mineral Research (DNPM)
 National Department for Waters and Electric Energy (DNAEE)
 National Petroleum Council (CNP)
 National Co. for the Non-Ferrous and Steel Industry (CONSIDER)
 National Department of Telecommunications (DENTEL)
 National Nuclear Energy Council (CNEN)
 Others

HOLDING COMPANIES:

CVRD - Companhia Vale do Rio Doce S.A.
 Eletrobrás - Centrais Elétricas Brasileiras S.A.
 Petrobrás - Petróleo Brasileiro S.A.
 Siderbrás - Siderurgia Brasileira S.A.
 Telebrás - Telecomunicações Brasileiras S.A.
 Nuclebrás - Empresas Nucleares Brasileiras S.A.
 Others

FINANCIAL SOURCES (foreign and domestic):

BNDE; IBRASA (Investimentos Brasileiros); FIBASE (Insumos Básicos Financiamentos e Participações); EMBRAMEC (Mecânica Brasileira); Industrial Development Council (CDI); FINAME (Agência Especial de Financiamento Industrial); World Bank; Inter-American Development Bank, Private Commercial Banks, Self-Financing, others Development and Investment agencies.

OTHER RELATED REGULATORY AGENCIES:

Interministerial Price Council (CIP)
 Foreign Trade Department (CACEX)
 Customs Policy Council (CPA)

FIGURE 3.2 - LIST OF MOST IMPORTANT AGENCIES

housing industry. BNH's original objectives were distorted from financing low income housing to financing the construction of middle- and upper-income units, adapted after the dynamics of interests of the housing industry. In addition, the extensive use of government-guaranteed consumer direct credit helped finance the acquisition of durable consumer goods adding to the concentration of income.⁶⁴

Moreover, the demand for industrial production was reinforced by policies of export promotion based upon an elaborate system of incentives and subsidies whose main objective was to expand foreign exchange receipts. Calculations show that 8 percent of the increase in sales of manufactured products during 1968-72 was due to increased exports of traditional products: shoes, furniture, textile, foodstuff, clothing.^[65] Most of the subsidies relating to the increase of exports were politically controlled by the CDI and by CACEX where export-import agreements were struck as a result of political negotiations that weighed capital accumulation interests and the market conditions.⁶⁶

The financing of investments, based on foreign debt, was greatly facilitated by the Resolution 63 of the Central Bank which allowed Brazilian banks to borrow abroad and to lend in dollars domestically. Another important instrument that contributed to the expansion of foreign debt was Law 4131, which allowed multinational firms to borrow from foreign financial

institutions or other parent companies to replenish working capital with government guarantees. The foreign debt grew fourfold from 1967 to 1974 (see Table 3.1) with these instruments. Since the foreign debt began to change from primarily multilateral agencies loans and suppliers' credits to a greater predominance of loans from private banks, the old notion that the "miracle" years were a great period to invest in Brazil needs to be re-evaluated.⁶⁷

Despite Médici's openness to foreign capital, his policies were assertive of Brazilian state autonomy permitting foreign capital to invest only in sectors not already occupied by the state. Increasingly aware of the policy of reliance on foreign capital,⁶⁸ the military viewed themselves as capable of organizing and promoting the needed accelerated growth in all fields. To further that self-image retired military officers occupied middle and upper management positions in most of the state-owned enterprises, both old and new. However even if the "hard line" project had been partially "legitimized" by high rates of growth in the "miracle" years it could not be solely sustained through widespread repression because neither the military within the state nor the industrial bourgeoisie directly benefitting from economic growth were ever able to gain hegemony in the process of defining political direction and institutionalization of the regime.

At the end of Médici's term the lack of military hegemony was sufficient argument for the inception of the "decompression" project. The successor of Médici was to be chosen from among those candidates acceptable, more or less, to all factions within the military, including the hard-liners represented during the Médici term.

In summary, the analysis of the patterns of political and economic actions of the Brazilian state in this period suggest a group of characteristic traits that were transferred to the action of the state enterprises subsequently: a) internationalization - the state enterprises increasingly procured goods and services with multinational enterprises already implanted in Brazil, or looked for joint-ventures in some sectors in the expansion period; b) depoliticization coupled with private business-like mentality, increased administrative competence and search for financial autonomous capacity; c) increased centralization of high-level decision-making, and execution through contracts awarded to specific fragment of the private sector; d) approximation between the objectives of the National Security state apparatuses and the objectives of the state enterprises (Examples: Transamazon Highway - Objectives of National Integration; Itaipu - Brazilian/Paraguayan/Argentinian geopolitics and international security objectives; Angra I - military hopes of nuclear technology transfer and Brazil's entering in the "nuclear age" ; and finally e) relaxation of the

controls over state enterprises's financial operations, liberating them to deal directly with the private international financial community, what contributed to the sharp increase in foreign debt.

2. State Enterprise Action and Autonomy in the Period of Growth cum Repression

The previous section has shown how the Brazilian state apparatus, influenced by the military's concerns, promoted exclusionary policies that accelerated capitalist development. Lacking political support from most of the organized groups in society (labor, press, professional, lawyers) and thereby forced to hold the regime together with repression and propaganda, the state sought legitimacy through economic performance during the presidential terms of Costa e Silva and Médici. The economic recovery of this period was the result of the maturing of the productive structure built in the 1950s and 1960s, was supported by Castello Branco's institutional and political reforms, and was facilitated by an unprecedented increase in international trade and credit availability in external financial markets. Additionally, the recovery was spurred by a set of conditions, as discussed before, that restructured internal demand during the years 1968-73. In short, this growth cum repression and further internationalization of the economy presupposed both the change in the pattern of production and the change in the

organization and structure of political power and policy-making. This section will discuss the state action which took place in the period and its high degree of political and financial autonomy.

The economic policies decided in the central policy-making agencies (mainly in the National Monetary Council, directed by the powerful Finance Minister, Delfim Netto) were instrumental in the recovery but they were not the main determinant once the interest articulation in the CMN was limited in political power. Each of the public productive sectors gained political importance in this dynamic cycle, yet each sector (electric power, petroleum mining, transportation, steel, telecommunication) had its own coupling with private national and international capitalist segments, ranging from cooperation , to toleration to outright conflict. State action was, therefore, governed by the general distribution of political power.

The policy-makers were quick to tap availability of foreign savings, channelling resource to the state entrepreneurial sectors, now that the political appointees were replaced by the technocratic or military-background managers. The state combined strategies of resource allocation with increased intervention aimed at the consolidation of a oligopolistic productive structure. That resulted in the organic association of the large national private firms, the large state enterprises, and the multinational corporations in a "tripod"

model which was consistently stimulated through mergers, joint-ventures and a systematic policy of concentrating investments in the strategic sector of petroleum/petrochemicals, mining, steel-making, electric sector, telecommunications and transportation.⁶⁹ Notwithstanding the euphoria with accelerated accumulation, the state sectors competed with each other for resources. As the productive structure became more heterogenous, the competition and the cleavages of interests became more fierce for the definition of priorities within the state. As seen from the Table of Annual Growth Rate in the Investment of State Enterprises (Table 3.3) investment was unevenly distributed among the different state sectors. The following discussion of the state enterprise action highlights the variable "relative state autonomy" in which we focus our analysis, by considering the centrality of the policy and the articulation of interests seeking to control and to manipulate economic, financial and political resources.

As discussed in Chapter II political power resources and financial resources are the underpinnings of state enterprise action. Each sector mobilizes resources and establishes special relationships with the central state agencies and with its particular network of private interests. In addition, these patterns of interest articulation change over time, modifying the patterns of resource mobilization.

TABLE 3.3

STATE ENTERPRISE SYSTEMS
ANNUAL GROWTH RATE IN INVESTMENT, %

Years	Eletrobrás & Itaipu ¹	Petrobrás ¹	CVRD ²	State Steel ³
1969	1.1	10.3	5.3	-
1970	31.3	57.6	74.4	-
1971	13.8	44.0	39.2	-
1972	17.8	-2.7	43.9	24.9
1973	14.4	19.8	-6.7	77.4
1974	9.9	40.5	-15.9	21.8
1975	22.9	24.3	-24.3	26.1

Source: From tables 4,5,7,8 in Henri Philippe Reichstul and Luciano Coutinho, "Investimento Estatal 1974-1980: Ciclo e Crise," in Luiz Gonzaga Belluzzo e Renata Coutinho (orgs.), op.cit.

¹ - From companies Reports.

² - Data from Raw, op.cit., table 32, p. 350. Investments on the CVRD subsidiaries not available prior to 1972.

³ - Based on reports from state companies, holding Siderbrás, and Consider.

The pattern of investment for the state enterprises shown above demonstrates not only their performance with respect to overall economic performance but also provides an idea of the priority of each state sector to the central state. The negative values for the average growth rates in Gross Fixed Capital for the period 1965-69 reflect the downturn in investment in state enterprises as a result of the economic and institutional reforms. Anticipating the cyclical rise in the growth rate, however, investment in energy infrastructure was higher than the overall investment. In the following period 1970-73, coinciding with a period of harsh repression, the state enterprises's

investment grew (Table 3.3); the average growth rate in the Gross Fixed Capital Formation for the state enterprises (Table 3.5) was almost twice as much as the Total Gross Fixed Capital Formation (Table 3.4). Gross Fixed Capital Formation followed a discontinuous pattern for the period in question, reflecting policy priorities negotiated at the central state level.

TABLE 3.4
GOVERNMENT AND STATE ENTERPRISES
PERCENTAGE SHARE OF GROSS FIXED CAPITAL FORMATION
(Selected years, by sectors)

	1965	1969	1970	1973	1975
GOVERNMENT	24.9	22.7	18.5	16.7	16.9
ST. ENTERP.	9.2	4.4	8.0	10.5	-
Steel	- 5.0	0.8	0.7	2.0	2.9
Mining	0.6	0.6	0.9	0.6	0.7
Elec. Power	1.4	2.1	4.8	5.6	na
Chemicals	2.2	0.9	1.6	2.3	5.0

Source: Sulamis Dain, "Aspectos do Investimento Empresarial do Estado." (Table II) - Grupo de Estudos do Setor Público/ FINEP, 1978.
Obs.: negative due to decapitalization.
na - not available.

The pronounced discontinuities found in the average investment growth followed a pattern of large sectoral investment done in "blocks," regardless of economic conditions. Investment was greater for the electric setor in the late 1960s, while the

steel sector was the leading investment block in the next two periods combined, growing at 60 percent and 40 percent for the years 1970-73 and 1973-75 respectively, increasing its share in the Gross Fixed Capital Stock from 0.8 percent in 1969 to 2.9 percent in 1975. In the third period, the leading block, the petroleum/petrochemical sector, averaged a growth rate in the Gross Fixed Capital Formation of 70.8 percent. Likewise, its share in the Gross Fixed Capital Stock increased from 0.9 percent in 1969 to 5.0 percent in 1975.

TABLE 3.5
AVERAGE GROWTH RATE
GROSS FIXED CAPITAL FORMATION
(Selected years)

	1965-69	1970-73	1973-75
TOTAL	13.5	15.0	16.7
GOVERNMENT	11.2	12.2	17.9
ST. ENTERP.	-5.5	27.7	na
Steel	-22.0	60.0	40.0
Mining	-11.0	22.5	4.5
Elec. Power	37.0	22.0	.2
Chemicals	- 8.5	30.0	70.8

Source: Sulamis Dain, "Aspectos do Investimento Empresarial do Estado." (Table II) - Grupo de Estudos do Setor Público/ FINEP, 1978.
na - not available.

The pattern of uses of resources refers to analysis of the patterns of investments describing how each sector fared

relative to the others, while the analysis of the sources of financing sheds light on the financial underpinnings of the state relative autonomy variable. Relative state autonomy is often achieved by control of the sources of the financial and economic resources. So, understanding how a sector had more or less resources for their use depended on a number of things, including their capacity of self-financing through the sale of goods and services, the role of internal capitalization and the degree of foreign indebtedness incurred by each of the major productive sectors. Ideally the more the state enterprises had control over their own resources, the more they were capable of deciding and executing their policies. There were other circumstances that influenced the state autonomy, however, such as the role of the national security doctrine or the influence of the private sector, both domestic and multinational.

Up until 1965, while the major source of financing investments within Brazil were the BNDE and budgetary appropriations, external financing came primarily from multilateral agencies. Shortly after, that changed with the renewed capacity of state enterprises to generate funds from the provisions, at realistic prices, of goods and services. As resources increased they were used for state enterprises's expansion thus sustaining economic growth. At the same time, budget allocations were diminished in order to reduce the deficit incurred during the 1962-67 crisis.

The concern of creating means of self-financing investment affected the relative autonomy of the state enterprises in important ways. While pricing policies did in fact help the electric power, the petroleum and the mining sectors, the pricing of steel products was kept depressed to keep down the cost of production of durable-consumer goods, a sector dominated by multinational corporations. The contradictions of interests, pitting the executives of the steel plants against the executives of these multinational corporations interested in maintaining low prices, ended up hurting the state steel sector. Although prices of electricity, telephone and urban transport were readjusted (See Table 3.2) soon they were being maintained unrealistically low and used again as a political instrument in the fight against inflation. Despite this fact, for a while these resources were sufficient to guarantee a high aggregate self-finance ratio in the period, as seen in Tables 3.6, 3.7 and 3.8 below.

The earmarked Sole Tax on Electric Energy (IUEE) and the Sole Tax on Liquid Fuels (IUCL), raised directly from the consumers of electricity or petroleum products, are considered by Eletrobrás and Petrobrás as their "own resources."⁷⁰ Although not subsidies, these earmarked taxes can be better viewed as government transfers to the state enterprises. For the purposes of this analysis, however, they will be considered as self-generated resources since the actual transfers were not linked to

annual budget appropriations but rather done automatically, shielded against political changes. These funds, sales surpluses and earmarked funds were relatively stable during the period 1967-74, accounting for 45 percent of resources benefitting Eletrobrás and the majority of the funds allocated to Petrobrás (See Table 3.6), whose policies were relatively independent from the political direction of the central state apparatus.

A second form of securing funds for the sectoral investments, was equity provision by the government, made on an irregular basis. These funds were allocated in accordance with the sector's needs on capacity for a self-generating surplus from the sale of products or services. In addition to capital infusions from the Treasury, under the form of retained earnings and depreciation funds, equity was also raised through the sale of shares in the stock market. The total privately subscribed voting and non-voting capital was never significant, even in the joint ventures where the state capital has always remained in control. However, the volume of sale of five of the most popular state enterprises's stock represented more than 20 percent of overall trading in the São Paulo Stock Exchange between 1971 and 1973.⁷¹ The sale of stock to the public forced the state enterprises to adopt profit-seeking behavior. This in turn constrained the government's ability to use in their public roles. The sale of stock competing for resources in the market also contributed to the confrontation between the private sector

and the state during the anti-statist campaign that was waged later on.

The third major form of investment financing -- long term borrowing from international commercial banks -- initially was not as important as they later became. According to Trebat, their share increased from less than 15 percent in 1968 to 25.2 percent in 1974.⁷² In terms of domestic loans, the Brazilian private banks had a minimal role in the financing of investment. The state enterprises historically relied on the state-owned banks. In particular the BNDE, at least up to 1965, when the BNDE decided to emphasize loans to the private sector.⁷³ As domestic sources for long term loans dried up for the state enterprises, foreign sources of long term financing became more available, as illustrated in Table 3.6. The state enterprises -- particularly those in the transportation and in the electric power sector -- continued to receive project financing from the Inter American Development Bank, the World Bank (International Bank for Reconstruction and Development). These agencies maintained a good relationship with the Brazilian state at the same that they looked after economic interests in the First World. In the case of the Brazilian loans, 15 percent of the funds were used as suppliers credit to purchase capital goods in the US, Japanese and European market.⁷⁴ Special circumstances accelerated Brazilian foreign indebtedness in the period 1967-74. For one, the situation of high liquidity in the so-called Euro-markets

TABLE 3.6
SOURCES OF INVESTMENT FUNDS (Selected Years)

	Self-Financing		Capital Subscription		Long Term Borrowing	
	Optg.	Earmarked	Gvt.	Prvt	Domst.	Frqn
ELECTRICITY						
1968	27.1	14.3	30.6	1.7	13.9	12.4
1971	25.5	19.8	19.6	2.7	13.5	18.9
1973	34.4	19.9	20.0	0.3	6.5	18.9
PETROLEUM						
1968-70	66.1	21.9	2.1	1.0	3.0	5.9
1969-73	50.4/69.3	40.1			na	na
1973	70	21.6			na	na
STEEL						
1969-73	22		16		10	30
MINING						
1964-68	70		8		na	12
1969-74	65		10	1.5	1.5	22

Sources: Luciano Coutinho and Henri Philippe Reichstul - "Tendências Recentes do Investimento Empresarial do Estado." Paper presented at the I Seminário Latino-Americano de Políticas Públicas - FUNDAP/CLACSO - São Paulo, Dec. 1978, Table 5, p.20; Henri Philippe Reichstul, "Financiamento do Setor Energético" - Table 8A, p. 119; Wilson Dutra and Vitória Salles, Padrões de Financiamento em Empresas Estatais (Rio: FINEP, 1978, mimeo), pp. 79ff; Trebat, Brazil's State-Owned..., op.cit., p. 174.

Note: optg - operations generated; earmarked taxes; gvt - government; pvt -private; domst - domestic; fqn - foreign; na - not available.

coincided with the internal cycle of accelerated economic growth, which stimulated the demand for large amounts of credit by the private and the public sector. Additionally, the institutions of

the Brazilian financial system were not yet mature enough for that kind of rapid expansion, forcing a considerable portion of the demand for credit to be met by operations involving the use of foreign exchange. The increase in foreign indebtedness -- almost fivefold between 1967 and 1974, from US\$ 3.2 to 17.9 billion -- was predominantly financial in its character, according to Davidoff Cruz's analysis of the loans, financing contracts and the formation of international reserves. According to this author, the contracts for financing US\$ 6.8 billion were counteracted by interests costs amounting to US\$ 6.16 billion and the creation of a reserve of US\$ 6.16 billion, that is, creating a purchasing power for capital goods and raw materials that was not used in the period and returned to the mainstream of the international financial market.⁷⁵

Long term borrowing in the international market rapidly became the way in which state enterprises were quickly able to implement the projects linked to their expansion programs. Different sectors had different access to these foreign loans, depending on several factors. In general the share of investment of the private sector remained stable at 65 percent of the Gross Fixed Capital Formation. However, the share of the public sector investment through government budgets has gradually lost importance in favor of investments through public enterprises as indicated in Table 3.7.

The important lessons behind the shifts in investments patterns in sectoral state enterprises is the obvious commitment to industrialization and infrastructure projects capable of, in the future, paying their own way, while de-emphasizing the policies. Table 3.7 illustrates this shift in the relative autonomy of the state toward productive sectors.

TABLE 3.7

INVESTMENT SHARES OF THE PUBLIC AND PRIVATE SECTOR
(as a Percentage of the Gross Fixed Capital Formation)

Years	<u>Public Sector Investment</u>		<u>Private Sector</u> (a)	TOTAL
	Government Budget	Large State Enterprises		
1947	31.1	3.2	65.7	100
1959	19.9	8.3	71.8	100
1965	24.9	13.6	61.5	100
1966	20.3	13.9	65.8	100
1967	22.9	16.3	60.7	100
1968	19.3	14.1	66.6	100
1969	22.7	12.4	64.8	100
1970	18.5	15.9	65.5	100
1971	17.5	17.2	65.3	100
1972	16.1	18.3	65.6	100
1973	16.5	19.3	64.1	100
1974	16.4	20.3	63.2	100
1975	16.9	20.5	62.5	100
1976	17.7	25.1	57.2	100
1977	17.5	25.4	57.0	100
1978	16.1	23.3	60.5	100
1979	11.8	21.8	66.3	100

Sources: Calculated from Table 5.2 - Estimated Breakdown of Public and Private Gross Fixed Capital Formation, 1947-1979 (Cr\$ 000 current) - Trebat, Brazil's..., p. 121.

redistributive nature of the state intervention. Social spending -- education, health systems, public housing, judicial systems -- fell far behind spending on infrastructure and basic industries.⁷⁶ The shift from government spending, including a larger share of social spending, to spending of the government through large state enterprises indicated increased capability of the entrepreneurial sector of the state to decide their own

Table 3.8 reflects the technical indivisibilities and the percent of total state enterprise investment required to either implant a whole new industry, as was the case of petrochemicals, or to expand existing state productive sectors.

TABLE 3.8

SECTORAL ALLOCATION OF STATE ENTERPRISE INVESTMENT (%)

SECTORS	1947	1956	65	66-69	70-5	76-9
Steel	34	16	46	4	9	13
Mining	10	8	6	4	6	4
Pet.+ Petrochem.	1	52	20	19	21	23
Telecommunic.	-	-	-	6	9	10
Electric Power	-	5	13	55	43	40
Railroad (a)	39	12	10	12	12	10
Not Classified	16	7	5	-	-	-

Sources: Arnaldo Werneck "As atividades empresariais do Governo Federal do Brasil" Revista Brasileira de Economia (1979): 105, for 1947-65; Trebat, "An Evaluation.. , op.cit., Appendix C table 43. for 1966-75; Annual Reports of major firms in each sector, for 1976-79; Trebat, Brazil's.., p.120.

Having analyzed the uses and sources of financial and economic resources we now turn to the political and institutional resources controlled by the state entrepreneurial sectors in the period 1967-74.

The state enterprise action in the electric energy sector reflected the relative importance of the production of electricity for the industrial development in this period. A comprehensive consolidation took place, affecting the more than two dozen utilities at the state and at the regional levels.⁷⁷ Unmatched by other state entrepreneurial sector also was the degree of financial autonomy, as it can be seen from the above discussion.

José Costa Cavalcanti, first Minister of Mines and Energy (1967-69) and later Minister of the Interior (1969-74)⁷⁸ was the central figure in the energy sector's consolidation and reorganization. As a retired general Costa Cavalcanti was committed to the military pressures of "permanent occupation" of the state apparatus in name of the defense of strategic, national security interests.⁷⁹ He was the first president of Itaipu Binational (1974-85) and was later given the presidency of Eletrobrás (1980-85). Directors at the regional and state-level subsidiaries and associated companies of Eletrobrás were designated from the regional political supporters of the military regime and technocrats.

Brazil's abundant hydroelectric potential militated against using imported oil or coal for domestic energy needs. Prior experience and the prospects for high profits attracted the large private national construction firms and the multinational capital goods firms into the execution of the sweeping recommendations of the CANAMBRA studies,⁸⁰ accounting for a program of construction of power plants in the South-Central and southern regions through the mid-1970s. Of the institutions involved in the domestic projects the regional utility Furnas was central to the generation and transmission energy to the industrializing South-Central Region. The CANAMBRA studies were contracted by Furnas since Eletrobrás, the electric sector holding, did not have the resources nor the institutional strength to underwrite such a study. Eletrobrás importance as an institution was given after its consolidation as the planning and financial center for articulation of the interests linked to the electric energy sector. Expansion of the electric sector's jurisdiction increased its political power and its capacity for action as more than two dozen associated companies mobilized federal, regional and state political and economic resources.⁸¹ The São Paulo Energy Company (CESP), the most valuable in terms of assets, was well accredited and trusted in the international financial community, commercial banks and multilateral agencies, and capital goods industries. This capacity enabled CESP to

pursue a vast program of generation and distribution of electric energy to the state of São Paulo.⁸²

Domestic projects were complemented with international projects as well. International negotiations for the Itaipu project were initiated with Paraguay and Argentina. Itaipu reflected the interests of the technobureaucrats of the electric sector, based on technical demand studies, but, more importantly, Itaipu was a project of central importance for the highest level of planning and decision-making apparatuses of the National Security Council and the top military brass. The decision to go ahead with Itaipu was part of the overall advancement of the national development scheme labelled Brazil Emerging Power (Brasil-Potência or Brasil-Grande). The Brazilian-Argentine rivalry, more rhetorical in nature than it seems, was at a height with the 1972 imminent return of Peron to Argentina. The Brazilian military considered Peron another Goulart, but the Paraguayan Generalissimo Stroessner viewed Peron as a possible ally, and this worried the Brazilian military.⁸³ Although Eletrobrás role in the designing of Itaipu was minimal, it is the Brazilian partner in the Itaipu Binational Entity providing the US\$ 50 million capital. Eletrobrás also loaned the Paraguayan National Electricity Administration (ANDE, Administración Nacional de Electricidad) its share of US\$ 50 million in the partnership. Eletrobrás continued its role of procuring funds for the Itaipu Project.

The electric energy sector reconciled several interests, in particular those related with the Itaipu project. First the national security interest was addressed with a strong Brazilian presence in the important geopolitical frontier of Paraguay, Argentina and Brazil where Itaipu was going to be built. Second, Itaipu and the expansion program of Eletrobrás and its associated companies were congruent with the interests of the civil construction companies and capital goods industry.

Whereas military security reasons were also behind the decision to build the Angra I Nuclear Power Plant, this project also was an important component of the electric energy policy. Costa e Silva gave the recently created National Commission for Nuclear Energy (CNEN) and Eletrobrás's subsidiary, Furnas, the responsibility for planning and execution. Médici inherited the project and in 1971 international bids were made for a project, won by Westinghouse. The planned four-year project (1972-76) -- which was budgeted at US\$ 304 million -- took until 1983 to be completed at a cost of US\$ 2 billion, and is now operating at 30 percent capacity due to flaws in the equipment design. All cost overruns were borne by the Brazilian Eletrobrás.

The electric power sector and the telecommunications sector became progressively included on the concerns of the hard-liners in the central national security agencies. Electric power was a case of concern since a less than adequate supply would be considered dangerous to national security, thus an impediment to

development. Accordingly, the Itaipu Hydroelectric and Angra I Nuclear Power Plants were decisions made outside the sphere of electric power sector. The political autonomy of the telecommunications sector guaranteed financial support for investment sometimes obstructed by other investment decisions with greater priority.⁸⁴

A similar pattern was followed for sources of funds for financing the expansion of electric power sector. Only after 1972 could Eletrobrás consolidate its position as the electric sector's financial holding company, when it expanded its control over resources previously controlled by its subsidiaries. Unlike the steel sector, the electric sector had access to earmarked revenues and enjoyed the support from the multilateral agencies. Furthermore, the nature of the electric power services, atomized throughout different regions, justified prices high enough to generate resources for investment. The contribution of the funds originated from operating surplus and the Sole Tax on Electric Energy varied in the different years considered during this period as it can be seen in the Table 3.6.

The telecommunication sector did not rank as high as electric power as a priority for investment. Data for this sector are unreliable for this period. Nevertheless, its institutionalization process with the creation of the Ministry of Communications and the subsequent modernization of small local companies, most of which operating with antiquated equipment,

signalled the growing political support for the modernization of the communications sector and the structural changes this entailed. The restructuring of the communications sector in many ways resembled the electric sector's restructuring since it also transformed local and regional utilities into state-owned enterprises. This reorganization and upgrading included systems for interurban and international communications, long-distance TV broadcasting, as well as telex and data transmission installed by Embratel (Empresa Brasileira de Telecomunicações, 1965) and Telebrás (Telecomunicações Brasileiras, 1972).

The political autonomy of the telecommunications sector was never high despite security-conscious retired military personnel occupying high level key-positions.⁸⁵ Incentives provided by Embratel and Telebrás to the domestic telecommunication industry to do research and develop equipment failed to stimulate local technical innovation. Contracts for telephone systems invariably were given to multinational telecommunications firms (ITT, Ericsson, Siemens), since they had technical edge for the supply of the equipment needed.

In the telecommunication sector, between 1965 and 1974 the innumerable small, scattered companies were conglomerated into twenty-two State companies, all under the umbrella of the Telebrás. Telebrás, established in 1972, participated in a mixed-economy type of capital ownership. The long-distance telecommunications company, Embratel, was initially established

to implant a modern, technology-intensive network linking the different regions of the country with international communications systems. Telebrás, as the holding company, was in charge of funding and promoting research and development of telephony systems.

Of all state and regional companies, the State of São Paulo's TELESP (Telecomunicações de São Paulo) became the largest one, rapidly expanding its services. Due to its high profitability TELESP became a major capital investor in other state telephone companies alongside Telebrás.⁸⁶

If the autonomy of the communication utilities was low that was not the case in the petroleum/petrochemical sector. Its autonomy can be traced to a systematic reduction of Petrobrás's politicization, carried out from 1964 to 1968. Through this depoliticization process, Petrobrás could fully use its financial resources on programs related to its entrepreneurial objectives, totally unencumbered by political clientelism, while greatly expanding into future growth areas, and thereby augmenting Petrobrás's political power. The growth of the economy after 1968, in particular the surge in the number of automobiles, trucks and industrial equipment sold, forced the parallel expansion of gasoline and other oil-derived products up, affecting Petrobrás's long range strategy.

The primacy and the political autonomy of the Petrobrás Group was enhanced by General Ernesto Geisel's nomination as its

president. He presided over a period in which there was not only consolidation of the managerial and financial functions, but also an extension into new activities. Geisel's tenure as Chief of the Military Household and as Secretary-General of the National Security Council (1964-1967) certainly entitled him to implement Brazilian "security with development" interests in the field of petroleum and petrochemical policy. Geisel, acting independently from the political direction of the Minister of Mines and Energy, Antonio Dias Leite (1969-74), had the political support of the military and the political leadership to launch Petrobrás in ventures abroad. Petrobrás soon became the largest single oil buyer in the Western world. It also began prospecting and production in international ventures (Africa and Middle East), while simultaneously engaged in distribution. To generate the necessary capital for this expansion and diversification Petrobrás initiated the triple alliance with local and multinational capital in the petrochemical industry.⁸⁷

So, under the direction of Geisel (1969-1974), Petrobrás experienced growth and diversification while expanding its more profitable activities: distribution, refining and petrochemicals. Distribution of petroleum products by Petrobrás, which was not part of the company's initial operating plans in 1953, was permitted only for governmental organizations in 1962, but was fully undertaken by 1968. Petrobrás Distribuidora -- the subsidiary for distribution -- expanded its share in the

Brazilian fuel market from 12.7 percent in 1967 to 27.5 percent in 1973.⁸⁸ Petrobrás also invested in refining activities by repurchasing two of the private refineries, as already mentioned. Petrobrás associated with a number of multinational and Brazilian capital in the building of a petrochemical complex in the Northeastern city of Camaçari, State of Bahia. Petroquisa -- Petrobrás's subsidiary for petrochemicals -- controlled the major firms taking up an investment of more than US\$ 600 million between 1970 and 1974, accounting for more than 50 percent of the total investment in the Petrochemical Pole.⁸⁹ The petrochemical sector was analyzed by Evans, emphasizing its institutional novelty: the particular tripod form of association among state, foreign and local capital.⁹⁰ Nine medium size firms, out of total fifteen, were set up with an average investment of US\$ 51 million in roughly equal parts from the three sources of capitals, none having a controlling majority and always with the state capital being at least equal to foreign capital. Three smaller firms with an average investment of US\$ 20 million were predominantly of national private ownership.

As in the case of electric power sector, the Sole Tax on Liquid Fuels (IUCL) was raised directly from the consumers of petroleum products and this fact made Petrobrás claim them as "self-generated resources." Petrobrás's policies were relatively more independent from the political direction of the central state apparatus, in particular because of the efforts in

depoliticizing and turning the firm more efficient. This was done in a period of with a high degree of self-financing, what made it easy to resume investment by 1969, and continue investing through 1973. Self-finance ratio averaged 60 percent, with 40 percent of its resources made up by earmarked taxes and government capital subscription. Foreign loans were not significant in this period, reflecting a high degree of relative autonomy.

While the Booz-Allen and Hamilton Report restricted the autonomy of the state steel and metallurgical sector by recommending no increase in domestic production, the managerial leadership of the public and private firms were working out the details of Plan I of the National Steel Industry (1968-1970), calling for an expansion of productive facilities. Since the Brazilian firms were unable to supply the internal market with adequate amounts of steel, imports supplemented the shortfall at advantageously low prices, corroborating fears already set in motion by the Booz-Allen and Hamilton Report that it was of all interest to Japanese, American and European steel firms to delay as much as possible the expansion of Brazilian productive capacity.

Having enjoyed tremendous autonomy in the early years and in spite of being historically managed by military officers at the middle and higher strata of the managerial hierarchy, the steel industry had trouble being recognized as a high priority

sector by the central government. The favored multinational auto industry, of which steel products were a significant cost component, pressured the state to maintain low prices, a goal that conflicted with the financial needs of the steel sector. The steel industry was not even provided with a stable and certain source of financing, such as earmarked revenues, denoting exactly how it was on the government's list of priorities. Only after Médici was empowered and his trusted technocrat, Marcus Vinicius Pratini de Moraes, became Minister of Industry and Commerce (the ministry controlling steel production and policy-making) would the steel sector regain the centrality it once had at the beginning of the industrialization process in the 1940s.⁹¹

The steel industry's process of overcoming its difficulties imposed by the lack of financial soundness, either via prices or earmarked tax revenues, led it to stress the importance of institutionalizing a central agency for the steel industry. Since the recommendations of the Booz-Allen and Hamilton Report were difficult to follow, the BNDE formed, in 1967, a Consulting Group for the Steel Industry (GCIS, Grupo Consultivo da Indústria Siderúrgica), where all segments of the sector -- the governmental agencies, the state enterprises, and the private companies -- were represented for policy formation. The Plan I for the Development of the Steel Industry was assembled, but it still provided no mechanism to acquire autonomy and to institutionalize a central agency for interest mediation.

Not surprisingly it provided no way out of the deep crisis since it maintained the function of providing cheap intermediate input to auto and housing industry, booming at the end of the 1960s.⁹²

The difficulty of state and private enterprises in accumulating enough capital prompted the managers to propose a permanent site for interest representation in the state, to offset the threats of denationalization of the sector. But its adoption only occurred in the Médici term, when the segmented interests were conglomerated in a corporative-like institution -- National Council for the Non-Ferrous and Steel Industry (CONSIDER) -- for policy formation and planning. As Abranches notes, Consider's institutionalization was a process where "institution-building and ideology blend in planning."⁹³

The establishment of Consider within the Ministry of Industry and Commerce was followed by the creation of the holding Siderbrás (Siderurgia Brasileira) in 1973, both instrumental in the design of ambitious state steel-making plans. Despite Siderbrás being chartered to be the financial holding for the steel sector, it could not fully perform its functions since the pricing and imports policy were subject to negotiations with other private sector producing and users interests (especially the auto and housing industries) in other institutions such as the price control board (CIP), the tariff policy council (CPA), foreign exchange board (CACEX), as well as negotiations with domestic and foreign financial institutions.

High levels of political resources were also controlled by the steel sector, and to a lesser extent by the railroad transportation. Nevertheless, both were unable to readily translate that political power into policy outputs and into effective flow of funds needed for investment. The political resources manipulated by the steel sector, although not as high as Petrobrás's, were sufficient to press for sectoral policies, after CONSIDER was instituted. The investment in the steel state firms became subject to political criteria and competition from foreign companies rather than the usual demand criteria. At the same time, the sector had to rely on foreign sources of finances since the sector's self-generated resources were insufficient to finance the Phase II of the Expansion of Steel Industry (1972-76). As a result of forceful political negotiations conducted by the Minister Pratini de Moraes the Inter-American Development Bank, the International Bank for Reconstruction and Development made US\$ 600 million available in supplier's credits and long-term loans to the Brazilian steel program, even before knowing what processes or equipment were needed for the expansion program, or who was going to execute it.⁹⁴

In the case of state-owned steel mills -- CSN, Usiminas, Cosipa and Acesita -- pricing policies seriously affected both self-financing ratio and capital accumulation, as seen before. Despite prices increases in steel products between 1968 and 1974 they were inadequate to offset the losses. Foreign

loans were negotiated after successive delays, enabling the completion of the Phase II of the Expansion Plan only in 1976, after an enormous growth in imports of steel occurred⁹⁵ The projected costs of the Phase II, amounting to US\$ 1.3 billion, 47 percent of which were to be provided by the International Bank for Reconstruction and Development and the Inter American Development Bank. However, the poor financial record of the steel companies, coupled with its impossibility of raising prices, made the multilateral agencies retreat to 30 percent, forcing BNDE and the Brazilian government to step in and cover the needed resources.⁹⁶

In the mining sector, the centrality of CVRD and its subsidiaries was due to capacity for generating foreign exchange. Its political utility as a barrier to the encroachment of the multinational mining giants.⁹⁷ The CVRD conglomerate's policies were endorsed by the central government which subscribed to CVRD's improvement program. This program, consisting of the construction of the port and of the first pellet mill at Tubarão, State of Espírito Santo, of financing CVRD's expansion into the activities of shipping and bulk-carrier, and of the improvement of the railroad used for iron ore transportation into the Port of Tubarão in the period 1964-67, provided the conditions for CVRD's improved performance in the boom years.

CVRD interest in extending its markets into the U.S. coincided with the discovery of Carajás by a U.S. Steel

subsidiary. U.S Steel had been trying unsuccessfully to get in the Brazilian steel market -- as evident in the episode of the Booz-Allen and Hamilton Report⁹⁸ -- now tried to associate itself with CVRD in the exploration of minerals on the Eastern Amazon. Since Carajás was a project linked to the foreign market, US Steel initially controlled strategic decisions of when to invest. It was waiting to see how technological development would affect it, deciding to delay investment until when it would be more profitable. CVRD's struggle to recover decision-making autonomy coincided with the culmination of the seaborne iron ore trade, which made the US Steel/CVRD partnership increasingly unstable as the U.S. company withdrew looking for other markets. to invest in.⁹⁹

Nevertheless, the CVRD obtained a competitive position in the expanding international iron ore market, from 1968 to 1973. In this period Brazil's share in iron ore mining was 11 percent of world output. The CVRD alone accounted for 7 percent of the world's output and 60 percent of Brazil's. The increase in iron ore production was attributable to increased ocean-borne trade, together with the emergence of Japanese modern production. Japanese demand for raw materials gave the CVRD an opportunity to emerge as a major world supplier.¹⁰⁰ The Minister of Mines and Energy, Dias Leite (1969-1974), a former CVRD president, personally negotiated with the Japanese the initial exploration Carajás's iron reserves and bauxite/alumina project on the

Eastern Amazon. Negotiations in the late 1970s would change the nature of the Carajás Program, what will be discussed in the next section.

At par with the importance of the mining sector in generating foreign exchange, CVRD also benefitted from the designation of its former president, Antonio Dias Leite, as Minister of Mines and Energy (1969-1974), what gave CVRD prestige and favored relationship with central power. In the period 1964-73 CVRD institutionalized 43 associated or subsidiary companies in iron mining, pellet plant, non-ferrous (aluminum and titanium) mining, forestry/wood/pulp, phosphates, engineering services, shipping and marketing, 39 of them only in 1969-73 period, when Dias Leite was Minister. CVRD consolidated its export-orientation supplying ores or semi-processed products to more than twenty countries by 1974. Japan was the largest single country buying more than a third of the CVRD exports, what represented, for Japan, more than 12 percent of total iron ore imported.

In the period 1967-74 among the major companies established as subsidiaries and associated to CVRD was the association with multinational and local capital to explore the vast iron ore mines of the Greater Carajás Program (Serra dos Carajás is located in the State of Pará, in the Eastern Amazon). In order to expand its markets abroad, CVRD formed joint-ventures with Italy, Spain and Japan to implant pellet mills (Itabrasco,

Hispanobrasco and Nibrasco) to export intermediately processed ore. In addition, CVRD diversified its mineral activities, starting to survey and to explore non-ferrous minerals. It also began projects in other non-mineral activities such as pulp, paper, fertilizers and phosphates.

With respect to political resources, Petrobrás and CVRD were the state enterprises that displayed highest levels of political resources, measured by the high degree of freedom in defining goals and policies. Such political autonomy helped Petrobrás and CVRD impose their decisions on most other state institutions and the private sector. They became real "states within the state"¹⁰¹ in face of their substantial ability to generate resources needed for their own expansion and diversification, and their contribution to the economy, as discussed earlier.

TABLE 3.9

STATE ENTERPRISE SELF-FINANCE RATIO
As Percent of Investment, 1966-79

Yrs.	Self-Finance Ratio	Yrs.	Self-Finance Ratio
1966	81	1973	54
1967	56	1974	46
1968	63	1975	35
1969	63	1976	35
1970	59	1977	39
1971	53	1978	37
1972	50	1979	34

Source: From SEST's State Productive Sector (electric power, oil mining, telecommunications, steel) reports. Railroad investments were almost totally financed by the multilateral agencies, World Bank and Inter-American Development Bank.

Unlike the state steel companies, the mining sector relied on a 65 percent self-financing ratio for its expansion during the boom of sea-borne trade of iron ore. Foreign loans accounted for 22 percent of the investment, while the remainder was capital subscription. The mining sector could therefore count on both political and managerial resources to pursue autonomous policy-making.

D. Implications and Conclusions

While in the initial years of the period the self-financing ratio was impressive, complimentary funds were required when the rapid expansion of the state enterprises began -- averaging an annual increase in investment of 23 percent¹⁰² for the period 1968-73. The share represented by self-financing grew progressively smaller as a result of the greater demand for resources obligating the firms to seek external sources.

TABLE 3.10

AVERAGES OF SELF-FINANCE RATIO, Selected Years

1966	1967-70	1970-74	1975-79
81.0	60.3	52.4	36.0

Source: Calculated from Trebat, Brazil State-Owned..., op.cit., p. 206. Table of Investment and Surplus a (profits and depreciation allowances) for public enterprises, 1966-79.

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External sources of financing for the state enterprises programs included government funds, private equity and domestic and foreign long term loans. Government transfers from the Treasury, which were estimated at 38 percent in 1969 by Luciano Martins¹⁰³ dropped to 22.5 percent by 1974 according to Trebat.¹⁰⁴ Although these figures indicate a pattern of diminishing dependence on Treasury funds, the governmental transfers took other forms, such as earmarked taxes or capital subscriptions.

A similar pattern was followed for sources of funds financing the expansion of electric power sector. Eletrobrás consolidated its position as the financial holding company for the sector, expanding its control even over resources previously controlled by its subsidiaries after 1972. Unlike the steel sector, the electric sector had access to earmarked revenues and enjoyed support from the multilateral agencies. The nature of the electric power services, atomized throughout different regions, justified prices high enough to generate resources for investment. The contribution of the funds originated from operating surplus and the Sole Tax varied as it can be seen in Table 3.6.

In spite of differences among the mining, steel, electric power and petroleum sectors, the overall pattern of finance was divided up between 50 percent self-generated funds and 50 percent capital subscriptions and long term loans,

primarily foreign loans. This pattern continued through the mid-1970s until the economic crisis of the 1980s, as it will be seen next.

More importantly, the political power of the state to formulate policies and to expand institutionally the state sector isolated it from society and made it impermeable to political demands. This led to a rapid growth of state intervention and/or action in the associated capitalist development of Brazil during this period.

Endnotes

1. - Nevertheless, the Vargas's created councils and institutes regulated and promoted agro-export interests, which in fact prolonged instrumental control over the state by agrarian interests, serving both to maintain their income and profits while maintaining revenues for the state. The councils and institutes in the years 1930-45 which were related to conservative agro-export interests: National Coffee Department (Departamento Nacional do Café), 1933; Bahia Cacao Institute (Instituto de Cacau da Bahia), 1931; Sugar and Alcohol Institute (IAA, Instituto do Açúcar e do Alcool), 1933; Federal Council of Foreign Trade (Conselho Federal de Comércio Exterior), 1934-1949; Animal Biology Institute (Instituto de Biologia Animal), 1934; Technical Council of Economics and Finance (Conselho Técnico de Economia e Finanças), 1937; National Salt Institute (Instituto Nacional do Sal), 1940; National Pine Wood Institute (Instituto Nacional do Pinho), 1941; Wheat Expansion Service (Serviço de Expansão do Trigo), 1944; Productive Classes Conference (Conferência das Classes Produtoras), Teresópolis, 1945. Extracted from BRASIL, DASP (Departamento Administrativo do Serviço Público), Indicadores da Organização Administrativa Federal (Rio de Janeiro: Dept. de Imprensa Nacional, 1957); Alberto Venâncio Filho, A Intervenção do Estado no Domínio Econômico (Rio de Janeiro: FGV, 1968); Beatriz Wahrlich, "Reforma Administrativa Brasileira: Passado e Presente," Revista de Administração Pública 2 (1974); Mario Wagner Vieira da Cunha, O Sistema Administrativo Brasileiro (Rio de Janeiro: Conselho Brasileiro de Pesquisas Educacionais, 1963); Rômulo de Almeida, Expansão Brasileira de Planejamento, Orientação e Controle da Economia (Rio de Janeiro: Estudos Econômicos, 1950).
2. - See Caio Prado Jr., A Revolução Brasileira, (São Paulo: Brasiliense, 1965); Celso Furtado, Desenvolvimento e Subdesenvolvimento (Rio de Janeiro: Ed. Fundo de Cultura, 1961) esp. Chap. 6 "Industrialização e Inflação: Análise do desenvolvimento recente do Brasil," pp. 233-268. For literature in English see Thomas Skidmore, Politics in Brazil, 1930-1964: An Experiment in Democracy (New York: Oxford University Press, 1967); see also his "Politics and Economic Policy-Making in Authoritarian Brazil, 1937-71," in Alfred Stepan (ed.) Authoritarian Brazil (New Haven: Yale University Press, 1973).
3. - Eli Diniz, Empresário, Estado e Capitalismo no Brasil: 1930-1945 (Rio de Janeiro: Paz e Terra, 1978). See also Octavio Ianni, Estado e Planejamento Econômico no Brasil: 1930-1970 (São Paulo: Civilização Brasileira, 1977, 2nd ed.).

4. - The Decree-Law 9025 (27 Feb 1946) allowed 20% return on foreign capital invested in Brazil, plus 8% of interests, dividends and profits made in Brazil. An internal regulation of the Exchange Department of the Bank of Brazil (Carteira de Câmbio) allowed interests, dividends and profit over 8% to accrue, summing them to the "Foreign Capital" registered for purpose of calculating interests, in a clear violation of the law. Cf. Ianni, op.cit., pp. 88-90.
5. - Carlos Lessa, "Fifteen Years of Economic Policy in Brazil," Economic Bulletin for Latin America IX, 2 (Dec. 1964): 188.
6. - The politics and the policy-making of the Executive Groups are described by Celso Lafer, "The Planning Process and the Political System: A Study of Kubistchek's Target Plan, 1956-1961" (PhD Latin American Studies Program Dissertation Series 16, Cornell University, Ithaca), pp. 165-210 and Maria Victoria Benevides, O Governo Kubistchek (Rio de Janeiro: Paz e Terra, 1981). The executive groups were collegiate bodies for decision-making with respect to: Automotive Industry (GEIA), Naval Shipbuilding (GEICON), Heavy Mechanical Equipment (GEIMAPE), Iron Ore (GEMF), Industry and Railroad Machinery (GEMAFE), Transportation Policy (GEIPOT), Goods Supply (CONAB).
7. - Lessa, "Fifteen Years of Economic Policy in Brazil," op.cit., esp. pp. 188-198.
8. - Sérgio Abranches, "The Divided Leviathan," op.cit., p. 306; Abranches fully discusses how industrial policy was defused in the Industrial Development Council (CDI, Conselho de Desenvolvimento Industrial) on pp. 170-310.
9. - This data can be found in the final report Expansão do Estado e Intermediação de Interesses no Brasil, directed by César Guimarães, Convênio Secretaria de Modernização Administrativa/ Instituto Universitário de Pesquisas do Rio de Janeiro, Jan. 1979.
10. - Luciano Martins, "Politique et Développement Économique: structure de pouvoir et système de décisions au Brésil" (PhD Dissertation - Université de Paris V, 1973); also published by (Paris: Maspero, 1976).
11. - Luciano Martins, ibid idem.
12. - The struggle which took place in Brazilian larger cities confronted two antagonistic forces: the Fascist-like Integralist Action (Ação Integralista Brasileira) and the National Liberation Alliance (Aliança Nacional Libertadora, involving the Communist

Party, Socialists and Liberals). This ideological clash in the Brazilian context was more an outcome of the political fight for spoils in public administration power positions and less a struggle for radical changes, in spite of the 1935 Communist Upheaval. Cf. Hélio Silva and Maria Cecília Carneiro Ribas, História da República Brasileira, A Lei e a Revolta, 1934-37, vol. 9 (Rio de Janeiro: Ed. 3, 1975), p. 28-9.

13. - Statement of General Pedro Aurélio de Goes Monteiro, cf. Raymundo Faoro, op.cit., pp. 695-6. For the authoritarian thought during the 1930s which influenced the political thought in the decades to come see Francisco J. Oliveira Vianna, Problemas de Política Objetiva (Rio de Janeiro: Record, 1974) and Instituições Políticas Brasileiras (Rio de Janeiro: Record, 1974, 2 vols.); Antônio José de Azevedo Amaral, O Estado Autoritário e a Realidade Nacional (Rio de Janeiro: José Olympio Editores, 1938) and Francisco Campos, O Estado Nacional, Sua Estrutura, Seu Conteúdo Ideológico (Rio de Janeiro: José Olympio, 1941).

14. - Eli Diniz, Empresário, Estado e Nacionalismo (Rio de Janeiro: Paz e Terra, 1978), p. 64.

15. - The rupture with past structures is emphasized by Francisco de Oliveira, "A Economia Brasileira: Crítica à Razão Dualista," Estudos CEBRAP no. 2 (Oct. 1972), who stresses the inflection point in the hegemony of the agrarian elite to the hegemony of the emerging urban, industrial capitalist classes; Octavio Ianni, for whom the 1930 Revolution was a rupture with the oligarchical regime because it "creat[ed] conditions for the bourgeois state to develop... including the establishment of political and economic institutions and values", Estado e Planejamento Econômico, op.cit., p. 13; and Eli Diniz, Empresário, Estado e Capitalismo, 1930-45, op.cit., p. 65. The state bureaucracies and enterprises generated are an indication of this: Ministry of Labor, Industry and Commerce (Ministério do Trabalho, Indústria e Comércio), 1930; Ministry of Education and Public Health, (Ministério da Educação e Saúde Pública), 1932; Federal Council of Foreign Trade (CFCE, Conselho Federal de Comércio Exterior), 1934-1949; National Department of Mineral Research (DNPM, Departamento Nacional de Pesquisas Minerais), 1934; Water Code (Código de Aguas) and Mining Code (Código de Minas), 1934; National Transportation Plan (Plano Nacional de Viação), 1934; Economics and Finance Technical Council (Conselho Técnico de Economia e Finanças), 1937; National Petroleum Council (Conselho Nacional do Petróleo), Public Service Administrative Department (DASP, Departamento Administrativo do Serviço Público) and Brazilian Institute of Statistics and Geography (Instituto Brasileiro de Geografia e Estatística), 1938; Defense Equipment and Public Works Plan (Plano de Obras Públicas e Aparelhamento de Defesa), 1939; National Council for Water and Electric Energy

(CNAEE, Conselho Nacional de Aguas e Energia Elétrica, Decree Law 1699), 1939; National Mines and Metallurgy Council (Conselho de Minas e Metalurgia), 1940; National Defense Commission (Comissão de Defesa Nacional), 1940; National Steel Company (CSN, Companhia Siderurgica Nacional), 1941; National Service for Industrial Training (Serviço Nacional de Aprendizagem Industrial), 1942; Coordination of Economic Mobilization (Coordenação da Mobilização Econômica), 1942; Rio Doce Valley Company (CVRD, Companhia Vale do Rio Doce), 1942; National Company of Alkalies (Companhia Nacional de Alcalis), 1943; National Motor Works (Fábrica Nacional de Motores), 1943; Labor Code (Consolidação das Leis Trabalhistas), Public Works and Equipment Plan (Plano de Obras e Equipamento), Industry's Social Service (Serviço social da Indústria), I Brazilian Economics Conference (Congresso Brasileiro de Economia), 1943; National Council of Industrial and Commercial Policy (Conselho Nacional de Política Industrial e Comercial), Itabira Special Steel Co. (Companhia Aços Especiais Itabira), 1944; Currency and Credit Superintendence (SUMOC, Superintendência da Moeda e Crédito), 1945; São Francisco Hydroelectric Co. (CHESF, Companhia Hidro Elétrica do São Francisco), 1945.

16. - The foreign interest were represented by Percival Farquhar (Itabira Iron Company), and American, German and British steel companies.

17. - John Wirth, The Politics of Brazilian Development, 1930-1954 (Stanford: Stanford University Press, 1970). One of the proposals suggested an integrated solution: export of iron ore, steel production abroad, and import of finished product which would favor the international interests twice.

18. - USIMINAS (Usinas Siderúrgicas Minas Gerais) and COSIPA (Companhia Siderúrgica Paulista) were set up partially attending these States political demands for productive capacity.

19. - Silvia Raw, "The Political of Brazilian State-Owned Enterprises, 1964-1980" op.cit., p. 262.

20. - Vargas, who had no control over the campaign, had to accept the indication of Juraci Magalhães, a member of his archenemy UDN, for the first presidency of Petrobrás, in 1953. See Wirth, op.cit., Chaps. 7, 8 and 9; see also Luciano Martins, Politique et..., op.cit., Chap. VI. See Law 2004, which sets the monopoly nature of oil industry in Brazil.

21. - The Brazilian Canadian Power, Traction and Light Company, and The American Foreign Power Company. These two companies were incorporated around 1900 as a monopoly. A minimal portion of the capital was owned by Brazilians.

22. - Jesus Soares Pereira, an influential planner during Getúlio Vargas's second term (1951-1954), stated that the Eletrobrás proposed was going to be responsible for the manufacturing of turbines and generators to be used in Brazilian hydroelectric power plants. That decision was severely criticized in view of the international interest operative during the Target plan. See Medeiros Lima, Petróleo, energia elétrica e siderurgia. (Um depoimento de Jesus Soares Pereira). (Rio de Janeiro: Paz e Terra, 1975). For a study on how international capital began manufacturing heavy electrical equipment for the energy program contemplated by the Target Plan see Richard Newfarmer, Transnational Conglomerates and the Economics of Dependent Development (Greenwich, CT: JAI Press, 1980), pp. 163-180. Newfarmer shows how the Brazilian manufacturing capacity in the electrical sector is in fact dominated by seven companies from four countries -- General Electric, Westinghouse and Philco (USA), Brown Boveri (Switzerland), Philips (Netherlands), AEG and Siemens (West Germany).

23. - The Companhia Hidro Elétrica do São Francisco (CHESF, 1946); CEMIG, Centrais Elétricas de Minas Gerais; CESP, Companhia Energética de São Paulo; FURNAS, Furnas Centrais Elétricas, were among the most important companies created in the 1940s and 1950s.

24. - BNDE was politically reinforced especially after the Plan for Electrification (Plano Federal de Eletrificação) was approved by Congress in 1954. Cf. Jesus Soares Pereira, in Medeiros Lima, op.cit.

25. - See Wanderley Guilherme dos Santos, "Paralisia de Decisão e Comportamento Legislativo: a Experiência Brasileira, 1959-1966," Revista de Administração de Empresas 13 (April/June 1973); see also his "The Calculus of Conflict: Impasse in Brazilian Politics and the Crisis of 1964" (PhD Dissertation, Stanford University, 1979. For an analysis of the PSD-PTB coalition, see Maria do Carmo Campello de Souza, Estado e Partidos Políticos no Brasil (São Paulo: Brasiliense, 1976). For one of the best recent analysis on the PSD see Lúcia Hippólito, PSD: De Raposas e Reformistas (Rio de Janeiro: Paz e Terra, 1985).

26. - The Institute for Economic and Social Research (IPES) led by Retired General Golbery do Couto e Silva, the former Secretary-General of the National Security Council under Jânio Quadros, was active in conspiring against Goulart. The IPES casted an extensive net of industrial interests, agricultural interests and commercial interests including domestic and foreign capital. For a detailed analysis see René Dreyfuss, A Conquista

- do Estado: Ação Política, Poder e Golpe de Classe (Petrópolis: Vozes, 1981), esp. Chap V, VIII and IX, pp. 161-228, 361-489.
27. - Luciano Martins, "The 'Liberalization' of Authoritarian Rule in Brazil," in Guillermo O'Donnell, Philippe Schmitter and Lawrence Whitehead, Transition From Authoritarian Rule (Latin America) (Baltimore: Johns Hopkins University Press, 1986), p. 76.
28. - See Alfred Stepan, The Military in Politics, op.cit.
29. - See Fernando Henrique Cardoso "Associated-Dependent Development: Theoretical and Practical Implications," in Alfred Stepan (ed.) Authoritarian Brazil, op.cit., and Modelo Político Brasileiro (São Paulo: Difel, 1972).
30. - Stepan, "New Professionalism of Internal Warfare and Military Role Expansion," in Alfred Stepan (ed.), Authoritarian Brazil, op.cit., pp. 47-65.
31. - Eliézer Rizzo de Oliveira, As Forças Armadas: Política e Ideologia no Brasil, 1964-1969 (Petrópolis: Ed. Vozes, 1978), pp. 29-30.
32. - Humberto de Alencar Castello Branco, Mensagem ao Congresso Nacional (Brasília: Dept. de Imprensa Nacional), p. 32.
33. - Stepan, The Military in Politics, op.cit., analyzes how the military coup d'état turned into a military government and how the purges done in the Armed Forces have had the effect of complicating the return to civilian regime. The military purged were denied return to active duty after the 1979 amnesty.
34. - For a detailed analysis of the institution and of the decisions of the CMN see Maria Lúcia Werneck Vianna "A Administração do Milagre - 1964/1974," (Master Thesis, Instituto Universitário de Pesquisas do Rio de Janeiro - IUPERJ, Rio de Janeiro, 1982) and also César Guimarães and Maria Lúcia Werneck Vianna, "Autoritarismo, Planejamento, e Formas de Centralização Decisória: Os Casos do Conselho Monetário Nacional e do Conselho de Desenvolvimento Econômico." Paper presented at the VII Associação de Pós-Graduação em Ciências Sociais Meeting, Aguas de São Pedro, October, 1983.
35. - Celso Martone, "Análise do Plano de Ação Econômica do Governo (1964-1966)," in Betty Mindlin Lafer Planejamento no Brasil (São Paulo: Perspectiva, 1975), p. 77.
36. - Decree-law 200, Administrative Reform Act, February 1967.

37. - Albert Fishlow, "Some Reflections on Post-1964 Brazilian Economic Policy," in Stepan (ed.), Authoritarian Brazil, op.cit., p. 80.
38. - Luciano Coutinho and Henri Philippe Reischtl, "O Setor Produtivo Estatal," in Carlos Estevam Martins, op.cit., pp. 71-2.
39. - Edmar L. Bacha, Mitos de uma Década: Ensaio de Economia Brasileira (Rio de Janeiro: Paz e Terra, 1978, 2nd ed.), especially Chapter "Hierarquia e Remuneração Gerencial," pp. 107-134.
40. - Sérgio Abranches e Sulamis Dain, A Empresa Estatal..., op.cit.
41. - Octavio Marcondes Ferraz, "Discurso de Posse," Revista Brasileira de Energia Elétrica 1 (1964): 34.
42. - Mauro Thibau, "Bases da Política Energética do Governo," Revista Brasileira de Energia Elétrica 7 (Oct 64-Mar 65): 3. See also Tendler, op.cit., p. 144.
43. - Tendler, op.cit., pp. 138-9.
44. - Plan Helio Beltrão constituted an intermediary level of services cutting across subsidiaries in addition to entrepreneurial function. See Getúlio Carvalho, Petrobras: a case..., op.cit., p. 141. See an expanded discussion on his book, Petrobrás: do monopólio aos contratos de risco (Rio de Janeiro: Forense-Universitária, 1976).
45. - Getúlio Carvalho, "Petrobrás: a case in ...," op. cit., p. 154. It included imported oil and petroleum produced in Brazil.
46. - Figures for Gross Fixed Capital Formation, Abranches, "The Divided Leviathan," op.cit., p. 330.
47. - IBS Boletim, January 1967, p. 11.
48. - Roberto Campos in IBS, Boletim (Jan 1967): 11-12.
49. - Abranches, "The Divided Leviathan," op. cit., p. 344.
50. - See Paul Singer, A Crise do 'Milagre': interpretação crítica da economia brasileira (Rio de Janeiro: Paz e Terra, 1976).
51. - Cf. Maria Helena Moreira Alves, State and Opposition..., op. cit.

52. - See note 4. - Chapter IV for a description of the security organizations during the military regime. For a description of the SNI, see Alfred Stepan, Rethinking Military Politics: Brazil and the Southern Cone (Princeton: Princeton University Press, 1988) pp. 13-29. See also Ana Lagôa, SNI: como nasceu, como funciona (São Paulo: Brasiliense, 1983).
53. - See Scartezini, op.cit., for an account of Medici's election, p. 60. To give an idea of the repressive action of the Brazilian military, the toll of dead and missing persons was much higher during Argentina's so-called "dirty war." In Argentina there were about 10,000 of them while in Brazil this number was less than 500.
54. - For an inside account of the guerrilla movement see Fernando Gabeira, O Que É Isso, Companheiro? (Rio de Janeiro: Codecri, 1980). See also Maria Helena Moreira Alves, State and Opposition..., op.cit.
55. - Edmundo Campos Coelho, Em Busca de Identidade: o Exército e a Política na Sociedade Brasileira (Rio de Janeiro: Forense-Universitária, 1976), p. 165. Coelho, pp. 158-170, discusses the Army's "messiah complex" and imposition of its own tutelary views of the state and the crescent autonomy of the policy-implementing institutions.
56. - See Paulo Davidoff Cruz, "Notas Sobre o Endividamento Externo Brasileiro nos Anos Setenta," in Luiz Gonzaga Belluzzo and Renata Coutinho, (orgs) Desenvolvimento Capitalista no Brasil: Ensaios Sobre a Crise (São Paulo: Brasiliense, 1983, vol.2), pp. 59-106.
57. - See Werner Baer, op. cit.; Paul Singer, A Crise do 'Milagre', op. cit., Celso Furtado, Análise do Modelo Brasileiro (Rio de Janeiro: Civilização Brasileira, 1972); Edmar Bacha, "Issues and Evidences on Recent Brazilian Economic Growth," World Development 5 (Jan-Feb 1977): 47-67; Pedro Malan and Regis Bonnelli, "The Brazilian Economy in the Seventies," World Development 5 (Jan-Feb 1977): 19-45.
58. - Calculated from Werner Baer, The Brazilian Economy: its Growth and Development, op. cit., Table 22 - Yearly Growth Rates for Industry, p. 95.
59. - Calculated from Werner Baer, The Brazilian Economy, op. cit., Table 27 - Changes in Income Distribution, p. 101.
60. - See Edmar Bacha and Herbert Klein, A Transição Incompleta: a experiência brasileira, 1945-1985 (Rio de Janeiro: Paz e Terra, 1986). See also Bacha, "Issues and Evidences," op. cit., p. 54

and also Wanderley Guilherme dos Santos, Cidadania e Justiça (Rio de Janeiro: Campus, 1979). For an analysis of social change in Brazil see José Pastore, Hélió Zylberstajn and Carmen Silvia Pagotto, Mudança Social e Pobreza no Brasil: 1970-1980 (São Paulo: FIFE, 1983).

61. - Baer, The Brazilian Economy, op. cit., p. 107.

62. - The concept of state enterprise is rather complex. According to the Secretary for the Control of State Enterprises (SEST, Secretaria de Controle das Empresas Estatais) they can be classified in:

- a) state productive sector enterprises (mining, petroleum, steel-making, petrochemicals, fertilizers, airplane manufacturing, arms, electric power, transportation, computers, etc.);
- b) typical government entities in the areas of education, public health, justice, diplomacy;
- c) official federal banks;
- d) state and municipal enterprises.

The Decree Law 200, Administrative Reform Act, classified:

- a) public enterprises;
- b) mixed economy societies (Bank of Brazil, for ex.)
- c) foundations;
- d) autarchies;
- e) special autarchies.

Their number was less than 150 in 1964 growing to over 600 when the SEST was instituted in 1979. In a effort to streamline and privatize they dwindled to 471, being the largest decrease (20% from 297 to 234) in manufacturing activities (construction companies, textiles, cement factories, pulp, etc.) which were statized in exchange of bad credits since the recession in late 1970s. SEST, Relatório Anual 1984.

63. - Paul Singer, A Crise Do Milagre, op.cit., p. 55. See also Sulamis Dain, "A Empresa Estatal e a Política Econômica no Brasil," in Carlos Estevam Martins (ed.), Estado e Capitalismo, op.cit., pp. 155-6.

64. - Malan and Bonnelli, "Brazilian Economy in the Seventies," op.cit.

65. - Malan and Bonnelli, op.cit., p. 23.

66. - Abranches, "The Divided Leviathan," Chap 4 and 6, esp. pp. 422-430.

67. - See Celso Martone, Macroeconomic Policies, Debt Accumulation, and Adjustment in Brazil, 1965-84 (Washington: World Bank Discussion Papers # 8, 1987), p. 7. In an indication

of what was occurring the amount of net capital inlet to Brazil in 1972 was US\$ 3.5 billion, from US\$ 1.5 billion were deducted for principal amortization and close to US\$ 1.5 billion in rescheduled debt left almost no direct investment (US\$ 27 million) according to Aloysio Biondi Opinião, November 1972.

68. - Robert Wesson and David Fleischer Brazil in Transition (New York: Praeger, 1983), p. 37.

69. - Maria da Conceição Tavares, Da Substituição de..., p. 178. The tripod model was described by Peter Evans, Dependent Development..., op. cit.

70. - Eletrobrás and Petrobrás, Relatórios Anuais, various years.

71. - The five companies were: Bank of Brazil, Petrobrás, CVRD, CSN, and specialty steel Acesita. See José Roberto Mendonça de Barros and Douglas Graham "The Brazilian Economic Miracle Revisited: Private and Public Sector Intervention in a Market Economy," Latin American Research Review Vol. 13, 2 (1979): 21.

72. - Trebat, Brazil's State-Owned, op.cit., p. 88.

73. - From 6 percent in 1964 to 76 percent of the disbursement of BNDE for investment made in 1973. Cf. BNDE, Relatório 1977, p. 49.

74. - See World Bank Report P4335-BR. Report and Recommendations of the President of the International Bank for Reconstruction and Development to the Executive Directors on a Proposed loan in an amount equivalent to US\$ 500 million to the Fed. Rep. of Brazil for an Electric Power Sector loan. Washington, DC, May 21, 1986.

75. - See Davidoff Cruz, "Notas Sobre o Endividamento..", op.cit., pp. 60-65. See figures for reserves and debt on the tables 1 and 2.

76. - Trebat, op.cit., pp. 123-4.

77. - Eletrobrás, the holding of the sector, consolidated into the regional Furnas Centrais Elétricas (for the South-Central and Center-West Region), Companhia Hidro-Elétrica do São Francisco (for the Northeast), Centrais Elétricas do Norte do Brasil (Eletronorte, for the Northern Region), Centrais Elétricas do Sul do Brasil (Eletrosul for the Southern Region). The States reorganized their autarquias into the State Electric Companies, being the most salient those in the most important states of the South-Central and South Regions. Finally, the Binational Entity Itaipu was organized to build the Itaipu Hydroelectric Project.

78. - The Ministry of the Interior was the central bureaucracy for regional development, including the borders in coordination with the Brazilian Army, what was influential in the process of deciding about Itaipu in the decisive years between 1969 and 1973.
79. - See description of "revolution inside the revolution" and "permanent occupation of the state" by the military on Costa e Silva's press-secretary Carlos Chagas, 113 Dias de Angústia (Rio de Janeiro: Zahar 1970)
80. - CANAMBRA was a consortium of Canadian and American firms contracted to recommend electric power investments in Brazil for a five- and ten-year horizons taking in account supply and demand needs.
81. - Eletrobrás, Relatório, 1971.
82. - See Marcio Wohters Almeida, Estado e Energia Elétrica em São Paulo: CESP, um estudo de caso. (Masters Thesis, Universidade Estadual de Campinas - Unicamp, 1980). The discussion also was centered on Andrea Sandro Calabi et al, A Energia e a Economia Brasileira (São Paulo: FINEP, 1983); Hildete Pereira de M. H. Araújo, "O Setor de Energia Elétrica e a Evolução Recente do Capitalismo no Brasil" (Master Thesis, COPPE/Universidade Federal do Rio de Janeiro, 1979); Henri-Philippe Reischtl, "O Financiamento do Setor Energético e a Questão da Autonomia das Empresas Estatais," Estudos Econômicos 11 (September 1981): 97-121.
83. - See Héctor Campora, La Revolución Peronista, (Buenos Aires: Ed. Universitaria de Buenos Aires, 1973) denouncing the "shameful Accord of New York that submits Argentina to acception the demands of the continental subimperialism ..in the question of utilization of the Paraná Basin." pp. 17 and 103-4.
84. - Abranches, "Patterns....," op.cit., p. 32.
85. - Trebat, Brazil's State-Owned Enterprises, op.cit., p. 142-3.
86. - SEST, Relatório, 1981.
87. - See José Tavares de Araújo and Vera Maria Dick, "Governo Empresas Multinacionais e Empresa Nacional: o caso da indústria petroquímica no Brasil." Pesquisa e Planejamento Econômico 4 (3): 638. See also Peter Evans, Dependent Development, op.cit.

88. - Getúlio Carvalho, "Petrobrás: a case in ..", op.cit. , p 156.
89. - José Tavares de Araújo Jr. and Vera Maria Dick, "Governo, Empresa Multinacional e Empresa Nacional...", op.cit., p. 633.
90. - Peter Evans, Dependent Development..., op.cit.
91. - CSN, USIMINAS and COSIPA increased their production in the Phase I of the Expansion Plan from 3.2 million tons per year in 1971 to 7.2 million tons per year by 1976. For the organization of the steel sector see Sérgio Abranches, "Política Siderúrgica no Brasil," op.cit.
92. - See Table 3.2 - Price Indexes - for the State Steel.
93. - Abranches, "The Divided Leviathan," op.cit., p. 341-51.
94. - See J. Tavares and V. Dick, op.cit., p. 639 and Consider, Relatório, 1975.
95. - Steel imports grew 159.3 percent between 1968-72. Dutra and Salles, Padrão de Financiamento, p. 174.
96. - Trebat, Brazil's State-Owned..., op.cit., pp. 228-9.
97. - Cf. Anaconda, in Chile, and others elsewhere in Latin America.
98. - Abranches, "The Divided Leviathan," op.cit., pp. 343-51.
99. - Abranches and Dain, A Empresa Estatal: Padrões Estruturais e Estratégias de Ação, op.cit., p. 86-7.
100. - Raw, op.cit., pp. 294-7.
101. - Abranches, "Patterns of Public ...", op.cit., p. 31.
102. - Calculated from Trebat, Brazil's State-Owned..., op.cit., Table 8.1, p 206.
103. - Luciano Martins, A Expansão Recente do Estado no Brasil: seus problemas e seus atores (Rio de Janeiro: IUPERJ, 1977, mimeo), p. 45.
104. - Trebat, Brazil's State-Owned..., Table 4.1, p. 88.

CHAPTER IV

POLITICAL POWER, STATE ACTION AND THE LIMITS OF AUTONOMOUS POLICY-MAKING UNDER POLITICAL OPENING

A. State Action and Political Power in the Growth Under Duress Period

In this chapter we will analyze state action in Brazil initially from the political and economic viewpoint, followed by an analysis of the variable relative state autonomy on selected policy areas. In this period, we will see how political demands for liberalization, which included industrial entrepreneurs demands for government spending policies favoring their interest, internal bureaucratic power struggles, and pressures from labor union for better salaries and better working conditions effected a reduction in relative state autonomy.

1. Grandeur Development, Political Liberalization and Economic Crises, 1974-1985

The year 1974 represents a watershed in the authoritarian-bureaucratic regime; at this time the first steps towards liberalization and away from the previous harshly repressive regime were taken. At the outset of the period, demarcated by the presidential terms of Generals Ernesto Geisel (1974-79) and João Baptista Figueiredo (1979-1985), it was clear

that civil society had enough of promises of economic growth to legitimize an authoritarian state. The government's efforts at sloganeering and propaganda ("P'ra Frente, Brasil! and Brazil Emerging Power") fell on deaf ears. As stated by Stepan

...the authoritarian state had failed in its attempt to win ideological hegemony in civil society.¹

The lack of institutionalization of the authoritarian regime, as described by Samuel Huntington², strengthened the political parties and the opposing civil society organizations (The Brazilian Press Association, the Brazilian Bar Association, the Church, the Base Ecclesiastical Communities and independent labor unions). These organizations gained in popularity by continually stressing the high social costs of the exclusionary social and economic policies implemented from 1964 to 1974. This public outcry forced the government to modify its electoral politics.

Although more liberal rules for election, manipulations of apportionments and of the rules regulating political advertisement prevented the MDB, later joined by other opposition parties, from complete victories on the 1974, 1978 and 1982 Congressional and Gubernatorial elections making a significant difference in the liberalization process.³ In 1983-1984 the transition to a civilian government was carefully orchestrated by moderate politicians and military leaders.

Geisel presided over the first term of the liberalization process. As a former president of Petrobrás, Secretary-General of the National Security Council under Castello Branco, he was, above all, a man acceptable to the bloc-in-power made up of military hard-liners.⁴ Geisel's task of liberalizing the political regime was considerably more difficult since the Brazilian state was emerging from a period in which it enjoyed considerable capacity to mobilize political, institutional and financial resources and to direct private investment. Before liberalization, the state was also able to consolidate its own productive capacities, despite the fact that accelerated economic growth benefitted the multinational durable-consumer goods and the capital goods industries. The consolidation of the state enterprises as well as the state's ability to intervene directly in the economy were sensibly weakened as the political and economic crises unraveled in the late 1970s and early 1980s.

Geisel's "slow, gradual and secure" decompression project was actually designed by Golbery do Couto e Silva -- notable for his covert campaign to overthrow Goulart and his creation of the SNI in the 1960s.⁵ The political abertura project was designed to lessen the influence of the Army hard-liners in Brazilian politics and had the specific objective of restricting the free-roaming repressive apparatuses, which were, according to Luciano Martins

... beginning to control the loyalties of the regime's protagonists (including the military hierarchy) according to its own orthodox ideological criteria, as a sort of SS within the regime.⁶

But the objectives of the political opening were not only political. By 1974 the political opening served the purpose of making possible an economic transformation. It was clear that to continue economic growth and to achieve international power status -- as blueprinted by the military National Security and Development Doctrine -- the Brazilian economy needed to transform its productive structure of basic and intermediate inputs, of capital goods, and address the energy question. These intertwined objectives were translated into the Second National Development Plan (PND II), promulgated under an already oil-troubled economy in 1974.

Having strengthened the decision-making power of the presidency through the creation of the Economic Development Council, authoritatively ruled by the chief-executive⁷, Geisel's response to the 1973-74 economic crisis was to pursue "a maximum of development possible with a minimum of indispensable security."⁸ This was to be achieved with the execution of large scale sectoral development projects of the PND II (1975-79) (Itaipu Hydro-power Plant, Angra I, Nuclear Program, Petroleum Production, Ferrovias do Aço, Açominas, Expansion of Steel Industry - Stage III, Greater Carajás Mining and Industrial Program, Tucuruí Hydro-power Plant, Metro systems, Telephone

Program). These programs, according to the Planning Minister João Paulo dos Reis Velloso and Finance Minister Mário Henrique Simonsen, were perceived as the solution to critical bottlenecks hindering national development, and to radically transform Brazil's industrial profile. The objective was to "cross the threshold between underdevelopment and development"⁹: to become a world power.

The policies for the period 1975-79 reflect this decision for global recognition. The PND II projected large increases in the installed capacity in the production of chemicals and non-metallic basic and intermediate goods. The installed capacity of the steel and metallurgical industry -- in particular flat-sheet and heavy profiles -- was to increase by some 220 percent. Heavy capital goods production was projected to double in those years primarily in order to provide the equipment and facilities necessary for exploration and production of domestic oil (a projected increase of 115 percent on the production of domestic oil after the imported oil-bill went up 45 percent) and for investments made in other energy related projects.¹⁰ Brazilian energy deficiencies were to be surmounted with the energy from Itaipu and other regional power plants, as well as with the energy provided by the power plants built under the controversial Teuton-Brazilian Nuclear Accord signed in 1975. Table 4.1 shows some specific PND II's targets.

The PND II linked the needs of energy policy to industrial policy in order to achieve a fully developed capital goods sector, articulating the dynamics of interest believed indispensable to an industrial country by the designers of the Brasil-Grandeza Project. After all, if Brazil was to be an industrial economy it had to be self-sufficient in energy, steel products, non-ferrous metallurgical products, petroleum and chemical products, cement, paper and pulp and minerals. Some of the PND II projects would only mature a decade or two later, demanding huge amount of investment, not available with internal savings alone. The outcomes of the PND II policies and projects varied: some of them became symbols of the unduly optimistic Grandeza project while others were partially successful. Still others were frustrated by unforeseen contingencies as it will be analyzed later in the section of state action and autonomy.

For the PND II designers, unduly optimistic about Brazilian outlook, there was no need to opt between accelerated capitalist expansion and containing inflation; incremental adjustments would take care of changing circumstances. The Finance Minister Simonsen stated, before 200 entrepreneurs of the Federation of Industries of the State of São Paulo (FIESP) that with inflation contained and with the relative abundance of credit it would not be difficult to bypass adverse international circumstances. For him, the country was, as he stated, "an island of progress in a world in economic crisis."¹¹

TABLE 4.1
PRIORITY PROJECTS CONTAINED IN PND II

Sectors	1974	Forecast 1979	Increase (%)
<u>Capital Goods Industry</u>			
Total Production (000 t)	2000	3400	70
Mech and Elt Eqpt (000 t)	898	1603	70
Tractors (000 units)	44	84	90
Naval Construction (000 TPB)	410	1140	170
Railroad material (000 t)	122	214	75
<u>Steel & Metallurgical Industry</u>			
Installed capacity in 000 t			
Steel	8600	22300	150
Flat Sheet & Heavy Profile	4100	13100	220
Non-Flat & Special Steel	4600	8300	80
Aluminium	120	190	50
Copper	10	60	500
Zinc	33	58	76
<u>Chemical industry</u>			
Installed capacity in 000 t			
Sulfuric Acid	986	3380	244
Soda Ash (Barrilha)	273	700	156
Chlorine	212	593	179
Fertilizers	585	1199	105
Thermoplastic Resins	408	891	118
Artificial and Synthetics Fib	176	253	45
Elastomers Synthetic	144	239	66
Detergents	27	75	178
Ethane	343	710	109
Ammonia	268	577	115

(continued next page)

TABLE 4.1 (cont.)

<u>Intermediary Non-Metallic Goods</u>	installed capacity in 000 t		
project up to 30.06.76)			
Cement	17130	26190	55
Pulp	1547	2860	85
Paper	2567	2900	20
<u>Mining</u>			
Iron Ore Production (million t)	60	138	130
Iron Ore Export (million t)	44	98	123
Expenditures in Nuclear Minerals Research (Cr\$ million 1975)	304	660	117
<u>Electric Energy</u>			
Installed Capacity (million KW)	17.6	28.0	59
Consumption (million GW/h)	61	107	75
<u>Petroleum</u>			
Refining Capacity (000 bbd)	1020	1650	62
Investment in Exploration and Development of Production in (Cr\$ bn 1975)	2.2	8.0	264
Total Investment	26	56	115

Source: From Seplan, II PND, pp. 103-4 - Some of the targets have changed after the issuance of the Plan, in order to increase production.

The Emerging Power project that stemmed out of the economic policies could only be accomplished in tandem with the implementation of the liberalization process since it required the acquiescence of society. The liberalization process, however, included both "systolic" and "diastolic" movements -- using Golbery's analogy between cardiac rhythmic contractions and dilations and the opening up of the authoritarian regime. That is, for each political "concession" by the regime or conquest by the opposition a correspondent and equally significant authoritarian move on the part of the hard-line would take place. Below, in Figure 4.1, some examples, chronologically arranged, depict the style of implementation of the liberalization policy during Geisel and Figueiredo terms.

The maintenance of political power by the "Geiselista" group was so paramount for the liberalization process that the challenge of the hard-liner Sylvio Frota, Army Minister, met with Geisel's firmness: Frota was fired, keeping the reins of the process firmly in Geisel's grip.¹² The challenge of the hard-line to Geisel reappeared when Figueiredo was named Geisel's successor, since the hard-line felt Figueiredo could not control civil society and its increasingly bold demands. The Geisel-Golbery strategy placated military opposition to abertura by putting special emergency safeguards measures in place of the outgoing Institutional Act 5, in January 1979.

DIASTOLES¹

GEISEL TERM

SYSTOLES¹

* Suspension of censorship prior to printing of newspapers, 1974.

* 1974 Senate elections: won by MDB in 16 out 22 states; MDB made 44% of the Chamber, and controlled Rio de Janeiro, São Paulo, Rio Grande do Sul, Paraná, Acre and Amazonas State Assemblies.

* Opposition strategy: no automatic Decree-Laws in view of government loss of 2/3 of Chamber, 1975.

* Geisel dismisses General Ednardo D'Avila Melo, Commander of II Army, São Paulo, 1976.

* Resurgence of labor and student movements, 1977.

* Dismissal of Minister of the Army, General Sylvio Frota, Oct. 1977.

* 1978 Elections: MDB increased 4 chairs and won in a number of State Assemblies.

* Organizations of civil society - "Estado de Direito"-campaign (Rule of Law), 1977+.

1/ Minister Golbery's analogy to cardiac rhythmic contractions and dilations.

* Imprisonment of the journalists Lourenço Diáferia, Carlos Garcia, and US Consul in Recife, PE, 1974-5.

* Deprivation of political mandates of members of Congress, using the Institutional Act 5, 1974-78.

* Lei Falcão² controlling electoral and political party propaganda on radio and on TV for the 1976 municipal elections, following the 1974 MDB's victories.

* Imprisonment and death of Wladimir Herzog and Manuel Fiel Filho in the confines of the DOI - Second Army, São Paulo, November 1975 and March 1976.

* Regrouping of hard-line behind Sylvio Frota, Army Minister for succession of Geisel, 1976-77.

* Closing of Congress and issuance of the Electoral Package keeping indirect gubernatorial elections, 1/3 Senators appointed by government and changing criterium of proportionality, April 1977.

2/ Named after Minister of Justice, Armando Falcão.

FIGURE 4.1 - SELECTED EXAMPLES OF "SYSTOLES" AND "DIASTOLES", 1974-85.

FIGUEIREDO TERM

- * End of Institutional Act 5, January 1979.
- * Amnesty to exiles, political prisoners and cassados, 1979.
- * Reorganization of the political parties, 1979-80.
- * Conversations with the moderates of the Popular Party begin, 1979-80.
- * Strikes and stoppages tolerated, 1979.
- * Chaves, civilian vice-president, substituted Figueiredo while he was undergoing heart-treatment, 1981.
- * Realignment of the Popular Party with the PMDB, 1982.
- * 1982 elections with the opposition parties (PMDB, PDT) winning in 10 States, including the most important.
- * Increased politicization of macroeconomic issues (foreign debt and IMF's adjustment policies), 1983.
- * Presidential elections articulations. Opposition working on direct elections or a moderate candidate for indirect elections, 1983-84.
- * "Diretas-Já!" campaign with mobilization of civil society, 1984.
- * Indirect election of Tancredo Neves, with the help of government party dissidents.
- * Institution of Emergency Measures and Safeguards in the Constitution, 1979.
- * Amnesty was also given to torturers but it did not reinstate civil and military personnel, 1979.
- * Provocateurs acts in strikes and demonstrations, firebombing of newsstands and letter bomb to Brazilian Bar Association, 1980-81.
- * Crack down on the 200.000-strike; imprisonment of union leaders and charge under the National Security Code, 1980.
- * Attentat to a MayDay Festival resulting the death of the bomb planters, agents of the Army's Secret Service, April 1981.
- * Golbery's resignation in protest of covering up wrong doings of hard-liners in the Riocentro case, August 1981.
- * Successive Decree-laws following the IMF adjustment policies against the wishes of the congress, with the Federal District surrounded by troops under Emergency measures, 1983.
- * Brasília put under state of Emergency during vote on the Dante de Oliveira Amendment calling for direct presidential elections in 1984; TV and radio coverage was censored, and telephone communications were cut off, April 1984.

FIGURE 4.1 (cont.)

While the soft-line (blandos) military performed the double strategy of political opening and economic transformation called for in PND II, Brazilian macroeconomic variables showed huge trade account deficits, averaging US\$ 5.3 billion annually from 1974 to 1978, largely due to imports on basic inputs, oil and fuels and capital goods. Brazil was forced to borrow heavily, not only to finance development projects, but also to pay for the burgeoning trade deficits. The Brazilian government accepted the funds aggressively proffered by international financial capitalist institutions,¹³ disregarding future risks.

These risks were soon apparent, despite the decline in trade deficit and the relative stabilization of inflation at a plateau of 40 percent annually. A sharp increase in the external debt from US\$ 6 billion in December 1973 to US\$ 32 billion in 1978 while terms of trade deteriorated and interest payments soared (See Table 4.2), placed Brazil's balance of payments in crisis.

By 1977 the economic "miracle" of the early 1970s had ended. Investment policies of PND II projects were reassessed. Planning Minister Reis Velloso, who had the upper hand in development policies, lost control of policy-making to Finance Minister Simonsen. Simonsen implemented an austerity drive -- attempting to curb inflation, cutting investment by Cr\$ 40 billion (US\$ 2.83 billion), and restricting credit. He kept the

currency overvalued, stimulating the flow of foreign loans to improve the debt profile and to rebuild the exhausted reserves.¹⁴ The austerity drive failed politically and caused labor strikes and student protests to reappear after 10 years of repression. Society began to feel uneasy about the impact of the austerity program.¹⁵

In 1977 Geisel announced the "April Package" calling off direct gubernatorial elections and specifying further limitations for the November 1978 elections. The restrictions were part of restructuring and reorganizing political power since the most industrial states consistently voted for the opposition party. The package effected changes in the electoral rules that guaranteed a pro-government majority in the Senate (by nominating 1/3 of the Senators) and by changing the criteria of apportionment to favor the peripheral and less industrial states, more dependent on central government hand-outs.

Workers's demands were not the only ones voiced in the years 1977-78. As the balance of payments crisis and high rates of inflation cut in to the level of investment, PND II projects were cut back. This set in motion complaints from the private sector, orchestrated in a campaign condemning the estatização of the economy. Luciano Martins analyzed the campaign revealing its inherent contradictions. He argues that the private sector enjoyed the state's demand for goods and services, without which it would be worse off. The private sector was particularly

dependent on the state during downturns on the business cycle. Peter Evans, using a slightly different argument, contends that it was a clear case of mutual needs and reassurances to maintain the system going.¹⁶ Therefore the campaign against statism and state intervention was a fallacy

In spite of some improvement in inflation and the balance of payment deficit by 1978, during the following years the Brazilian foreign debt soared, the public deficit grew and the macroeconomic variables of interest rate, exchange rate and inflation rate fluctuated. Foreign credit inflow increased inflation, which went from a plateau of 30-40 percent yearly to 110 percent in 1980 and to a 220-250 percent plateau in 1984. The public deficit rose from 2.5 percent in 1978 to 6.2 percent of the GDP in 1982.¹⁷

When Figueiredo came to power for a six-year term in 1979, he had to confront political liberalization (abertura) which included an amnesty law, return of exiles, reorganization of political parties, and an increasingly active labor movement. At the same time Figueiredo maintained the hard-line as an ally, obtaining the support of the sistema by appointing his Military Academy colleague, General Walter Pires, as his Army Minister. The implementation of abertura however proved to be no easy matter. Golbery, maintained by Figueiredo as his main political advisor, devised a strategy of dialogue with a "trustworthy" opposition political party. This "trustworthy" interlocutor of

the regime -- the Popular Party (PP, Partido Popular), composed of moderates from the MDB together with ARENA dissidents -- was, however, only one of a fragmented six-political party system that emerged from the state sponsored bi-party system after 1979.¹⁸

Additional troubles to abertura came from the rise of interest rates and oil prices in 1979, hitting hard the vulnerable Brazilian economy, as shown on Table 4.2. First, the tripling of oil prices in 1979-80 made Brazilian annual expenditures on oil imports jump from US\$ 4 billion in 1978 to US\$ 10 billion in 1980-82. The imported oil represented more than 1/3 of total imports supplying 80 percent of Brazilian consumption. Second, as the interest rate soared, 3/4 of the Brazilian foreign debt were directly affected since it had been contracted at floating interest rates. As a consequence, the debt soared from US\$ 40.2 in 1979 to US\$ 65.6 billion in 1982 and to US\$ 100 billion in 1984. Once again jolted by external events, Brazil's net interest paid abroad increased from US\$ 2.7 billion in 1978 to US\$ 12 billion in 1982. (See Table 4.2).

One of the effects of the disequilibria in the external accounts was increased demands from the private national firms for participating in policy-making and decision-making. Despite the rhetoric that the PND II would strengthen the private national firms, the plan favored the state firms and the multinationals. By 1978, the combined forces of the political

opposition and of the entrepreneurs clamored against government economic policies and demanded a return to democracy. A group of São Paulo's leading entrepreneurs signed the Manifest of the Eight, formally breaking an alliance that existed since the inception of the military regime.¹⁹ That defied state autonomy as new policies would increasingly be debated openly in contrast to an insulated system of decision making. The monopoly of economic policy making at the National Monetary Council and at the Economic Development Council was shattered as policy matters were discussed on news media.²⁰

Other challenges to the state's political power -- the new independent labor union's strikes, the remaking political parties and of meeting social demands -- were tolerated as part of the political liberalization agenda of the first year of the Figueiredo's government. In April 1980, however, when the economic conditions were rapidly deteriorating, a strike of 200,000-metal workers proved to be too much for the military regime. Leaders of the strike, including Luiz Ignácio da Silva (Lula), who had already been demoted from the presidency of the São Bernardo Metal Worker's Union by an act of the Minister of Labor, were imprisoned under the National Security Law. Following the crackdown on the labor unions, the opponents of abertura, whom Figueiredo had tried to placate in 1979, waged a terrorist campaign sending a letter-bomb to the Brazilian Bar Association killing a secretary, and fire-bombing newsstands

TABLE 4.2
BRAZIL
EXTERNAL ACCOUNTS, 1972-84
(in current US\$ million)

	1972	1973	1974	1975	1976	1977	1978
Index of Terms of Trade Prices Export/ Imports Base 1977 = 100		95	78	76	85	100	87
Exports	3,991	6,199	7,951	8,670	10,128	12,120	12,659
Imports							
Fuels & Lub.	469	769	2,962	3,100	3,841	4,081	4,483
Capital Goods	1,734	2,142	3,119	3,934	3,619	3,101	3,552
Basic Inputs	1,291	1,993	4,664	3,595	3,140	3,202	3,286
TOTAL IMPORTS	4,232	6,192	12,641	12,210	12,383	12,023	13,683
Net Interests Payments			-652	-1,498	-1,810	-2,104	-2,696
Net Foreign Debt	5,283	6,156	11,897	17,131	19,492	24,782	31,616
Avg. Interest Rate	na	na	na	na	na	na	na
Deficit in Current Accounts	-241	7	-7,123	-6,701	-6,017	-4,037	-6,015

(continued next page)

TABLE 4.2 (cont.)

	Avg. 1973/78	1979	1980	1981	1982	1983	1984
Index of Terms of Trade Prices Export/Imports	87	79	65.3	55.3	53.7	53.6	58
Exports	9,621	15,244	20,132	23,680	20,182	21,900	27,005
Imports							
Fuels & Lub.	3,206	6,773	10,200	11,339	10,457	8,607	7,330
Cap. Goods	3,244	3,775	4,381	4,023	3,272	2,505	2,200
Basic Ipts	3,313	4,160	5,010	3,796	3,048	2,141	2,059
TOTAL IMPORTS	11,522	17,961	22,955	22,086	19,396	15,428	13,937
Net Interests							
Payments	-1,976	-5,347	-7,457	-10,305	-12,550	-10,263	-10,076
Net Frgn. Debt	18,503	40,215	46,934	53,904	65,659	76,756	76,673
Avg. Int. Rate	15.2	16.9	18.5	21.9	23.3	15.6	13.1
Deficit in Cur Acts	-5,276	-10,741	-12,807	-11,717	-16,310	-6,837	166

Sources: Conjuntura Econômica, January 1986, p. 112; Boletim Banco Central do Brasil. a) Avg. interest rate = Net interest paid/net foreign debt, year before; c) Exchange rate does not consider incentives to export and import tariffs (what would be the effective rate); d) Base 1977 = 100.
na - not available.
In current US\$ million.

which sold Progressive/Radical publications. The hard-line realized that the political process escaped their control, therefore their tactic was to frighten the most outspoken organizations pushing for abertura -- the lawyers association and the media.

The ultimate hard-line terrorist act occurred on April 30, 1981. Two Army Information Center (CIEEx, Centro de Informações do Exército) agents -- the Army Secret Service -- were presumably preparing to plant a bomb set to go off during the next days's Festival. Inadvertently, the bomb exploded, killing one of the two Army agents. The mass panic, stampeding, and inevitable deaths that would certainly have occurred during the festival were averted. But even so, the Army quickly released a condemnation of the "leftist terrorist attack [against the Army]." ²¹ The cover-up was so sweeping that even top military brass attended the sergeant's funeral. Despite all the public relations maneuvering most Brazilian were convinced that this was a hard-liners' last desperate attempt to stop the political liberalization.

The intensity of the provocations and terrorism of the hard-line was contained but the abertura process was once more in jeopardy. Golbery wanted a thorough investigation, with well-publicized prosecution against the officers involved. To prevent exposure of the military officers ultimately responsible for planing the terrorist act, the hard-liners, represented by the

Head of the SNI, General Octavio Aguiar de Medeiros, pressured Figueiredo to disregard Golbery's advise. Figueiredo's reluctance to prosecute those responsible, regardless of who they were, led to Golbery's resignation as the main political coordinator of the Figueiredo government in August 1981.

Nevertheless, Golbery's liberalization strategy was absorbed, transformed, and advanced by society so, in reality, Golbery's resignation had the effect of putting the hard-liners on the defensive. Another loss of political power for the hard-liners was their inability to prevent the civilian Vice-president Chaves from replacing Figueiredo in September and October 1981, when the President underwent heart surgery. The times had certainly changed since 1969 when the civilian Vice-president Pedro Aleixo's claims to the presidency were ignored on the occasion of Costa e Silva's stroke and death.

In 1981, economic recession hit Brazil after 15 years of continuous growth. As important as both oil crises may have been, at that time debt servicing was more damaging than oil outlays. As Brazilian exports -- aided by export incentives -- grew by more than 50 percent in the 1979-80 period, oil imports rose more than 70 percent due to the deterioration of the terms of trade. The trade deficit reached US\$ 2.8 billion in 1980. Oil imports represented more than 55 percent of total imports by 1983, but they declined thereafter, partly due to the increase in domestic production and partly to increased use of sugar-cane

alcohol as a fuel, replacing 20 percent of domestic oil consumption. Interest payments were combined with the high service rates on new short term loans, taken to avoid stopping development projects. Resources were draining away, including the seemingly high reserves at the end of 1978 (US\$ 11 billion), which were quickly dissipated in oil payments and debt servicing.

The economic team in the Figueiredo Administration, with Simonsen as the Secretary of Planning, recommended deceleration of the economy. In 1974, Simonsen and Velloso had chosen not to deactivate the economy because it was important to maintain the entrepreneurs' drive and engage them in the restructuring of the basic, intermediate and capital goods industries.²² The 1974 plan had been to "attack the problem of capitalist development at the root with a long lasting solution, not just a transitory solution to the petroleum crisis."²³ In 1979, however, the economy was already growing slowly, and those investment programs which continued after 1977 were going to be continued as priority projects. The second oil shock, however, prompted Simonsen's call, in July 1979, for a recession and a "wartime economy."²⁴ A wave of worker's strikes and criticisms from the São Paulo entrepreneurs ensued. As a demonstration of the growing weakness of the central state, with respect to the private entrepreneurs demands, Simonsen was replaced by Delfim Netto soon thereafter.

Delfim's resumption of control over economic policy for the second time was cheered by the Paulista entrepreneurs. He refused to accept recession, extinguished a few of the heterodox instruments of foreign trade -- such as prior deposits and the restrictive similarity criteria for imports -- and then maxidevalued the currency. Delfim's expansionary policies tried to maintain the public support needed for the ongoing liberalization process.²⁵ Nevertheless, one year later they resulted in inflation of over 100 percent (1980), the dilapidation of reserves and a surge in short term debt.²⁶ Delfim was not living up to the entrepreneur's expectations and he was forced to retreat. He then introduced orthodox measures interrupting 15 years of continued expansion and growth dating to 1966. The man who began the "miracle," ended it by setting a deep recession in motion. Investment dwindled as the credibility of the government collapsed and the outward transfer of resources (the excess of the trade balance plus nonfactor services) increased from 0.4 percent of the GDP in 1980 to 5 percent of GDP in 1983. As stated by Batista Junior

The outward transfer of resources effected in 1981-83 was much more significant as a proportion of domestic output than the inward transfer in the 1960s and 1970s. Thus in contrast to what had happened up to 1978, the rate of gross fixed capital formation fell continuously from 27.9 percent in 1974-78 to 16.4 percent in 1984.²⁷

The high degree of relative state autonomy of ten years earlier had turned into dependence on the private banks and IMF-mandated adjustment program that squeezed salaries and wages. As these new forces occupied the political arena, adjustment policies put into effect by decree-laws worsened the social and economic conditions of the working classes.

The 1981-83 economic recession was a dramatic experience to Brazilian society, which was used to a growth economy. For the government Ministers, though, it was different. Delfim claimed that going to the IMF in early 1983 and adopting the IMF monitoring of the economy was responsible for the 8 percent growth in GNP and the US\$ 13 billion export surplus in the Brazilian recovery of 1984, thus ignoring the deep social and political consequences of the adjustment program. As Delfim said

It was necessary to do this economic adjustment. It was done, and with success. I proudly claim that for myself. As soon as it was done, the productive system was put to work and unemployment rapidly returned to former levels, showing that the economy does really respond to commands.²⁸

The social costs of the adjustment were evident by 1984 and the political system had been responding accordingly. Although the 1982 elections were one of the cleanest ever, they were subject to manipulations, much as happened in 1978. In October 1981, the government created the sub-legenda artifice, by which a party could have more than one candidate for governor and

their votes would be combined in the benefit of the front-runner. This proposal was defeated in Congress with the help of 10 dissident PDS-Deputies. According to a National Information Service (SNI) report, there were strong possibilities for a sweeping opposition victory in most gubernatorial races.²⁹ This information coupled with the defeat of the sub-legenda prompted another governmental "November 1981 Package," which included mandatory straight-ticket voting and prohibited party coalitions. Geisel -- although out of power still an authoritative figure -- made statements during an interview indicative of the limits placed upon the liberalization process, and the limited opposition tolerated by the military. He stated,

The opposition is not obligated to oppose [sic]. The first role of the politician is to negotiate and the opposition was intransigent as if it dominated the government, with a power that it does not have. That is why the government, using its majority, reacted. In clear Portuguese: they have exposed themselves to the principle of Physics: to each action corresponds an equal and opposite reaction.³⁰

The Popular Party (PP) responded to this last "package" by rejoining the PMDB, setting in motion a series of alliances between PP moderates and PMDB "authentic" (historic MDB opposition politicians). The PDS regained the ability to push recessive economic policies through Congress by coopting the new PTB -- a party dominated by the Planning Minister Delfim Netto and his Paulista supporters.³¹ The quorum for Constitutional

amendments was again raised to 2/3 of the Congress and the 1985 Presidential Electoral College was reshaped to favor the PDS candidate. These were precautionary measures taken in view of the prospect of a sweeping victory of the opposition candidates in the November 1982 elections for governor.

As the 1981-83 recession evolved, civil society reacted with demonstrations, strikes and looting. Business leaders produced manifestos attacking government policies. This discontent was dampened by the expectations created by the upcoming 1982 gubernatorial and general elections. While the 1982 elections were a decisive test of the process of political liberalization, the economic recession provided the backdrop for increased demands on the state from organized groups.³²

The turnout confirmed the opposition's voting strength but it was not matched by actual seats occupied in Congress. While the opposition parties received a combined 70 percent of the total vote, the PDS maintained its majority in the Senate and in the electoral college, due in large part to the senators appointed in 1978 and to tampering with apportionments. In the Chamber, the PDS lost its majority but it could still win crucial votes with the help of PTB. In the mayoral and gubernatorial races, the government hopes of making elections more "localized" and getting voters to support local PDS candidates proved to be a success: the PDS recorded nine victories in the Northeast, a region accustomed to patronage. Altogether, the PDS won thirteen

gubernatorial races. In the other regions the strength of the candidates emerging from the fusion of the PP and PMDB forced the "localized" strategy to fail, since it was the top of the ticket that pulled the vote. A new political power distribution emerged from the elections. The opposition had gained a political base. In the three states won by the PMDB ticket (São Paulo, Minas Gerais and Paraná), the number of mayors grew from 91 to 740. Among the nine PMDB elected governors, three were from the most important states.³³ The change in political power came after the 1982 election, when even PDS governors, supposedly government supporters, turned against Figueiredo's policies. In two very important cases, the governors of Pernambuco and Santa Catarina supported direct presidential elections in 1984 and a Constituent Assembly.

Delfim's economic adjustment, scheduled to begin right after the elections in order to avoid greater political losses, was responsible for an increase in unemployment and a fall in real salaries and wages throughout 1983. Adopting the IMF prescription and monitoring of the economy, Delfim cut investments, postponed programs -- such as the Nuclear Program -- while adopting a maxi-devaluation to spur exports. This, in turn, caused the capital goods industry to squirm under the prospects of continued losses. It was a break of the political commitment to sustained growth which caused the state to lose the support of the entrepreneurial classes, especially the industrial

and Paulista coalition, who turned their back on the government and its recessive policies. With the uncertainty about the future of direct elections or who the opposition candidate would be, the entrepreneurial classes pressed more demands on the state at the end of 1983. However, as Bresser Pereira points out

...[I]t is clear that the autonomy of the economic policy of the state was strongly reduced. The state's budget imbalance and the foreign debt obviously limited the capacity of the state to manage the crisis effectively, producing a dialectical situation. On the one hand, the crisis immobilizes the state, and on the other hand, state immobilization prevents the resolution of the crisis.³⁴

The new political reality meant that the government would not be able simply to impose its will on the states. The strengthening of the local and state level executives forced negotiations at the federal level, especially concerning the policies needed to implement the IMF stabilization plan in December 1982. As a consequence, Figueiredo's political power and decision-making capacity diminished after the 1981-83 recession, the elections and the cresting of the debt crisis. Figueiredo's inability to lead and Delfim's discredit as an economic policy-maker fomented disunity and contradictions, even among high officials. The question of succession reflected this: Figueiredo's lukewarm support for his Minister of the Interior Mario Andreazza was paralleled by plans to make the then head of the SNI, General Octavio Medeiros, the PDS candidate.³⁵

Figueiredo even toyed with a strategy to prolong his government for one year with the promise of a direct presidential election in 1986. None of these options worked since Deputy Paulo Maluf, Minister Mario Andreazza, and Vice-president Aureliano Chaves stubbornly maintained their candidacies. This disunity was bluntly rebuffed by the Minister of Social Welfare, Hélio Beltrão, who resigned in protest at government policies. The crisis of governance of the last two years of the military regime was deepened by adherence to IMF-recommended recessive economic policies, while the transition to civilian government was being negotiated.³⁶

The political power of the hard-line subsequently diminished with exposures of corruption, together with Congressional investigations and press reports of illicit activities by the top-echelon military security apparatus of the state -- including an alleged assassination.³⁷ Moreover, state political inability was clear when a demonstration staged by 50,000 middle-echelon state enterprise employees marched against the IMF and government wage policies in June 1983, in the first Brazilian public service strike ever.³⁸

By the end of 1983, Minas Gerais Governor Tancredo Neves (PMDB) made a political accord with the Mineiro Vice-president Aureliano Chaves in which they promised support for the man who could get the nomination of his party. Tancredo made a second deal with Deputy Ulysses Guimarães, PMDB National

president and historic opponent of the military regime, that if the Dante de Oliveira Amendment -- calling for direct presidential election -- was ratified, Tancredo would support Ulysses's candidacy for President. But if it was not, then Ulysses would support Tancredo in the indirect election in the electoral College. Tancredo was also seen by the military as the civilian capable of making the transition without major ruptures. That is, of avoiding the risks of a direct election in which unpalatable candidates had a major chance of winning and of avoiding lawsuits against the military involved in the repression, as in Argentina.³⁹

During the first four months of 1984, the Brazilian political scene was dominated by a civil society-centered movement -- the "Direct Presidential Election, Now!"-campaign (Diretas-Já). Hundreds of thousands took to the streets of most state capitals. Despite its massive popularity, the Dante de Oliveira Amendment failed to achieve a two thirds majority by 22 votes. This was due in part to a government campaign against the amendment, which included placing Brasília and the vicinity under a State of Military Emergency, prohibiting the PDS dissident mayors and local representatives from lobbying PDS Deputies, censorship of live radio and television coverage of the voting in Congress, and economic pressure on PDS dissidents by the Minister of Planning, who threatened to cut off funds to the states and regions of those voting against the government.⁴⁰ In June, soon

after the defeat, in June, negotiations began with the dissident top-echelon of the PDS: the former president of the PDS, José Sarney, and the PDS leader in the Senate, Marco Maciel, together with Vice-president Aureliano Chaves. The dissidents formed the Democratic Alliance between the Liberal Front (a "party" formed by PDS dissidents) and the PMDB and formalized the Tancredo Neves-José Sarney presidential ticket. Paulo Maluf, the PDS's choice as presidential candidate, was defeated in the Electoral College in January 1985.

The first phase of the transition process was thus complete. The second phase -- represented by the incoming administration, however, -- was troubled from the start. Tancredo Neves fell ill on the eve of his inauguration, and died six weeks later, on April 21, 1985.

Although these political events represented the end of an era of a centralized authoritarian military regime they did not mean the military's complete withdrawal from Brazilian politics, nor the end of the centralized authoritarian mode of policy-making. Tancredo Neves's moderation and his pact with the regime's party dissidents and with moderate military leaders assured the transition to civilian government but not the economic and social transformations promised in the Diretas-Já! campaign.

The themes we have covered in this section can now be brought together to reveal the role of state autonomy during the

abertura process. Geisel's coming to the presidency coincided with the end of the favorable economic conditions during which the "miracle" occurred. His decision to proceed further with development projects was an option that raised criticisms and limited state autonomy from industrial and financial fragments of national and foreign capital. The absence of a cogent economic policy at the beginning of Figueiredo's term, -- Simonsen's stop, Delfim's go and stop again) left Brazil on the verge of a balance of payments crisis in September 1982, provoking IMF demands and negotiations with private Japanese, North American and European banks. As a result of that process of recessive adjustment, terms of trade deteriorated, new loans were cut off, domestic industrial production dropped with capital goods production plunging more than 40 percent in 1982⁴¹, unemployment soared and a series of economic indicators began to signal a deep recession in the Brazilian economy.

The entrepreneurial class -- progressively more sympathetic to opposition ideas in the period 1977-78 -- were in dismay by 1984, protesting against corrupt government officials and policies that impoverished Brazilian society, resulting in violence, unemployment and criminality.⁴² More importantly the promises of abertura could only be kept within a context of legitimacy which, with Tancredo's death, lingered even more ominously. Early in 1984, Cristóvam Buarque stated,

It will be impossible to maintain the abertura, pay the debt service, control inflation and resume growth and employment in 1984 if one wants to remain in the political context of abertura. It is impossible to perform these four things together. As the IMF continues administering according to outdated principles -- even for the long term interests of the international system -- only direct elections will legitimize the regime.⁴³

We have seen how political power shifted from the centralized, repressive, authoritarian regime, with exclusionary policies of the Médici era to a dictablanda during the Figueiredo term, despite all attempts by the hard-liners to control and direct the elections and political liberalization. We have seen how the relative autonomy of the state to formulate and adopt economic development policies diminished in view of political power shifts. The form of the Brazilian transition, with few ruptures between a civilian government and the military continued tutelage of the political system. Nevertheless, its effect over specific policy areas are worth analyzing. This is our next task.

2. State Action and Autonomy in the Growth cum Debt Period: Grandiose Projects and the Crisis

Having presented the political and economic background, we will now analyze state action and autonomy in this period. The bulk of state action with respect to the production of electric power, oil, steel, iron-ore and other products and

services took place within the state enterprises, which decided upon and implemented a number of large sectoral programs. The institutional arenas of the state enterprises, their regulatory agencies and the sectoral councils (Figures 3.1, 3.2) became the centers of policy mediation within the state.

The dynamics of interests and the patterns of state enterprise action observed in this period differ significantly from those observed in the "growth cum repression" period. In general, government objectives were constrained by increased demands consequent upon political liberalization and the deterioration of economic conditions. While in the growth cum repression, period the state enterprises strived for autonomous growth and for a role as providers of the low-cost inputs needed for the good performance of the durable consumer goods industry, in the 1974-85 decade state enterprises were called upon to implement the sectoral programs of the Second National Development Plan (PND II, 1974-79). This modified strategy turned the state enterprises into real policy instruments, despite the fact that, by 1977, some PND II sectoral programs had been discontinued, or their objectives re-evaluated. Yet some of the state-owned enterprises sectoral programs -- whose policies could have made a substantial difference in development plans and whose decision-makers were in a position to mobilize strong political support -- continued their role as promoters of long term development strategies. Notwithstanding these efforts, all

state-owned enterprises were unable to prevent the growing use of their flexible entrepreneurial structures and economic strength to accomplish the short term macroeconomic objectives of the Brazilian state, such as borrowing foreign currency to solve balance of payment problems or keeping demand high for capital and intermediate goods, therefore loosing state autonomy.

State enterprises also functioned as political escape-valves, providing at least 8,000 highly-paid positions to retired military and to other Brazilian elites.⁴⁴ Clientelism in state-owned enterprises created a political Gordian knot for the post-1985 transition period -- that is, how to defuse a powerful state enterprise bureaucratic machinery dominated by privilege, corruption and inefficiency. Different trends influenced the pattern of state enterprise action during the PND II period. First, clientelistic relationships were exacerbated as Brazilian and foreign suppliers, contractors and other groups, were favored with special contract clauses, special market reserves, subsidies, exemptions and fiscal incentives, as the case of Tucuruí illustrates. Secondly, some of the initial objectives of the PND II proved untenable and unrealistic as the situation required the use of financially healthy state enterprises to borrow abroad in order to solve short-term macroeconomic problems. Consequently, by 1985, state enterprises found themselves in a position of economic disarray, financial indebtedness and political distress, mistrusted by both Brazilian

society and the private sector, former beneficiary of its actions.

The state enterprises relative autonomy was frequently hampered by government objective of curbing inflation. To do that, the government maintained public prices and rates down to avoid inflationary pressures, as shown in Table 4.7, that influenced negatively the financial autonomy and profitability of the state enterprises. Government made efforts to control unchecked state-owned enterprise spending -- especially with the creation of the Secretariat of State Enterprises Control (SEST, Secretaria de Controle das Estatais) in 1979. However, these efforts were not sufficient to hold the pressures from the private sector to continue grandiose projects. Unending project cost-overruns forced the government to allocate capital investment beyond the limits imposed by the central planning agencies, thus increasing the public debt. At the same time, the state enterprises decision-makers continued having enough discretion to define investments in development projects, thus defending their own interests regardless of the availability of resources or the real need for the project. On the one hand, the private sector demanded increased spending but, on the other hand, it furthered demands towards a more democratic rule.

The year of 1974 witnessed important policy shifts, when Geisel adopted a set of specific policies designed to tackle the incipient state of the basic input and capital goods

industries, and the need to meet national energy requirements, in both the electric power and transportation fuel, pressing problems which demanded "an imperious and unavoidable resolution," as stated by the principal architect of the PND II, Planning Minister Reis Velloso.⁴⁵

The PND II's objective of transforming the Brazilian economy was aimed at legitimizing Brazil's claim as a world power, what was in conformity with the principles of National Security Doctrine. Policy-makers wanted the PND II's "second import-substitution industrialization phase" to implant capital goods industries, stimulating the national private sector in an all-out effort to cross the threshold between development and underdevelopment.

But there were problems. Not conforming to the state's efforts to adapt the Brazilian economy to the new world reality, the durable consumer goods industry still believed that it deserved incentives and credits of the so-called "miracle years." Therefore, it barely complied with the reorganization of the economy, and countered the new policies with much foot-dragging. Conversely, the BNDE strengthened its institutional structure to meet the new requirements of Brazilian basic industries, of the mechanical industry and of participating in the stock of Brazilian firms that took part in the execution of the PND II goals. BNDE's new subsidiaries -- FIBASE, EMBRAMEC, and IBRASA -- became the major financial sources for the firms executing the

objectives of the PND II.⁴⁶ In addition to this institutional change, a major decision-making arena was formed, centralizing decisions in the President's office, through the Economic Development Council (CDE, Conselho de Desenvolvimento Econômico). Presided over by Geisel, the CDE was the central decision-making agency, coordinating policies already discussed by the National Monetary Council, the Industrial Development Council, and other specific sectoral policy councils. CDE worked in tandem with the high-level strategic and tactical decision-making process of the National Security Council. In most cases, the CDE was the central locus of decision-making, being

formally what the CMN had informally been in the 1969-74 period, the supreme decision-making site for economic deliberation.⁴⁷

The CDE's decisions were aimed at changing the thrust of the industrialization process and providing the huge investments required. However, those decisions were taken in the context of worldwide recession and the resulting cyclical reversion of internal growth. These decisions involved new policies aimed at increasing the production of capital goods, basic and intermediate inputs -- steel and non-ferrous metals, petroleum/petrochemicals, fertilizers and phosphates, and minerals, while reducing imports on these items which accounted for 61.6 percent of total imports for the year 1974.⁴⁸ The

production increase in those items was highly energy-intensive which increased the electric power demand. These pressures forced decisions about the implementation of large-scale energy programs, both hydroelectric and nuclear.

The PND II decision also involved other related aspects: industrial deconcentration, integration of peripheral regions to the core of Brazil's more developed states, and international relations, specifically trade.

The PND II's energy, mining and industrial projects were accompanied by a decision to deconcentrate regionally, in order to achieve one of the critical goals of the National Integration Program (PIN): the integration of the Eastern Amazon and Western Frontiers, which is a National Security Doctrine's objective. Asserting control over the vast, sparsely populated Brazilian territories was the way the military found to confront the attraction that the Amazon's profit potential exerted on international interests. It is not surprising that PND II included large-scale regional infrastructure (electric power plants, railroads, urban development projects) in addition to industrial projects, as a way of simultaneously achieving development, national integration and security objectives.

Policy-makers sought industrial deconcentration to avoid the political consequences of having a concentrated and powerful industrial labor force in the State of São Paulo and other Southeastern industrial states. These states were a

stronghold for MDB votes in the 1974 election, and would continue to be in other elections as well.⁴⁹

The PND II policies were also directly linked to international relations. Domestic development policy -- industrial, energy and mineral policies --, overlapped with foreign policy. Brazilian-Paraguayan-Argentine regional economic and geopolitical concerns guided the Itaipu decision, while international investment and the export of mineral and industrialized products were instrumental in the Tucuruí decision -- the largest state infrastructure project within the regional development framework of the Greater Carajás Program. These two projects will be discussed in detail on chapters V and VI. In the case of nuclear policy, Brazil's Accord with West Germany had international repercussions which pitted the Geisel government against the Carter Administration. In the case of oil supply, Brazil strived to maintain good relations with the Arab and OPEC-member countries by engaging in a foreign policy of "responsible pragmatism." This included an anti-Zionist vote in the United Nations in 1975, Petrobrás's exploration in oil-producing countries, Brazilian construction firms executing extensive civil works in Arab and other oil-producing countries, and selling arms to Arab countries -- all of which was aimed at guaranteeing the supply of oil for internal Brazilian consumption.

Yet the majority of the funds needed to finance the projects had to be borrowed, thus contributing significantly to

the debt crisis of the 1980s. Foreign sources of funding -- private commercial banks, multilateral agencies -- by far outweighed the internal sources of development financing.⁵⁰ As a consequence, most of the economic and social policies after the 1982 debt crisis were conditioned by decisions made by the IMF, multilateral agencies and foreign private banks. Therefore large investment pursued to further national security and development objectives paradoxically have undermined sovereignty."

One of Geisel's objectives was to shift away from the relatively large participation by multinational corporations in the economy to a greater involvement of the state and of the domestic private sector in national development in furtherance of the historical autarkic trends. Severo Gomes, a nationalist Paulista entrepreneur, was named Minister of Industry and Commerce, signalling that the Brazilian private sector's time had arrived. He strived to implement policies encouraging the domestic private sector to participate in large scale development projects,⁵¹ later corroborated by Velloso,

the government directed its entire incentive system to the sectors considered of highest priority, thus utilizing the entire range of available BNDE incentive mechanisms, in addition to other exceptional measures.

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This strategy entailed not only accumulating favors and

incentives but also pressuring entrepreneurs for more ambitious expansion. As Velloso said

When the National Council of Non-Ferrous Metals and Steel Industry (CONSIDER) gave the Economic Development Council (CDE) the list of projects, we realized that such a list was incapable of giving Brazil self-sufficiency. Then, under my advice, CONSIDER had to go back to the entrepreneurs and ask them to design larger projects... We were going back to talk to Ermirio, with Alcoa, with Alcan, to see if they would go beyond the expansion already programmed. And, likewise, in many sectors, we convoked [sic] the entrepreneurs to enlarge a few projects. This was the case in the paper and pulp industries.⁵³

Nevertheless the call for private sector participation was soon offset by the government's use of its own state enterprises to implement the Plan. In the short period between 1974 and 1975, 54 new state enterprises were created, diversifying and expanding state-owned enterprise.⁵⁴ As Lessa pointed out, "the PND II put large state enterprises at the center stage of industrialization"⁵⁵ since the gargantuan investments of the state enterprise systems (Eletrobrás + State Electric Power Companies + Itaipu Binational, Nuclebrás, Petrobrás, Siderbrás, Telebrás, CVRD, and others) were strategic in generating enough demand to the private sectors to compensate for the cyclical downturn of the economy. In reality, after the 1977 cuts and re-evaluations of PND II's policies, only such large scale long maturation projects as Carajás, Itaipu and Tucuruí were maintained at full scale, not only for their long

maturation period into the 1990s, but also for the interests they mobilized.⁵⁶

Intense negotiations between the state and private sector re-evaluated most of the PND II projects, particularly after the effects of the US\$ 30 billion-hiatus of resources in the period 1974-78 (See Table 4.2 - External Accounts) aggravated inflation, interest rates and other macroeconomic variables. Notwithstanding cuts and these negotiations, most investment were channelled to electric and nuclear energy, to selected industrial sectors, and to mining; the capital goods demanded by these development projects prevented an earlier deep recession. The continued interventionist role of the Brazilian state was candidly expressed by Velloso:

If you want to act entirely within the market system in the present conditions of the Brazilian economy... you will not have the private sector in steel-making, in fertilizers, in petrochemicals, in non-ferrous metallurgy, etc...⁵⁷

For Velloso the core of the problem was to apply existing resources to sectors that were vital to Brazilian economic development and at the same time resolve the balance of payments deficit. Yet the government response was more government incentives to low direct return and long maturation sectors.⁵⁸

A sector by sector analysis shows that the energy sector had the most consistent flow of financing and the most

consistent political power support, although that was not readily translated into autonomous policy action. Table 4.3 depicts the trends of state enterprise investment. Petrobrás investment were initially directed to petrochemicals, and in the early 1980s to producing off-shore petroleum. Eletrobrás investments (including Itaipu Binacional and State Concessionaires) sustained investment in the late 1970s but these crumbled with the 1982 debt crisis. Likewise the state steel sector invested heavily in the late 1970s, but suffered the consequences when it had to repay without an internal or external market to absorb productive capacity. The mining sector (CVRD) sustained its growth throughout the period largely by diversifying activities (pulp and paper, fertilizers, non-ferrous metallurgy) and by the political support given to the Greater Carajás Program for its export component.

TABLE 4.3

STATE ENTREPRENEURIAL GROUP INVESTMENTS (Cr\$ billion - base 1980)

	1974	1975	1976	1977	1978	1979
Petrobrás	80.4	101.6	97.6	99.6	101.1	102.3
Eletrobrás and Itaipu State Utilities	142.8	180.5	201.4	225.1	254.4	253.3
Nuclebrás						14.3
Siderbrás	46.2	59.4	46.9	58.6	88.2	134.7
Transportation DNER, RFF, Portobrás, Metrô Ferrovia do Aço						
Telecommunications Telebrás- Embratel & state concesio- naries						
CVRD Group holding, Docenave Cenibra, Valesul Albrás, Alunorte	21.7	18.0	28.7	23.7	3.2	12.6

Sources: Reports from the companies 1974-79.
SEST, Relatórios 1980-84. Deflated by igp-di,
Conjuntura Econômica, 1980.
average exchange rate: Cr\$/US\$ 52.70

(continued next page)

TABLE 4.3 (cont.)

	1980	1981	1982	1983	1984
Petrobrás	117.6	150.9	180.2	133.6	110.6
Eletrobrás	107.1	101.2	94.8	67.8	10.0
Itaipu	48.8	71.5	65.9	51.9	24.6
State Utilities	48.9	78.6	85.1	53.7	56.9
Nuclebrás	7.6	19.8	25.7	21.4	18.7
Siderbrás	113.2	94.2	68.3	37.4	16.6
Transportation DNER, RFF, Portobrás, Metrô Ferrovia do Aço	87.6	80.2	64.2	55.9	41.8
Telecommunications Telebrás- Embratel & state concesio- naries	55.3	57.5	65.2	50.1	46.3
CVRD Group holding, Docenave Cenibra, Valesul Albrás, Alunorte	26.2	45.0	54.1	31.3	36.9

Sources: Reports from the companies 1974-84. SEST, Relatórios, 1980-84.

Deflated by igp-di, Conjuntura Econômica.

1980 average exchange rate: Cr\$/US\$ 52.70

TABLE 4.4
GROWTH RATE IN STATE ENTERPRISE
INVESTMENT, 1975-1984, %

	1975	1976	1977	1978	1979
Petrobrás	26.4	-3.9	2.1	1.5	1.2
Eletrobrás and Itaipu State Utilities	26.4	11.6	11.8	13.0	-0.4
Nuclebrás					
Siderbrás	28.6	-20.9	24.8	50.5	52.7
Transportation					
Telecommunications					
CVRD Group	-17.0	59.2	-17.3	-17.3	-35.7

Source: Calculated from State Entrepreneurial
Group Investment, Table 4.3.

(continued next page)

TABLE 4.4 (cont.)

	1980	1981	1982	1983	1984
Petrobrás	14.9	28.3	19.4	-25.8	-17.2
Eletrobrás and Itaipu	-19.1	-5.5	-6.3	-28.5	-85.2
State Utilities		46.5	-7.8	-21.2	-52.6
		60.7	8.3	-36.9	5.9
Nuclebrás	-49.9	160.5	29.8	-16.7	-12.6
Siderbrás	-15.9	-16.8	-27.5	-45.2	-55.6
Transportation		-8.4	-19.9	-12.9	-25.2
Telecommunications		3.9	13.4	-23.1	-7.6
CVRD Group	107.9	71.7	20.2	-65.3	17.9

Source: Calculated from State Entrepreneurial Group
Investment,
Table 4.3.

B. Infrastructure Policy and State Enterprise
Autonomy: The Cases of Electrical Energy and Petroleum

In this section we will analyze how the 1974 quadrupling of oil prices induced policy-makers to pay renewed attention to energy policy. In so doing we will evaluate the relative political and financial autonomy of the state enterprises involved in the hydroelectric and nuclear power projects and petroleum and transportation sectors.

1. Electrical Energy: Hydroelectric and Nuclear Power Policy

The Eletrobrás system (regional and state level firms plus Itaipu) was coming out of a period of high relative state autonomy (1967-73). In the 1974-79 period, Eletrobrás was in the thick of energy politics: Itaipu Binational involved historically troublesome relations with Argentina and Paraguay, in addition to highly politicized relations with particular fractions of capitalist interests and political power centers. The decision to invest in the Northeast during Geisel's term stemmed politically from the fact that two former Northeastern Governors were the Eletrobrás's President, Antonio Carlos Magalhães, of Bahia, and the Director of Coordination, Colonel César Cals (retired), of Ceará. Both were powerful and gained Geisel's trust with respect to projects and priorities.

As an illustration of the high-powered politics of the electric power sector, when Figueiredo was chosen to succeed Geisel, he wanted to guarantee that the upcoming 1982 gubernatorial elections would be controlled by trustworthy regional state leaders. Antonio Carlos Magalhães emerged as his choice to be State Governor of Bahia in the 1978 indirect election. Cesar Cals was elected Senator indirectly, under the April 1977 Package, and was subsequently appointed Minister of Mines and Energy (1979-85). Figueiredo also kept General Costa Cavalcanti (retired) as the powerful General-director of Itaipu Binational, by then entering its critical phase. As part of a regional political compromise, Mauricio Schulman was nominated president of Eletrobrás at the indication of the new Governor of Paraná, Ney Braga (1979-1983) -- who had been Geisel's Minister of Education, a critical area in those years of political opening. Despite Geisel's support to Braga and Schulman, in a mere 18 months Cals and Schulman were at odds with each other. Schulman's priorities (development of coal-fired power plants favoring his Southern regional interests) collided with central government priorities. The President, the National Security Council and the Ministry of Mines and Energy (Cesar Cals) were only interested in maintaining highly visible and political projects. Eletrobrás, pressed by financial difficulties, was ordered to make an additional 15 percent cut in its budget for Fiscal-Year 1980, shifting investment to Itaipu, Tucuruí and to

the Nuclear Program. Schulman challenged Cals's decision and also confronted the powerful Planning Minister, Delfim Netto. Schulman succumbed to pressures and was replaced by Costa Cavalcanti, who held both offices during the remaining five years of Figueiredo's term. According to government logic, Costa Cavalcanti's appointment was only natural since Itaipu investments had the highest priority, given its international (Paraguayan partners, equipment purchases, loans) and national commitments,⁵⁹ as will be analyzed in Chapter V.

The change in command at Eletrobrás was not entirely accepted by Nuclebrás and nuclear energy supporters. Costa Cavalcanti's defense of hydro-projects coupled with the serious political, financial and technical difficulties the Nuclear Program as a whole faced, were enough to entice a heated defense of the Program by the president of the National Nuclear Energy Council, Rex Nazareth and by the president of Nuclebrás, Paulo Nogueira Batista.⁶⁰

Although Eletrobrás's political autonomy vis-à-vis central government was maintained by Costa Cavalcanti's efforts, as the 1981-83 economic crisis deepened, Eletrobras's financial autonomy suffered severely. While self-generated resources were most important in the 1970-74 period, loans supplied the major portion of the investments done in this sector for the 1974-85 period, reaching 93.7 percent in 1984, as shown in Table 4.5. Electricity rates were constantly used to curb inflation, sharply

reducing the volume of self-generated resources, according to Table 4.7. As resources from the Treasury also diminished, Eletrobrás' economic potential was exploited in getting foreign loans that were also used for other expenditures and for amortization and servicing of previously incurred debt.⁶¹

Beginning in 1981, self-generated resources were insufficient to pay for current expenditures, therefore other resources from government allocations, reserves and plain emissions were made in order to compensate for the lack of resources even to pay personnel and financial obligations. On the other tables of Sources and Uses of Funds, negative numbers also show this fact. Self-generated funds accounting for 34.7 in 1980 had to be covered by Other Resources from Government Allocation to offset the lack of Net Self-Generated resources to pay for current personnel and supplies expenditures. The most troublesome year was 1983 when 45.5 percent of expenditures were covered by Government Allocation.

Eletrobrás action dwindled as loans dried up, reflecting the deep-rooted crisis of the economy. The most important state sector during the 1970s diminished its investments reaching a crucial low point in the 1980s. As an Eletrobrás official stated

From the financial point of view the present situation of the electric energy sector is that of a firm going out-of-business.⁶²

TABLE 4.5
BRAZILELETROBRAS
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	38.9	39.3	33.0	37.6	5.2	15.7	29.7
NSG	34.7	-16.9	-25.2	-45.5	-42.6	-22.5	-11.2
OtRes	4.2	56.3	58.2	83.2	47.8	38.3	40.9
GVT TRSRY	6.9	14.4	5.2	4.0	1.1	0.9	16.2
CRDT OPTS	54.1	46.3	61.8	58.4	93.7	83.3	54.0
Int		3.9	4.1	10.2	2.3	5.7	1.4
Ext		42.4	57.7	48.2	91.4	77.6	52.6
USES							
CAP EXPTS	100.0	100.0	100.0	100.0	100.0	100.0	100.0
*invst	64.2	60.1	58.4	57.5	57.3	47.3	34.0
*amtzn	14.1	14.3	15.4	27.6	22.2	31.9	45.2
Int		6.0	2.6	6.5	1.9	5.4	9.5
Ext		8.3	12.8	21.1	20.3	26.5	35.7
*other	21.7	25.6	26.2	14.9	17.5	20.8	20.8

Source: SEST, Relatório, various years
 Eletrobrás, Relatório, various years
 Percentage from Total Resources.

GLOSSARY:

SELF-GRTD	Self-Generated Resources = NSG+OtRes
NSG	Net Self-Generated/Total Resources
OtRes	Other Resources (Reserves, Govt allocation)/Total Resource
GVT TRSRY	Funds allocated from Federal, State or Municipal Government/Total Resources
CRDT OPTS	Funds allocated from Credit Operations/Total Resources
Int	Credit institutions within Brazil
Ext	Credit institutions abroad
CAP EXPTS	Capital Expenditures = invst+amtzn
*invst	Investments as percentage of Capital Expenditures
*amtzn	Amortization as percentage of Capital Expenditures
Int	To credit institutions within Brazil
Ext	To Credit institutions abroad

OBSERVATION:

The tables of Sources and Uses of Funds were calculated from SEST and State Enterprise Reports. The accounting equation from where it was calculated is:

	Resources Self-Generated		RSG
minus	Current Expenditures	-	CE
equal	Net Self-Generated Resources	=	NSG
plus	Other Resources	+	OtRes
equal	Own Resources for Investment	=	ORFI
plus	Treasury Resources	+	Trsy
plus	Credit Operations	+	CrOp
equal	TOTAL RESOURCES	=	TOTRES
minus	Capital Expenditures	-	CapExp
	*investments		*inv
	*amortization		*amtz
	*other		*oth
equal	Variation of the Available Resources	=	VarAva

The negative percentage appearing in all tables refer to use of Other Resources to offset the lack of own resources to pay for current expenses (personnel, interests, etc.)

The values above 100 percent reflect amounts over and above Total Resources taken to offset lack of financial resources.

Although investment made during the 1960s and 1970s doubled generating capacity every five years, in the absence of new investment severe electric power shortages in the 1990s are expected. No new foreign loans were obtained since 1983 and even a World Bank loan has been consistently denied in view of environmental non-compliance on the part of Eletrobrás projects, contributing to the demise of the political and financial autonomy it once enjoyed.⁶³

The political and financial autonomy of the nuclear power sector varied along this decade. It enjoyed high degrees of autonomy since most decisions were not subject to scrutiny and the implementation process could count on vast resources, both accountable and unaccountable. As political liberalization and financial crisis hit, the nuclear policy lost much of its autonomy. We will examine how this process took place.

Brazilian nuclear policy, which began in the 1950s,⁶⁴ gained momentum only in 1967 when the hard-line military regime was in power. This regime freely maneuvered unaccountable funds, in view of a silenced Congress. The military became convinced that only through building a nuclear power plant could Brazil reach nuclear capacity. By abstaining from signing the 1968 Non-Proliferation Treaty, Brazil, together with twenty other countries, signaled their intention of developing nuclear technology free from abiding legislation, what coincided with

hard-line military interests in purchasing a "turn-key" reactor from Westinghouse (Angra-I), to be built near Angra dos Reis, 100 miles south of Rio de Janeiro. This was a decision taken independent from Eletrobrás, essentially formed at the National Nuclear Energy Council (CNEN) and the CBTA (Companhia Brasileira de Tecnologia Atômica), precursor of Nuclebrás.⁶⁵

Despite this independent decision, the actual autonomous development of nuclear capacity was endangered by the United States's reluctance in supplying enriched uranium. Brazilian scientists warned that dependence on the U.S. uranium supply would make the whole nuclear development program vulnerable to U.S. interests.⁶⁶ In 1971, a Brazil-U.S. agreement on fuel supply was reached; after that, Westinghouse was awarded the international bidding for Angra-I, a 625-MW plant budgeted at US\$ 304 million and to be built between 1972 and 1976, but only finished in 1983. Furnas, the Eletrobrás subsidiary, can only operate it at 30 percent capacity due to technical flaws, making the final cost of US\$ 1.8 billion a very expensive US\$ 10,000 per kilowatt.⁶⁷

Brazil's definitive commitment to nuclear energy came with the adoption of the Nuclear Program. Nuclebrás (Empresas Nucleares Brasileiras) -- which resulted from the transformation of CBTA in 1974 -- implemented the Nuclear Program based on the Brazil-West Germany Accord. The Nuclear Program is seen as one of the most typical examples of the grandiose PND II's projects,

since by mastering the nuclear cycle Brazil's authoritarian policy makers intended achieving the prestigious Emerging Power status for the country.

Nuclebrás was created as an autonomous jurisdiction, separate from the energy bureaucracy of the Ministry of Mines and Energy and Eletrobrás, which opposed development of the nuclear energy program. Within the Brazilian government, the supporters of the Nuclear Program were the National Security Council, the President Geisel, the military, the Minister of Mines and Energy, Shigeaki Ueki, and the diplomatic community. The diplomat Paulo Nogueira Batista who had served in Bonn previously and was later appointed the president of Nuclebrás, was that Accord's main negotiator.⁶⁸ The signing of the Teuton-Brazilian Accord in June 1975 initiated this controversial program, whose original cost was US\$ 10 billion, and proposed the construction of eight nuclear power plants generating 10,000 MW. Two of these -- Angra II and III -- were expected to operate by 1982 and 1983, respectively, while the others were to be phased in throughout the 1990s.⁶⁹ This program spent several billion dollars over the years but has not generated a single kilowatt.⁷⁰

Brazilian military nuclear supporters envisioned dominating the full cycle of nuclear technology, from mining and "yellow cake" conversion to enrichment and reprocessing of irradiated fuel, from manufacturing equipment to building nuclear power plants. In 1975, the U.S. refused to supply a joint

Brazilian-Argentine uranium reprocessing plant, even under international supervision, thus raising Brazilian expectations with respect to autonomous reprocessing.⁷¹ Even though the strategy of the Nuclear Program was formulated by the General Secretariat of the National Security Council viewing electric power and military applications,⁷² Nuclebrás officials and the military believed that its implementation would provide enough know how for Brazil to have the capacity to build a technically sound reactor and a commercially competitive power plants for domestic and foreign markets. This is why the military spillover was crucial: the military gave their political support to the nuclear program in exchange for development of their own military capacity. That was the nexus and the power blood-line that continued allocating resources to the Program.

The euphoric climate at the signing of the Accord overwhelmed criticism voiced by the Brazilian nuclear physicists and researchers, concerned with the unproven "jet-nozzle" uranium enrichment technology ⁷³ and with the per kilowatt cost of generating nuclear energy. Compared to Itaipu's cost (US\$ 1,400 per kilowatt), the nuclear kilowatt would cost more than double this, at US\$ 2,900.⁷⁴

Notwithstanding criticisms, resources allocations to the Nuclear Program endured with a series of intentional and errors and decoys. They were repeatedly made by the central government -- which forced Eletrobrás to modify its studies of

potential energy developments --, to justify nuclear policy, thus reflecting the power and cohesion behind Brazilian nuclear policy. Both when the Accord was signed and when the Plano 1990 was drawn up by Eletrobrás in 1978 ⁷⁵, hydroelectric potential was underestimated at 118 million KW (Nuclear Accord, 1975) and 150 million KW (Plano 1990, 1978) while demand was bloated to 180-200 million KW.⁷⁶ This demand forecast was re-evaluated to 115 million KW ⁷⁷ with a hydropower potential of 213 million KW (Plano 2000, 1982), considering the potential of the Amazon Region, once the Nuclear Program and Nuclebrás had lost primacy. This manipulation of forecasts was noted and the whole program came under fire at a 1978 Parliamentary Commission of Inquiry which had no power to enforce its recommendations.

Furthermore, the tense dispute between American and German nuclear manufacturers and the debate between U.S. President, Jimmy Carter, and West Germany's Chancellor, Helmut Schmidt, reflected the importance of the matter to the profits and security interests of central countries. The Germans were willing to carry Brazil to the "El Dorado of Nuclear Sufficiency," provided Brazil guaranteed the supply of 20 percent of the enriched uranium coming out of the Resende enrichment plant to West German power plants.⁷⁸ In order to implement that part of the program, West Germany transferred uranium mining technology.⁷⁹ Besides Kraftwerk Union (KWU) and others in the nuclear industry, West Germany's banks and financial firms were

fond of Brazil as a client -- a country eager to grow and be part of the Atomic Club --, and thus provided generous loans and financing. That political autonomy vis-à-vis U.S. interests developed into tense relations between Brazil and the U.S.⁸⁰

During the years 1976-79 period, the Nuclear Program's announced autonomy effectively decreased. URENCO -- a Dutch, British, and German consortium supplying uranium enrichment technology -- acceded to the Carter Administration demands of not transferring it without safeguards. In addition, Germans and Brazilians struggled to control decisions and substantive policy at NUCLEN -- the engineering subsidiary --, and at NUCLEP -- the heavy equipment manufacturing plant. Germans severely limited Brazilian power to decide the program's direction.⁸¹

In addition to German hindrance on Nuclebrás's autonomy, the Brazilian private contractor, Construtora Norberto Odebrecht, also influenced the implementation of the Nuclear Program. First, Construtora Odebrecht, already on the site constructing the Angra I for Furnas, was awarded the civil construction without a formal bidding process with the argument that its experience could not be matched. Second, this company grew when Antonio Carlos Magalhães was sequentially Mayor of Salvador, Bahia (1966-70) and Governor of Bahia (1970-74); therefore the company had a powerfull ally while A.C. Magalhães was Eletrobrás's president, despite the rivalry between Nuclebrás and Eletrobrás. An example of the low autonomy of the nuclear

sector with respect to this private contractor is that despite geological problems -- a shifting bed-rock at the Itaorna Beach, -- construction continued unabated. Construtora Odebrecht added 240-additional foundation pilings to the construction, at a cost of US\$ 90 million dollars and a two year time overrun.⁸²

Nevertheless, in 1979 the Nuclear Program's autonomy regained momentum when Figueiredo established the Parallel Nuclear Program under the responsibility of the military. This program, developed basically at the Technological Aerospace Center (CTA, Centro Tecnológico Aeroespacial), at the Nuclear Energy and Research Institute (IPEN, Instituto de Pesquisas Energéticas e Nucleares) in São Paulo, and the Navy facility in Iperó, SP, involved enrichment of uranium with a proven, economic ultracentrifuge technology,⁸³ in contrast to the unproven technology of the Accord.

As of 1979, nuclear cooperation with Argentina was included as part of the Brazil-Argentina treaty on the different heights of the hydro-power plants on the Paraná River (see chapter V).⁸⁴ For the first time, the two countries participated amicably in the development of sensitive technology, after mutual mistrust had marked relations between the two Armed Forces. In November 1983 right before Raul Alfonsín came to power, Argentina announced that enriched uranium at percentages high enough to manufacture the bomb had been achieved, prompting the Brazilian military to make a concerted effort to rush the

Parallel Program forward. Although the Nuclear Program for electric power generation was de-emphasized after 1982, unaccountable expenditures continued to be made.⁸⁵ Nogueira Batista's strong defense of the Program at the Superior School of War, where the program could receive political support, further revealed the military character of the Program. Clearly the military, the National Security Council and the SNI exerted hegemonic control over decisions concerning the nuclear area. Nogueira Batista was so conscious of this hegemony that, when asked in an interview at the end of a ESG conference whether or not the bomb was going to be built, he replied

I am a civilian, a diplomat, and I work for Nuclebrás with peaceful ends. I cannot define whether the bomb is going to be made. This is a military problem.⁸⁶

As military hegemony over the program prevailed, the "community of information," the hard-liners part of the information systems in the Armed Forces and at SNI, became involved in the administration of the SNI and the Parallel Nuclear program. General Octavio Medeiros, the powerful head of the SNI, appointed Colonel Francisco Araripe, a hard-liner linked to the repressive apparatuses of the 1960s and 1970s, as the "czar of the Parallel Nuclear Program," in a demonstration of the political power played by the military in order to conduct the secretive, militarized program.

Despite all secrets, the results of the Parallel Program seemed dismal to Brazilian physicists. Even though the military announced that it was possible to make the bomb poor results in enriching uranium were obtained. As stated by Borisas Climberis,

There is nuclear fission, nuclear fusion and Brazil has found a third way to the atom: nuclear fiction.⁸⁷

By 1984 the Brazilian nuclear endeavor was fully committed to the mastery of nuclear technology while the construction of Angra II and III power plants were temporarily paralyzed for lack of resources.⁸⁸ With the improvement of long distance transmission technology, transporting the Amazon hydro-power potential became increasingly less expensive, thus denying justification to the expensive Nuclear Program.⁸⁹

Demonstrating how premature any evaluation of Brazilian nuclear policy was, despite the increasing scarcity of resources, the Parallel Program continued untouched and the Armed Forces's announcement, in August 1987, that Brazilian could make the bomb demonstrated the high political autonomy of the military in respect to nuclear policy for military applications. On the other hand, the Goiânia cesium-accident only a month later, showed Brazil's unreadiness in dealing with radioactive materials. This concern was voiced by the president of the Brazilian Society for the Progress of Science, Enio Candotti,

If it were true that Brazil has the bomb, it would be an extreme megalomania. An atomic bomb cannot be launched with slingshots. It presupposes the existence of submarines, rockets, a network of detection, of attack and of response -- something that would need expenditures in the range of 40 billion dollars.⁹⁰

We have seen how the military exerted their political power to direct the Nuclear Program to fulfill military needs in a higher degree than civilian uses of nuclear energy. We have

TABLE 4.6
BRAZIL

NUCLEBRAS
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	-57.9	-20.2	-24.7	-43.9	-71.1	-86.9	-73.3
NSG	-57.9	-20.3	-37.8	-44.3	-71.7	-87.6	-75.6
OtRes		0.1	13.0	0.4	0.5	0.7	2.2
GVT TRSRY	54.7	67.7	47.6	32.4	21.9	10.7	22.9
CRDT OPTS	103.1	52.5	77.1	111.5	149.3	176.3	150.4
Int		0.8	1.4	1.2	0.7	1.0	0.1
Ext		51.7	75.7	110.3	148.6	175.3	150.3
USES							
CAP EXPTS							
*invst	87.6	86.4	94.5	93.4	82.7	75.8	51.9
*amtzn	12.4	13.4	5.2	6.5	17.1	24.2	48.1
Int		9.9	1.3	0.7	0.3	0.4	0.1
Ext		3.5	3.9	5.8	16.8	23.8	48.0

Source: SEST, Relatório, various years. Nuclebrás, Relatório, various years. Percentage from Total Resources. See Glossary, p. 199 and Observation, p. 200 for explanation on negative numbers.

seen how Nuclebrás's capacity to formulate and implement nuclear policy was hindered by international and national private interests. Future research on the Brazilian nuclear policy might indicate more detailed policy outcomes and the implications of the political power surrounding the policy. With respect to the available financial information we can conclude from Table 4.6 above that the great majority of the funds used by the Nuclear Program came from borrowing abroad.

2. Petroleum and Alcohol

During the 1974-85 decade, the Brazilian petroleum sector was twice faced with oil price and supply problems. The 1974 and 1979 increases of oil prices caused a severe oil import crisis which prompted Petrobrás into shifting investments from profitable petrochemicals, refining and distribution activities to oil production. Petrobrás's share of investments in oil production gradually rose to 70 percent in 1980 and reached 95 percent in 1984.⁹¹

Petrobrás financial autonomy continued high, mainly because its prices were kept in line with reality, as shown in Table 4.7.⁹² Despite capacity to generate surplus funding for investment, Petrobrás only committed itself to oil production after oil prices caused panic and prompted Geisel to go on national TV to announce the signing of risk contracts with

foreign oil companies. In addition, Petrobrás needed knowledge about potential off-shore fields,⁹³ and, at the same time, Petrobrás could organize exploration abroad in oil-rich countries. The Brazilian oil state enterprise also exchanged oil production for development services and arms sales in the Middle East countries through its trading subsidiary, Interbrás. With this action, Petrobrás recognized that low cost oil was a thing of the past and the fact that Brazil's transportation system relied on petroleum by-products demanded new alternatives to avoid the collapse of supply.⁹⁴

Petrobrás political autonomy to decide its own policies diminished as the second oil shock (1979-80) forced the Figueiredo government to consider oil production among its highest priorities. Diminishing the dependence on imported oil was as crucial as exploring abroad. However, the negative experience of Braspetro -- Petrobrás's subsidiary for foreign production activities -- in Iraq provided enough incentive to step-up domestic production. Braspetro began exploring for oil in Iraq in 1976 and discovered Majnoon, a gigantic oil field, shortly thereafter. Under the contract, Brazil could exchange Majnoon oil at discount prices for development projects executed there. However, Iraq unilaterally changed the contract to favor its nationalist interest of guaranteeing oil revenue. In addition, Iraq forced the exchange of oil for Brazilian weapons and light armored vehicles. This arrangement worked out until

TABLE 4.7

PRICE INDEXES - EVOLUTION OF REAL PRICES, 1978-1985

	Petroleum	Eletrical Energy	Steel	Railroad Services	Telephone	Postal Services
1978	100	100	100	na	100	100
1979	115	90	78	na	95	90
1980	112	80	69	100	73	77
1981	138	75	74	93	55	79
1982	138	72	72	95	52	81
1983	143	61	63	77	40	60
1984	137	61	71	69	38	44
1985*	128	48	26	75	45	na

Source: Seplan, Projeto do I PND da Nova República (1986-1989), November 1985, p. 37. Index calculated with data from the National Petroleum Council, Eletrobrás, Siderbrás, Telebrás, Post Office, RFFSA.
 * data for 1985 was calculated from Index of Real Prices/GDP Seplan. SEST. Relatório de Avaliação do Desempenho das Estatais - 1986.
 na - not available.

the Iran-Iraq war broke out after which the oil supply became problematic. Iraq's oil supply to Brazil became even more troublesome after the January 1980 Iraqi-Brazilian agreement for the supply of natural and enriched uranium from Brazilian nuclear facility to the French-supplied Iraqi nuclear power plant, in return for an oil supply of 400,000-bbd during 13 years. When the Iraq-Iran war broke out in September 1980 and the nuclear plant was bombed by an Israeli raid, the commercial agreement between Brazil-Iraq was broken.

The oil crisis forced Brazil to adopt risk contracts, a commercial relationship between the state and multinational companies different from the old concession system that offered few guarantees, was inefficient and violated sovereignty.⁹⁵ Caught between maintaining a monopoly or producing enough oil domestically, Petrobrás invited the multinational companies reluctant to invest in Arab and other oil-rich nationalist countries to sign risk contracts. Petrobrás only granted risk contracts to multinationals in potential areas where Petrobrás could not technologically explore. Petrobrás made use of the greater technological capacity of the multinationals in order to learn more about Brazilian geology and triple production after heavily investing in off-shore fields.⁹⁶

When Brazil spent US\$ 10 billion importing oil in the previous four years (Table 4.2), Figueiredo gave top priority to oil production. When he entered office in 1979, Petrobrás was importing 1 million bbd and was producing 171,000 bbd domestically. In two years prices increased from US\$ 18 to US\$ 31 per barrel, forcing Petrobrás to invest in domestic oil production.⁹⁷

Petrobrás autonomy contrasted with that of the Alcohol Program. Petrobrás kept the prices of oil and its by-products at realistic levels, thus generating enough resources to maintain its investment program in off-shore drilling and production, as

shown in Table 4.8. Most of Petrobrás policy decisions were taken with political autonomy vis-à-vis private interests.

TABLE 4.8
BRAZIL
PETROBRAS
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	81.1	71.1	97.9	41.1	103.5	99.1	109.2
NSG	80.5	68.5	79.2	37.0	101.1	79.0	100.4
OtRes	0.6	2.6	18.8	4.1	2.4	20.0	8.8
GVT TRSRY	2.8	2.1	0.4	0.3	0.1	0.1	0.4
CRDT OPTS	16.1	26.8	1.6	58.6	-3.5	0.8	-9.6
Int	3.5	5.6	0.1	7.1	-1.0	0.1	-0.4
Ext	12.6	21.1	1.5	51.5	-2.5	0.7	-9.2
USES							
CAP EXPTS	100.0	100.0	100.0	100.0	100.0	100.0	100.0
*invst	88.1	88.9	88.8	83.2	77.0	76.6	76.0
*amtzn	3.9	4.7	5.3	11.2	17.0	17.4	14.5
Int		1.3	1.2	2.9	3.8	3.1	3.4
Ext		3.4	4.1	8.3	13.2	14.3	11.1
*other	8.0	6.4	5.9	5.6	6.0	6.0	9.5

Source: SEST, Relatório, various years. Petrobrás, Relatório, various years. Percentage from Total Resources, excluded current expenses. See Glossary, p. 199 and Observation, p. 200 for explanation on negative numbers.

Quite the opposite occurred with alcohol policy: the interests of the Brazilian sugar cane industry were influential in proposing sugar cane-based alcohol as a substitute for

gasoline, despite increased internal oil production. The Alcohol Program (Pro-álcool) -- a program run by several institutions instead of a single state enterprise -- seemed an innovative approach to a pressing problem. The political interests of the sugar/alcohol sector were more important in the definition of the program than just the technical decisions taken to substitute gasoline for alcohol as fuel.⁹⁸

With changes in the international structure of sugar production and of sugar consumption, prices plummeted, trapping the Brazilian sugar cane planters and sugar and alcohol producers in the middle of a crisis, after a two-year bonanza in 1974-5. The first phase (1976-80) contained many intra-agency disputes for preeminence on the Alcohol Program. The private interests, clustered around the Sugar and Alcohol Institute (IAA) pressed demands (subsidies and preferential tax treatment) in an old-fashioned corporatist-like mechanism of interest representation. In this manner, the channels of communication between the centralized state and the agrarian interests began to operate on the basis of electoral politics. The economic power of the sugar cane growers and their vote potential, especially those in the Northeast, became a factor in the then upcoming elections.

Castro Santos identified the Ministries of Industry and Commerce (MIC), Mines and Energy (MME), Finance, the Secretary of Planning (Seplan), the National Energy Commission (CNE), the Industrial Development Council, the Central Bank, the Bank of

Brazil, the Secretariat for Industrial Technology (STI) as the public agents involved in the intrabureaucratic struggle for dominance over the Alcohol Program. The MME/Petrobrás disputed territory against the MIC/IAA; the MIC faced off with the National Petroleum Council over price control and fuel distribution. These disputes forced Geisel to create a centralized agency, the National Alcohol Commission (CENAL), within the MIC. The creation of CENAL was a formal loss for Petrobrás and IAA, which wanted the program decentralized in order to meet the interest of their specific clienteles, the distributors and planters. Informally, real power in Pro-álcool remained with IAA since it was a long-standing bureaucracy dating to the 1930s, a resilient corporatist mechanism of interest representation. One example of the internal struggle for control of the program can be seen in Petrobrás successful attempt to control half of distribution in the State of São Paulo, which accounted for a 40 percent share of the country's consumption in 1980.⁹⁹

In the first phase (1976-79), the decision-making process was fragmented, though there was the single objective of producing anhydrous ethanol to substitute for 20 percent of gasoline. With no single hegemonic center in alcohol policy, the Program's autonomy was curtailed: a) decisions about alcohol production were made at MIC, the IAA, and the STI; b) the National Petroleum Council centralized distribution policy; c)

the National Monetary Council/Central Bank centralized financing decisions. That multiplicity of decision sites contributed to the lack of political autonomy.

This phase was superseded by a process of accommodation when the objective turned to the production of 100 percent hydrated alcohol running on modified engines. Distilleries, automotive industry, distributors played crucial roles in the growing Alcohol Program.¹⁰⁰ Nevertheless, was plagued with technical, economic, and political problems.

Technically the problems concerned the resistance of the auto-industry in finding adequate solutions for feeding systems and materials, in view of alcohol volatility and the adaptation of gasoline engines to the alcohol system. Only after the Technological Aerospace Center (CTA) researched and developed new intake systems in 1980 did auto-makers became involved in the projects. Despite technological advances in the materials used, the engines using alcohol consume 30-35 percent more than gasoline engines. To offset this differential in consumption, the price of alcohol was established at 35 percent less than the price of gasoline. Costs of production were not covered by this price, thus leading to an additional subsidy.

While technical problems were overcome, political problems were not. When the CENAL was created in 1979, political conflicts caused the National Energy Commission and the MME to abandon the Program. Pro-álcool's conflicts between CENAL and IAA

were mediated by the new Minister of Industry and Commerce, João Camilo Penna, supported by Vice-president Chaves.

Sugar cane producers, a historical corporative clientele linked to the state, depended on subsidies and incentives handed down through the IAA.¹⁰¹ In this case, the producers of alcohol were subsidized by IAA which also provided incentives and export tax exemptions.

Northeast political interests were strongly linked to the program. Northeast usineiros, dominating local political systems, especially in the States of Alagoas and Pernambuco, were powerful enough to influence alcohol policy. Though sugar cane planters of the States of Rio de Janeiro and of São Paulo had a strong influence over alcohol policy, they had limited influence over local politics.

Other alliances and interest articulation existed in the Alcohol Program. Common interests were shared by the Secretariat for Industrial Technology and the auto-makers in developing the alcohol-powered engine. Another MIC agency, the Council of Industrial Development (CDI), became responsible for the financing of the distilleries, while overall financing was done through the Energy Commission within the Secretary of Planning.

In 1985, six years after from the inception of the Second Phase of the Program, Brazilian society is paying the burden of the program.¹⁰² Gasoline consumers are paying a

higher price in order to subsidize the Pro-álcool. The alternative of raising the price differential from 65 to 75 percent (or more) of the price of gasoline could reduce subsidies, but it would decimate the program politically. Consumers would feel frustrated and most of the distilleries could not repay their debts with the Government. By 1985, the Program, though an apparent success, did not solve the fuel bottleneck of Brazil's transportation system. It has not solved the producers dilemma, that is their income and profits.

Although the Program was economically and socially unfeasible even before the decrease in oil prices in 1985, its feasibility dropped even more when that occurred. Ronaldo Seroa da Motta found the equivalent cost per barrel to be US\$ 35 for the efficient São Paulo production. In areas where the Program expanded later (Center West states) these costs were calculated to be US\$ 50 per barrel of equivalent petroleum, while in Pernambuco -- the traditional Northeastern sugar-cane state -- costs reached US\$ 60 per barrel equivalent.¹⁰³ All three costs were higher than the 1985 prices of oil.

In 1985, the decision-makers faced high fuel cost, burdensome subsidies, and the disappearance of subsistence agricultural land, as a result of the Program. However, the program continued due to the high level political power of the interest groups involved, which "are now the strongest lobby in governmental programs."¹⁰⁴ These groups postponed crucial

decisions therefore limiting state autonomy in the Alcohol Program. The 1975 crisis-management program, an optimistic program by 1979-80, was left with few viable alternatives in 1985:

- i) - continue inefficient production via expanding consumption;
- ii) - alcohol industry will be made obsolete via reversal of consumption to gasoline consequent upon expanding production.

3. - Transportation

In the field of transportation, PND's objectives were concentrated on navigation with the creation of Portobrás, on railroads and on implementation of the Rio and São Paulo Subway Metro Systems. The Railroad Development Plan proposed to more than double the sector's participation in cargo transport.¹⁰⁵ Symbolic of the megalomania of the PND II's development projects was the Steel Railroad (Ferrovias do Aço) -- an electrified railroad through Belo Horizonte-São Paulo-Barra Mansa-Jeceaba -- designed to link steel plants and iron ore mines. Minas Gerais Governor Aureliano Chaves (1974-1978) devised this project to be finished in 1,000 days. For Governor Chaves -- a Geisel protégé, spokesman for the influential Minas Gerais's mining and steel industry interests, and an example of the military regime's fascination with technocrat-politician¹⁰⁶ -- the Steel Railway

would decrease dependence on imported oil for transportation of both iron ore from the mines to the steel plants, and finished products from the steel plants to the consumer centers in that quadrilateral, passing by the new Açominas (Aços Minas Gerais SA) and private mills in Minas Gerais.

Despite the euphoria with which the 1,000 day-construction was announced, technical and financial problems delayed the project. Ferrovia do Aço was difficult to finance, since its economic unsoundness and lack of technical feasibility far outweighed the political strength Governor Aureliano had in presenting the project to multilateral agencies.¹⁰⁷ Despite the PND II objective of augmenting the role of railroads in Brazilian infrastructure, the multinational automotive truck industry was bullish in lobbying for their continuation as the primary mean of transportation.

The sector's low political and financial autonomy was clear. The construction of Ferrovia do Aço was paralysed in 1984 for lack of resources, after US\$ 1.68 billion had been spent. The project was restudied by the Federal Railway Network (RFFSA, Rede Ferroviária Federal S.A.) and was scaled down to a single-track system for diesel-operated trains, and combined use with existing railways in the triangle Rio-São Paulo-Belo Horizonte. Construction restarted in 1987 with about half of the US\$ 136 million to be invested in the project coming from the private sector. Minerações Brasileiras Reunidas anticipated US\$ 70

million in freights of iron ore and steel product transportation.¹⁰⁸ The financial autonomy of the sector was never high, as shown in Table 4.9. The combined Portobrás-RFFSA sources and uses of funds shows the decrease in self-generated resources originating from low rates. Treasury allocation and loans, especially from multilateral agencies continued to be the main source of funds for the sector.

TABLE 4.9

BRAZIL

TRANSPORTATION SECTOR
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	-32.0	-45.0	-62.7	-55.7	-48.4	-61.8	-48.9
NSG	-33.7	-47.8	-78.7	-57.3	-56.0	-62.0	-50.4
OtRes	1.7	2.8	15.9	1.7	7.5	0.2	1.4
GVT TRSRY	86.7	106.2	126.6	120.6	121.6	131.5	124.7
CRDT OPTS	45.3	39.1	36.5	48.0	26.9	30.4	24.2
Int		16.0	12.0	17.0	20.0	10.0	11.0
Ext		22.8	24.0	31.0	7.0	20.0	13.0
USES							
CAP EXPTS							
*invst	74.2	80.3	81.8	62.4	50.9	41.6	43.9
*amtzn	22.9	19.7	18.1	37.6	49.1	57.7	55.7
Int		3.0	3.0	27.0	34.0	40.0	36.0
Ext		17.1	15.0	11.0	15.0	18.0	20.0

Source: SEST, Relatório, various years. Portobrás, RFFSA, Relatórios, various years. Percentage from Total Resources, excluded current expenses. See Glossary, p. 199 and Observation, p. 200 for explanation on negative numbers.

C. Industrial Policy and State Autonomy

The PND contained numerous policy decisions relating to the new industrialization pattern designed by PND II. Although it called for the participation of the private sector, the government continued its direct action in the provision of basic inputs. These policy must be analyzed from the point of view of state autonomy with respect to the private sector in order to comprehend the participation and influence of private interests in the policy-making process.¹⁰⁹

In view of the private sector's unwillingness to invest in non-ferrous metallurgy, specialty steel-making, fertilizers, pulp and paper, petrochemicals and chemicals industries -- all of which are basic and intermediary inputs -- most of these activities were undertaken by expansion and diversification of existing state industrial enterprises, such as Petrobrás, CVRD, and the state steel companies under the holding Siderbrás.¹¹⁰

The changing pattern of the Brazilian industrial economy demanded a strongly modified supply of basic inputs. Although this policy focused on implanting large-scale projects under the responsibility of the state enterprises, their political and financial autonomy did not correspond to that task.

1. Basic Inputs and the Second Import-Substitution Industrialization

The objectives of the National Steel Plan, II Stage, designed in 1972, initially targeted production of 20 million tons by 1980. The National Steel Plan was upgraded by the CDE in 1975 (beginning of the III stage), targeting 20 million tons by 1978, and 32 million by 1980. That objective contrasted with total gross steel production for 1984 of 18.4 million tons,¹¹¹ indicating that problems influenced the autonomy of the sector, both politically and financially.

In addition to increased output oriented to the internal market, Siderbrás engaged in export-led joint ventures, such as Tubarão Steel Company (CST, Companhia Siderúrgica Tubarão) -- in association with Kawasaki Steel of Japan and with Finsider (Societa Finanziaria Siderurgica) of Italy -- to produce and export 3 million tons of flat steel. CST's implementation was plagued with financial and political difficulties. The favorable international market for steel production when the decision to build Tubarão was made in 1975 did not persist, resulting in the foreign partners re-evaluation of the project. A cut-down in state purchases, in accordance with the re-evaluation of the Steel Plan, made the private Brazilian capital goods manufacturers to squirm and contest the "megalomaniac political projects."¹¹² When the scaled-down Tubarão project began in 1979 its completion was expected for

1983. By 1982, US\$ 2.12 billion had been spent and there were still US\$ 1.53 billion to be spent at the outset of the debt crisis, what delayed beginning of operations to 1984.¹¹³

Tubarão's initial operations in 1984 coincided with import quotas imposed by the U.S. on Brazilian steel, spoiling CST's intentions of primarily targeting U.S. market. What was originally seen as an advantage turned to a nightmare since new markets increased the volume exported but yielded fewer dollars.¹¹⁴ CST transferred financial burden to Siderbrás as it was unable to repay its debts.

As regards the non-flat products, Minas Gerais Governor, Aureliano Chaves, planned filling in the voids of the private sectors in 1974 by investing in that field, entirely endorsed by Geisel's 1975 Message to Congress.¹¹⁵ Continuing yet another grandiose project Açominas was formed in 1975 -- a partnership with ownership divided among Siderbrás (40%), CVRD (20%), the Minas Gerais State Government (20%), and foreign groups (20%). Siderbrás's industrial policy was caught between the need to substitute imported inputs and the private sector's outcry about the state entering their domain of production. For Paulo Villares, a leading capital goods and basic inputs entrepreneur, it was necessary that "the government urgently define the rules of the game," circumscribing where the state enterprises and the private sector would function.¹¹⁶

Despite private sector complaints, the construction of Açominas began in 1978, when Governor Aureliano was already Vice-President-elect on the Figueiredo ticket. As Vice-president, Aureliano could more effectively maintain Minas Gerais interests pressuring politically the project. It was only due to his political force combined with that of the Minister of Industry and Commerce, João Camilo Penna, equally from Minas Gerais, that investment resources were allocated to Açominas, despite the world slump in non-flat steel demand. Its construction suffered numerous setbacks postponing projected 1985 completion by two and half years. The Açominas was contested by the World Bank, whose experts did not have confidence in the financial plans presented. And they were partially correct, since the US\$ 300 million Açominas had in its 1979 budget were sidetracked to two transportation agencies being returned only years later. Açominas attempted to reduce imports with its non-flats products, but that not achieved, since the unit cost of production was more than two and half times that of imported products.¹¹⁷

Briefly examining other basic inputs policies, CONSIDER was changed to deal also with non-ferrous metals, since these were an important component of the PND II. (Institutionally CONSIDER became Conselho Nacional de Siderurgia e Não Ferrosos.) Of the goals stated in the National Program for the Development of the Non-Ferrous Industry (PNDIMNF, Programa Nacional da Indústria de Minerais Não Ferrosos), only a few were attained.

Most of the objectives were met partially, according to the comparison between goals and real output in 1985, as shown in the Table 4.10 below.

TABLE 4.10
NON-FERROUS METALS, TARGETS AND OUTPUT (tons)

	PNDIMNF's objectives for 1983 (a)	Primary Metal Production 1985 (b)
Aluminum	1,315,000	517,734
Copper	400,000	92,319
Lead	172,000	29,497
Zinc	300,000	114,841
Tin	21,000	23,046
Nickel	24,000	13,210

Sources: a - Programa Nacional de Desenvolvimento da Indústria de Metais Não Ferrosos. CDE II (Brasília: Serviços Gráficos do IBGE, 1978), p. 27.
b - CONSIDER, calculated from January-August 1985 figures, by extrapolation.

Aluminum policy deserved the greatest attention since international interests had their eyes on the Brazilian bauxite reserves, unveiled in 1972. At the same time, large scale manufacturers were keen on tapping Brazilian cheap inputs of electric energy, which accounts for more than 50 percent of the production cost of aluminum. Incentives and investment resources were provided by Greater Carajás Program to mining projects on the Eastern Amazon, and to hydroelectric power projects, both needed to feed the industrial smelters of the region. An

analysis of the aluminum policy in the Eastern Amazon will be extended in conjunction with Tucuruí case-study (Chapter VI).

Reflecting the chaotic situation of the state steel sector and its use as gatherer of foreign currency to solve balance of payments problems, Siderbrás owed foreign creditors US\$ 7 billion and an additional US\$ 5 billion to Brazilian creditors by 1985. Just in interest and amortization payments on the debt Siderbrás annually disbursed US\$ 5.5 billion recently, contrasting with a sales revenues of US\$ 3.7 billion. As the president of Siderbrás, Amaro Lanari Junior, stated

Only 9 percent of Siderbrás's investment were funded out of the group's own resources in the 1970s. The rest is borrowed money. The government did not put any money into its steel industry. The companies just went out and borrowed.¹¹⁸

Table 4.11 below shows how the sector used borrowing to finance its projects, and how low steel prices effected poor self-generated funds from sales of products. In addition to the financial question, the Brazilian state steel sector relinquished its political autonomy when it was forced to agree an US-established, US\$ 700 million per year-limit of imported Brazilian steel. As a result of the accord, struck by the Minister of Finance, Ernane Galveas, in 1984, the presidents of COSIPA, Plinio Assmann, and of Açominas, Moacélio Mendes, were dismissed

because they frankly opposed those limits. As Plinio Assmann stated,

The disrespect of the government is not limited to COSIPA, but also to the suppliers, clients, creditors, employees and the community. We have bothered those who do not want a strong and independent Brazilian steel-making sector.¹¹⁹

TABLE 4.11
BRAZIL

SIDERBRAS
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	-10.6	-26.2	-38.2	-18.3	-43.1	-51.2	-43.2
NSG	-10.6	-31.1	-57.8	-49.8	-60.2	-54.8	-60.2
OtRes		4.9	19.5	31.5	17.1	3.6	17.1
GVT TRSRY	15.0	16.3	27.3	12.5	9.3	6.1	9.3
CRDT OPTS	95.5%	109.9	110.9	105.8	133.8	145.0	133.8
Int		21.2	36.2	48.7	28.7	78.9	38.4
Ext		88.7	74.7	57.1	105.1	66.1	95.4
USES							
CAP EXPTS							
*invst	87.8%	79.3	71.8	38.4	19.6	18.4	19.6
*amtzn	11.3%	18.2	26.3	60.4	78.9	72.4	78.9
Int		6.2	13.0	37.3	35.4	17.3	34.5
Ext		12.0	13.3	23.1	43.5	55.1	44.4

Source: SEST, Relatório, various years. Siderbrás, Relatório, various years. Percentage from Total Resources, excluded current expenses. See Glossary, p. 199 and Observation, p. 200 for explanation on negative numbers.

To resolve the question of insolvency, the steel sector has carefully considered debt/equity swaps and privatization of state steel-making firms as a way out of its financial quandary. The concept of national security utilized in the 1940s to justify production of steel by state-owned enterprises no longer holds for this sector, but turning to privatization "can also mean its demise."¹²⁰

D. Mining Policy and State Autonomy

Still other policy decisions worth analyzing in light of the state autonomy variable are those relating to the mining area. The new 1967 Mining Code had the effect of attracting firms to explore for minerals in the Amazon and to make multinational and Brazilian firms alike disclose the existence of vast mineral deposits in the Amazon. In the first part of the decade (1974-79) the PND II's mining policy emphasized mineral development of the Amazon combined with the implementation of other sectoral program such as cattle raising, wood industrialization, energy and energy-intensive metallurgy. Specifically, the PND II projected the development of the Eastern Amazon Minero-Metallurgical Complex, the Serra do Carajás-Port of Itaqui railroad, steel-making in the vicinities of the Port of Itaqui (pellets plants), and the bauxite-alumina-aluminum Complex of the Trombetas and Belém areas.

Up to the mid-1980s there was an concentration of multinational firms in the mining sector in Brazil. Six entrepreneurial groups (Shell-Billiton, Nippon Amazon, Alcan, Alcoa, Bethlehem, US Steel) which, together with two state-owned and two national private companies, dominated more than 40 percent of the total value of mineral production.¹²¹ Mineral rights were concentrated too: only fifteen large entrepreneurial groups (six state-owned, four Brazilian private and five multinational firms) controlled 38 percent of the total prospection and research areas.¹²² Fifty six percent of the mining activity is geographically concentrated in the State of Pará.¹²³ In terms of capital and size, the economic power of the companies is demonstrated by the fact that 89 percent of the mining firms registered have capital smaller than US\$ 173,500 and only 3.8 percent had capital higher than US\$ 1.73 million.

Only with the Figueiredo sexenio (1979-85), did mining policy achieve the highest priority among the governmental policies and state enterprises action, as a result of the high political cleavage in the development of Eastern Amazon. Mining policy primarily involved CVRD extraction activities on the Trombetas Region and in the Serra dos Carajás bauxite deposits in association with national and multinational firms. The bauxite mining policy is thoroughly discussed on Chapter VI.

But targeting the Trombetas bauxite component of the mining policy was not nearly as important as privileging the

Greater Carajás Program, in which the Figueiredo government placed great expectations for solving the balance of payments problems through exports of raw minerals and semi-processed metallurgical products. More than just a chance to ameliorate pressing macroeconomic problems, the Figueiredo government saw in Greater Carajás a grandiose development project with high political visibility and vast, manipulable resources that could help Figueiredo sail through the longest presidential period since Vargas's Estado Novo (1937-45). CVRD participated in the major Carajás iron program in addition to ongoing iron-ore mining projects in the South Central Region, totalling an output of 63 million tons-year by 1980.¹²⁴

These CVRD's actions seemed minuscule in view of the grandeur numbers of the Greater Carajás Program, shown below. Its analysis helps understanding the process of loss of autonomy in most of the development projects in the Amazon region. This Program encompasses an area partially covered by the States of Pará, Goiás, and Maranhão, limited by the Amazon, the Xingu and the Parnaíba Rivers, an area rich in iron-ore, manganese, nickel, copper, bauxite, gold, cassiterite, silicium, as shown in Map 6.1 (Chapter VI).

In 1980, the Greater Carajás Program grew out of the original Iron-Carajás Project (Projeto Ferro-Carajás), an iron-ore mining project under sole CVRD responsibility. As it can be

TABLE 4.12

THE GREATER CARAJAS PROGRAM

Projects	Value (US\$ billion)
Mining and Metallurgy	28.1
Agriculture	8.1
Cattle raising	1.7
Forestation	1.3
Sub-total	39.2
Housing	14.6
Other Infrastructure Systems (railroad, highways, ports...)	7.9
Total	61.7

Source: CVRD, Amazônia Oriental - Um Projeto Nacional de Exportação (Rio de Janeiro, 1980) and CVRD, Amazônia Oriental - Plano Preliminar de Desenvolvimento, (Rio de Janeiro, 1981)

Note: it does not include Tucuruí construction, transmission and distribution costs.

observed in the chart above, the iron-ore program turned into a full-scale regional development program with a specific purpose of exporting primary mineral and processed metallurgical products. According to Delfim Netto, the greatest national chance to alleviate the problem of the external debt was Carajás Program since,

When Carajás comes on line at full capacity, it will represent an export value of US\$ 9-10 billion per year. It is a plus over normal export. This means that the export curve is going to be moved upward and make up a space between the imports and the exports, thus contributing to the trade balance. It is this surplus that will allow us to diminish our deficit in current

accounts, and in this manner we are going to diminish the relative importance of the external debt.¹²⁵

Delfim's predictions were too optimistic. The original Iron-Carajás project under CVRD aegis aimed at extracting 15/25/35 million tons-year by the years 1985/86/87 respectively, and was valued at US\$ 5.365 billion.¹²⁶ By 1985, US\$ 1.9 billion had been spent in the project which began exporting in 12 million tons in 1985. This iron-ore project originated from the discovery of iron deposits in the Serra dos Carajás by the Companhia Meridional de Mineração, a US Steel subsidiary, with an estimated reserve of 45 billion tons of ore.¹²⁷ But the existence of ore was repeatedly denied and US Steel submitted several research requests under Meridional's name and several other trusted employees, to circumvent the Mining Code bylaws, which before 1967 prohibited foreign companies to explore Brazilian minerals. Iron ore was known to have existed all along, but the multinational corporation wanted to avoid competition and keep the site as a strategic reserve.¹²⁸

CVRD depended heavily on Iron-Carajás for its expansion and survival as an iron-ore exporter. Minister Antonio Dias Leite, of Mines and Energy, just before leaving the presidency of CVRD (1967-69), negotiated the firm's association with Meridional constituting AMZA (Amazônia Mineração S.A.) in 1970, enthusiastic with the reserve estimates showing 18 billion tons of high grade ore. Initial projections indicated production beginning in 1978

reaching 44 million ton-year by 1985. The site was considered as one of the best mines in the world for its grade, location and position with respect world markets, in particular the United States's. Despite CVRD being the majority stockholder in the joint-venture AMZA, US Steel controlled the implementation pace and the technology used. Confrontations soon arose between CVRD and US Steel about the means of transporting iron ore, with US Steel preferring railroad -- so it could supply rails -- over a barge system on the Tocantins River preferred by CVRD, as part of its diversification program (DOCENAVE).¹²⁹

CVRD and other Brazilian interests, linked to ports, ship construction and capital goods industries, challenged US Steel at a moment in which it (US Steel) was already losing interest in the undertaking as a result of the worldwide recession and decrease in steel sales. The American firm stalled decisions prompting a reaction by President Geisel, who stated that the private sector, apparently responsible for implementing the basic inputs projects, would receive governmental support only

...as long as it did not systematic[ally] procrastinat[e] for long years, the use of known reserves of certain minerals of high national interest, because interested groups are undefined, looking for an adequate managerial solution through association between private and government firms, if necessary.¹³⁰

The confrontation between CVRD and US Steel worsened, causing US Steel to withdraw from AMZA in 1977, receiving US\$ 50.3 million in compensation, although its actual investment had been only US\$ 35 million.¹³¹ Being an inelastic product, that is, price reduction will not promptly increase the consumption of iron ore, it is hard to understand why CVRD would spend US\$ 5.3 billion on a project if it were not to give incentives to private capital to invest heavily in the middle of a particularly unfavorable conjuncture for long range investment decisions. It means that when confronted with a situation of high uncertainties the Brazilian government offered investors the possibility of transferring a priori to the tax payer the possible losses incurred from investment in Carajás, a typical case of socialization of losses and privatization of benefits.¹³²

In view of the US Steel withdrawal and since Carajás was crucial to CVRD survival, CVRD strived to make the project viable. Carajás was scaled down and its duration extended. As a result of the re-evaluation of the Iron-Carajás Program and as a result of Delfim's economic policy,¹³³ CVRD elaborated the Greater Carajás Program, privileging infrastructure, transportation, energy investment and incentives as a catalyst for other investment in the region.¹³⁴

Carajás's dependence on the private sector's interests was so great, that even a request to the World Bank (International Reconstruction and Development Bank) for a US\$

304 million loan to finance Ferro-Carajás was only granted with the provision that CVRD would issue "no less than US\$ 250 million in debentures in the stock market." The issuance of that stock was done in lots, since only 15 percent of the CVRD was in private hands. The first issue, equivalent to US\$ 80 million, corresponded to 17 percent of CVRD's capital. The second issue, in 1982, totalled US\$ 80 million, which served, according to the president of CVRD, Eliezer Batista, "to substitute the loss of revenues equivalent to the sale of 10 million tons at that critical juncture of low prices."¹³⁵ Immediately after the third issuance of stock, when total revenues had reached US\$ 181 million, the operation was called off since the risk of losing control was imminent. However that stock market operation meant more than just gathering money to investment: in May 1984, the CVRD Vice-president Euclides Triches, then acting president, wrote a memo to the Minister of Finance asking for an emergency US\$ 20-million-purchase of CVRD stock by the Treasury, which was dangerously reaching the 50 percent mark in private hands. By analogy if the 80 million corresponded to 17 percent of the CVRD's capital then US\$ 250 million corresponded to $53 \frac{1}{8}$ percent, which would have caused the privatization of the state mining company. This issue was taken up by a Joint Senate-Chamber Investigating Committee in 1985. The controversy on the issue of CVRD stock sales originated in the fact that the US\$ 250 million that would have been received from the sale of stock

accounted for 5 percent of the Ferro-Carajás Project. How then could the firm transfer 17 percent of the company in exchange for 5 percent of a single project ? CVRD is worth much more considering its mines, railroads, port facilities, ships, and dozens of subsidiaries in varied areas. Its investigation was continuously stalled by its president, the former Minister Cesar Cals then completing his Senatorial term. It could however be detected that the stock market operations had benefitted the buyers. The US\$ 160 million in 1982 was worth US\$ 700 million by the end of 1985, with more than half a billion dollars in profits with no risk. It seems that the scheme functioned well, since the dividends distributed to the stockholders increased seven times from US\$ 6 million in 1980 to US\$ 44 million in 1984, in a period marked by desperate search for funds.¹³⁶

Under adverse crisis conditions the Greater Carajás Program was given the full support of the government and foreign lenders, including the multilateral World Bank due to the high potential of controlling immense mineral resources in a strategic area of the world. In the absence of a PND II-type of grandiose project, the Carajás Program was the Figueiredo government's "national, grandiose and systemic project."¹³⁷ Demonstrating the intention of transferring Carajás to the private sector, the Inter-Ministerial Council of the Greater Carajás Program, presented a Minister Delfim Netto-signed Resolution obligating CVRD to furnish "the terms and conditions for the sale of its

rights over the copper, nickel and manganese mines, in the area of the Greater Carajás Program, so they could be developed by private enterprise."¹³⁸ The National Security Council stopped the implementation of that Resolution by informing CVRD that the mining of those minerals could not be privatized since they served national security interest.

Greater Carajás was the principal program of the Ministries of Mines and Energy and of Planning during the Figueiredo term, on a par with the petroleum exploration program. The Minister of Mines and Energy, Cesar Cals, expected that this "most charming project" would need expenditures totalling US\$ 60 billion in 20 years, with the Brazilian state's provision of infrastructure for production.

All these developments were possible with the completion of infrastructure projects: i) - the port facilities at Vila do Conde (Belém, PA) and at Ponta da Madeira/Itaqui, MA; ii) - the 550-mile railroad Carajás-Ponta da Madeira/Itaqui; and iii) - the Tucuruí Hydroelectric Plant. In spite of all these developments no real action has been taken to curb or to control mining on Native Indian Reserves. The Congress will increasingly fill this gap with debates over this mounting problem -- an important item in the agenda from the late 1980s on.¹³⁹

TABLE 4.13
BRAZILCVRD
SOURCES AND USES OF FUNDS, (%)

SOURCES	1980	1981	1982	1983	1984	1985	1986
SELF-GRTD	72.9	56.6	68.4	44.5	71.7	62.9	74.6
NSG	72.9	52.4	33.4	28.3	61.4	49.7	57.8
OtRes		4.2	34.9	16.1	11.2	13.1	16.8
GVT TRSRY		2.1	3.9	2.9	4.2	3.6	4.9
CRDT OPTS	27.1	41.2	27.7	52.6	23.1	33.5	20.4
Int		16.1	14.5	18.4	8.7	7.8	9.2
Ext		25.1	13.2	34.2	14.4	25.7	11.2
USES							
CAP EXPTS							
*invst	66.4	90.9	88.4	81.5	88.0	75.1	55.8
*amtzn	20.7	4.9	7.9	12.5	15.6	18.9	16.5
Int		0.5	2.8	5.2	7.8	4.6	1.4
* Ext		4.4	5.1	7.3	7.8	14.3	15.1

Source: SEST, Relatório, various years. CVRD, Relatório, various years. Percentage from Total Resources, excluded current expenses. See Glossary, p. 199 and Observation, p. 200 for explanation on negative numbers.

E. Implications and Conclusions

The period of 1974-1985 was undoubtedly marked by the attempt to implement grandiose development projects in the areas analyzed above based on empirical data. The importance of each

state sector varied in terms of both political and financial autonomy, the variables proposed for analysis.

The energy sector, including electric energy, nuclear and petroleum, was in those years of growth cum debt the most important, both in political and economic terms: it absorbed more than 50 percent of all state investment in the period of 1974-85, and reached the impressive mark of three out of every four dollars spent by the state, in 1976.

The growth of all state enterprises during the growth cum repression years, their political insulation and their financial capabilities have allowed their use as providers of low cost inputs for the good performance of the consumer and durable goods industries, and therefore for the advancement of a form of associated capitalism in Brazil. Policy-making in that period was more autonomous vis-à-vis societal interests and demands.

In contrast, during the growth cum debt period, having accepted the role of policy instruments -- by being incited to pursue grandiose developments objectives and at the same time to serve as "captors of foreign savings" (using the official jargon) --, state enterprises, with some exceptions, incurred in the error of relinquishing their financial autonomy to those responsible for administering the economy -- the Ministry of Finance and the Secretary of Planning -- and to credit institutions within Brazil and abroad.

TABLE 4.14
DISTRIBUTION OF STATE ENTERPRISE INVESTMENT,
Selected Years (%)

Enterprises	1976	1980	1985
Eletrobrás/Itaipu	47.7	25.5/7.9	22.4
Petrobrás	25.9	19.2	29.5
Siderbrás	12.5	18.5	4.6
Telebrás	3.5	9.0	12.8
CVRD	7.6	4.3	12.6
Transportation	2.1	14.3	5.3

Source: Percentage from Total Investment calculated from Table 4.3 - State Entrepreneurial Group Investment; and SEST, Relatório de Avaliação, 1985-6.

On the other hand, political power continued virtually unchanged, though not evenly distributed through the state enterprises. While energy state enterprises took on a new dimension in the Brazilian political structure, their interests were heavily articulated with the services and equipment supplied by the private sector or linked to military objectives, such as in the case of nuclear energy and Itaipu, state enterprises in the transportation, steel-making or even mining sectors continuously lost their political autonomy, as we have seen. Even if that articulation meant mutual reinforcing of political power, the state enterprises of the energy sector have seen their autonomy ultimately cut short.

In the years between 1975 and 1979 all state companies experienced growth, not uniformly distributed as it can be seen

in Tables 4.3 and 4.4. Between 1979 and 1982, despite signs of deep macroeconomic imbalances, expenditures of some sectors continued growing above the limits imposed by SEST, mainly because of the state sector's "anxious desire to spend" and the inability of the central government to control their autonomy in spending.¹⁴⁰ State sectors continued to import equipment and were forced by the central state to take loans in the international financial community to solve balance of payments problems in critical periods during the 1974-1984 period, as mentioned before. Therefore, their investments in development projects have remained in a peculiar "spinning wheel"-situation as "new investments are needed every year and the projects seem to remain in the same stage as the year before," as was stated by a high official.¹⁴¹

The crisis of the state enterprises, their indebtedness, their financial quandaries and their administrative disarray coexisted with the crisis of the authoritarian-exclusionary regime. By 1982 the central question was how to enforce control over the spending of the state enterprises -- over both uses and sources. As Luiz Gonzaga Belluzzo stated,

When formulating their expansion programs, public enterprises try to take into account, naturally, their private objectives. Thus, for example, in placing equipment orders there is no preoccupation with directing purchases to the internal market to stimulate the development of firms in the capital goods sector or to save foreign exchange in the face of the grave situation of the Balance of Payments. In this sense,

the more modern firms of the so-called state productive sector escape from the political control of the state.¹⁴²

State autonomy thus, has a dual component. When the central state tries to control its own agencies, limiting their autonomy in deciding policies, programs and projects -- which includes both political and managerial autonomy -- we have one type of state autonomy which may be depicted as internal state autonomy. On the other hand, when the forces of society -- private entrepreneurs, commercial banks, labor, political parties and other social groups -- influence the policy-making process to convey their idiosyncratic interests -- we confront the external state autonomy type. With respect to the first, Baer argued that

...issues of control suggest that central government use of state firms for macroeconomic programs even if such uses are well conceived, is likely to be foredoomed.¹⁴³

The political component seems to have been equally important, to say the least. The largest number of the grandiose projects in execution by 1985 were planned and initiated in earlier military presidential terms. Having in mind that the transition from one military presidential term to another was supposedly a natural process, without abrupt changes, the new governments were repeatedly cautious as to where and how to cut

spending on these grandiose development projects, in order to maintain political support for its own projects. At the same time the international dimension also played an important role: most of the long-term, large-scale development projects were the result of schemes involving powerful financial institutions abroad, bilateral agreements between governments and supply contracts with multinational firms. All of these contracts were very difficult to dishonor.

Therefore, considering that the syndrome of "Brazil - Emerging Power" is a malaise transmitted along with the presidential ribbon, in such a way that the general-president in power could, even if they unwillingly inherited an impressive legacy of development projects, find resources and find specific areas in which new, politically highly visible, grandiose projects were started. The Rio and São Paulo Metro Systems, and Angra I were planned in Costa e Silva's period, but began operating partially in Figueiredo's period. Geisel received from Médici the responsibility to implement Itaipu -- which resulted from a convoluted military/diplomatic agreement between Brazil and Paraguay -- and the Steel Railway, which he passed along to Figueiredo added to Tucuruí, the Nuclear Program, the Stage III of the Steel Plan plus Açominas and Tubarão. Figueiredo, despite being empowered in a juncture of economic crisis and having to maintain investments in Itaipu and Tucuruí, did not fail the tradition inherited from his predecessors. Figueiredo left the

government with a Telecommunications Program costing US\$ 6.6 billion, the continued Nuclear Program (Angra III and Peruíbe/Iguape I), the Parallel Nuclear Program, Albrás/Alunorte, the Petroleum Off-Shore Program costing US\$ 7.7 billion, and the installation of equipment at Itaipu and Tucuruí.

It was, indeed, very difficult to control the "anxious desire to spend." By 1983, the National Information Service (SNI) was called in to control state enterprise spending but to no avail. Not even the SNI could force the abandonment of unnecessary projects at the half-way point. As was stated by a Seplan official,

The shot can backfire [referring to SNI control]. The agent designated can become its ally, as happened with many trusted comptrollers placed by Delfim.¹⁴⁴

Although state enterprises have maintained a certain degree of relative state autonomy in the political arena, in general, their managerial-financial autonomy was gradually eroded by the progressive need to borrow to finance projects and to cover balance of payment holes, by the use of certain prices and tariffs to stem inflation (see Table 4.7), by the gradual implanting of control mechanism over financial resources and investment plans, and by contracts requiring imported equipment.

The creation of SEST in 1979 has contributed to the question of control. SEST's concern with reducing the budget

deficit was politically more successful with the agencies performing "typical" government functions (social security, medical assistance, health, education, food supply) during the first half of the 1980s than it was with the so-called productive state enterprises we have analyzed. Even if created to control them, SEST's political power was insufficient to extract reliable and accurate information from the productive state enterprises.

In summary, the decade was characterized by a gradual lessening of security concerns and a gradual striving to overcome underdevelopment. That is, less people in prison for political reasons, amnesty, elections of governors, a "new syndicalism," creation of new political parties, transition to a less authoritarian (or to a democratic possibility) occupied the political scene of the decade. On the distribution question, labor and the Brazilian private sector continuously voiced their discontent as regards the policies pursued and raised demands of their own.

While Geisel began his term with the motto "a maximum of development with a minimum of security," -- what seemed an apparent continuation of the high relative state autonomy and insulation of the preceding terms --, in the eleven years that followed what could be observed was an increasing loss of relative state autonomy. Against the background of increasing demands from various groups in society (labor unions, private entrepreneurs, parties, hard-line military), the authoritarian

regime gradually lost its control over political power to a moderate civilian coalition, under the leadership of Tancredo Neves.

The question of control of development projects and state sector policy was not, as of the early 1980s, one of controlling but rather the government's inability or unwillingness to reconcile internal political variables with international economic variables, the combined effect of which provoked an unprecedented crisis. Within the state, part of the technocracy withdrew their support to the military regime, resulting in the contradictory effect of using state enterprises as policy instruments for government objectives. In the first place, the state enterprises resisted government directives on price controls; secondly, the use of state enterprises to obtain loans abroad to "roll-over" interests and principal was always denounced. The outcome of this government policy was that state enterprises tended to behave as private companies, due to their structural dual nature, in particular those with politically highly visible and financially salient projects such as Itaipu Binacional and Eletrobrás/Eletronorte's Tucuruí, which we analyze in the next chapters.

TABLE 4.15

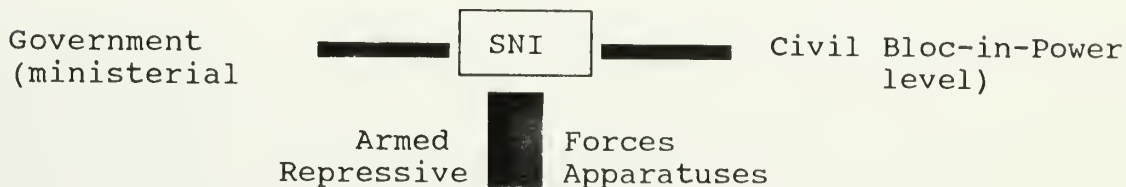
BRAZIL
ALL STATE ENTERPRISES
USES AND SOURCES OF FUNDS, PERCENTAGES

SOURCES	1981	1982	1983	1984	1985	1986
CREDIT OPERATIONS						
INTERNAL	15	29	36	21	34	20
EXTL & RES. 63	114*	71	64	81	66	80
USES						
CAPITAL EXPENDITURES						
AMORTIZATIONS						
Int.Op.	25	25	42	33	21	30
Ext.Op.&Res.63	70	75	58	67	77	68
CURRENTS EXPENSES						
FINANCE CHARGES						
Int.Op.	31	27	26	19	22	25
Ext.Op.&Res.63	69	73	74	81	66	75

Sources: SEST, Relatórios, various years. State Enterprises Reports, various years.* Overborrowing, Cf. Banco Central do Brasil, Boletim Anual, 1981.

Endnotes

1. - Alfred Stepan, "State Power and Civil Society in the Southern Cone of Latin America," in Evans, Skocpol, Ruechemeyer, op.cit., p. 334.
2. - In the ideological sense proposed by Samuel Huntington, Political Order in Changing Societies (New Haven: Yale University Press, 1968).
3. - See Bolivar Lamounier (ed.), Voto de Desconfiança: Eleições e Mudança Política no Brasil (Rio de Janeiro: Vozes, 1980), and Lamounier, "Opening Through Elections: Will the Brazilian Case Become a Paradigm ?" Paper presented at the Yale University Conference "Democratizing Brazil ?" New Haven, March 1-4, 1983.
4. - His name also received Médici's approval, being accepted by the hard-line sistema, who responded hierarchically to his brother, General Orlando Geisel, the legalist and strictly professional Médici's Minister of the Army. The so-called "sistema" can be understood as an amorphous Brazilian political military entity. According to Jurema's definition, in the sistema's vertical axis supporting the regime were the military commanders, and, on the horizontal axis, the Secret Service of the Armed Forces (with Army's Secret Service - Centro de Informações do Exército, CIEEx in particular) and military and some civil ministers. The SNI functioned as a hub of the system. The sistema supported all military presidents: Costa e Silva was supported by CIEEx and worked in close connection with the SNI. Médici indication was a total victory of the sistema. Geisel had the some support of the SNI and his brother guaranteed the vertical support within the Army's repressive apparatuses. See Abelardo Jurema, Juscelino e Jango, PSD e PTB (Rio de Janeiro: Artenova, 1979), pp. 256-58. On the role of Geisel's brother see, Isto É, May 1979.



5. - Golbery, the first director of the Superior School of War, was Secretary-general of the National Security Council until Jânio Quadros's resignation -- when he willingly retired in 1961

protesting the fact that Goulart was allowed in power by the military. SNI's inception originated from Golbery's connections with the private sector and his conspiracy to overthrow Goulart. See Dreyfuss, op.cit. Nevertheless Golbery was disliked by the hard-liners because of his capacity to forge political and economic alliances in civil society. Golbery remained out of power during the period 1967-74, after which he returned and remained as chief political advisor to Geisel and Figueiredo through 1981, when he resigned in protest at not being able to complete the political opening. His most important book, Geopolítica do Brasil (Rio: José Olympio, 1967) lays out the strategic security concerns with respect the Southern Cone and the South Atlantic region. Golbery controversial policies ranged from conspiracy to being pivotal in the political opening after 1974. Golbery imagined a political opening in which the negotiations would happen with the most relevant figures of the opposition, such as jurist Raymundo Faoro and labor leader Luiz Ignácio da Silva (Lula). See Elio Gaspari, Geisel e Golbery: O Sacerdote e o Feiticeiro (Forthcoming, excerpts published in Veja, 22 September 1987).

6. - Luciano Martins, "The 'Liberalization of Authoritarian Rule in Brazil," in Guillermo O'Donnell et.all. (eds), Transitions from..., op.cit., p. 82.

7. - See Walder de Goés, O Brasil do General Geisel: Estudo do Processo de Tomada de Decisão no Regime Militar-Burocrático (Rio de Janeiro: Ed. Nova Fronteira, 1978), especially the chapter "A estrutura do sistema de decisão," pp. 15-60.

8. - Ernesto Geisel, Mensagem ao Congresso Nacional, 1975.

9. - Stated in the opening lines of the Second National Development Plan. J.P. dos Reis Velloso, II PND, p. 7.

10. - See PND II's Table II, p. 101-5, specific targets.

11. - See Jornal do Brasil, 29 June 1974 and 16 May 1974. Other similar statements by Planning Minister Reis Velloso, Jornal do Brasil, 27 June 1974.

12. - For a detailed account of the episode see André Gustavo Stumpf and Merval Pereira Filho, A Segunda Guerra: a sucessão de Geisel (São Paulo: Brasiliense, 1979). By dismissing Frota, Geisel avoided what had happened in 1965 -- what the authors call "the first World War" -- when Branco lost control of his succession to the hard-liner Minister of War, Costa e Silva.

13. - During the period there was a sharp increase in the number of office representatives and branch of the main American,

European and Japanese Banks in the main Latin American cities. See Barbara Stallings, Banking To The Third World (Berkeley: University of California Press, 1987).

14. - This discussion is based on Luciano Coutinho e Luiz Gonzaga Belluzzo, "Política Econômica: Inflexões e Crise, 1974-1981," in L.G. Belluzzo and R. Coutinho (eds), Desenvolvimento Capitalista no Brasil, op.cit., vol 1, pp. 161-65.

15. - See Centro Brasil Democrático, Painéis da crise brasileira: Anais do Encontro Nacional pela Democracia (Rio de Janeiro: Avenir, 1979), 4 vols.

16. - Luciano Martins, "Estatização da Economia ou Privatização do Estado?", Ensaio de Opinião 9 (1978), pp. 30-7, and Peter Evans, "Reinventing the Bourgeoisie: State Entrepreneurship and Class Formation in Dependent Capitalist Development," American Journal of Sociology 88 (1982): 210-47.

17. - Conjuntura Econômica 15 November 1986, "Sinal de Alerta no Balanço", p. 13.

18. - The old MDB became the Party of the Brazilian Democratic Movement (PMDB, Partido do Movimento Democrático Brasileiro) and the ARENA became Democratic Social Party (PDS, Partido Democrático Social); other parties formed were the Brazilian Labor Party (PTB, Partido Trabalhista Brasileiro), Democratic Labor Party (PDT, Partido Democrático Trabalhista), and Worker's Party (PT, Partido dos Trabalhadores), in addition to the mentioned Popular Party. See David Fleischer, "Engenharia Política e Abertura," (Brasília, 1983, mimeo).

19. - See Gazeta Mercantil, Fórum da Gazeta Mercantil, January 1978.

20. - Eli Diniz Cerqueira and Renato Boschi "Elite Industrial e Estado: uma análise da ideologia do empresariado no anos 70," in Carlos Estevam Martins (ed), Estado e Capitalismo..., op cit., p. 173. See also their "Empresariado e Transição Política no Brasil: Problemas e Perspectivas" - Rio de Janeiro - IUPERJ - Instituto Universitário de Pesquisas do Rio de Janeiro - Documento de Pesquisa # 22 (1984).

21. - Isto É, 7 May 1981.

22. - Antonio Barros de Castro, A Economia Brasileira em Marcha Forçada (Rio de Janeiro: Paz e Terra, 1984), p. 49.

23. - João Paulo dos Reis Velloso, Balanço Preliminar do II PND,

- Presentation before the Council of Economic Development (CDE), 20 December 1978.
24. - Diretrizes para a Comissão Nacional de Energia, Jornal do Brasil, 9 July 1979.
25. - Antonio Delfim Netto, "Abertura Política Não Combina Com Recessão". In O Globo - Panorama Econômico, 30 May 1980.
26. - Paulo Nogueira Batista Junior, Mito e Realidade da Dívida Externa Brasileira (São Paulo: Brasiliense, 1983), p. 22-23.
27. - Data from Paulo Nogueira Batista Jr., International Flow of Capital To Brazil Since the Late Sixties (Washington: World Bank Discussion Paper # 7, 1986), Table 24, p. 41; and Castro, op.cit., p. 77.
28. - Antonio Delfim Netto, "Brasil 82: A Luta para Manter o Espaço para Crescer." Conference at the Navy School of War (Escola de Guerra Naval), 15 September 1982, pp. 6-10.
29. - David Fleischer, "The Evolution of Political Parties in the Brazilian Congress." Paper presented at the Panel on "Political Parties and Popular Movements in the Brazilian Transition" - XIII International Congress of The Latin American Studies Association (LASA), Boston, Mass. Oct 23-25, 1986.
30. - Veja, 2 december 1981, p. 22.
31. - Ivete Vargas, a niece of Getúlio Vargas, and a Deputy from São Paulo State, was responsible for the re-establishment of the party in 1979 with the same acronym as before 1964, under Golbery's encouragement. This was done to prevent Leonel Brizola -- an old PTB leader -- from using the acronym which still carried a lot of appeal and potential vote-carrying.
32. - See Eli Diniz and Renato Boschi, "Empresariado e Transição Política ...," op.cit. (Rio: IUPERJ, 1984, mimeo).
33. - São Paulo elected Franco Montoro, Minas Gerais, Tancredo Neves, and Paraná, José Richa -- all moderate, long-time opposition party members. Meanwhile, Leonel Brizola's victory in Rio de Janeiro and Jânio Quadros 1985 Mayoral election in São Paulo signaled the return of old populism. The governors elected by the opposition parties in ten out of twenty three states ruled over 62 percent of the Brazilian population, 70 percent of the GNP and 75 percent of the tax base. This discussion was partially based on David Fleischer, "The Evolution of Political Parties in the Brazilian Congress." Paper presented at the Panel on "Political Parties and Popular Movements in the Brazilian

- Transition" - XIII International Congress of The Latin American Studies Association (LASA), Boston, MA. October 23-25, 1986. Especially pp. 6-14.
34. - Luiz Carlos Bresser Pereira, "A Política Econômica Endógena," Revista de Economia Política 1 (January-February 1981): 136.
35. - Isto É, 9 February 1983.
36. - "Tancredo vai ao Planalto," Isto É, 19 October 1983.
37. - CAPEMI (Caixa de Aposentadorias e Pensões de Militares) -- a military pension fund heavily connected with the top brass military then at SNI and other security agencies --, won, through a subsidiary, a bid to clear 65,000 hectares of Amazon Forest in the area to be flooded by Tucuruí Power Plant. CAPEMI could not honor that contract for administrative, technical and political reasons discussed in Chapter VI. CAPEMI's US\$ 100 million loan with a French company to finance the export of 140,000 cubic meters of high-grade wood only reached less than 5,000 cubic meters before CAPEMI's bankruptcy. CAPEMI received US\$ 25 million from that contract. A Construção, # 220, December 1984. See also excerpts of the Comissão Parlamentar de Inquérito sobre a CAPEMI, 1983-84, Chamber of Deputies, Congresso Nacional. As for the illicit activities case, General Newton Cruz, of the Central Agency of the SNI and Military Commander of the Center-West Region was involved in the assassination of the journalist Alexander Baumbgartner, of the magazine O Cruzeiro. According to newspaper counts General Octavio Medeiros, Head of the SNI, was also involved.
38. - See Isto É, July 1983. See also Severo Gomes, Companhia Vale do Rio Doce: uma investigação truncada (Rio de Janeiro: Paz e Terra, 1987).
39. - See David Fleischer, "Electoral...", op.cit., and Walder de Goés and Aspásia Camargo, O Drama da Sucessão e a Crise do Regime, (Rio de Janeiro: Nova Fronteira, 1984), pp. 150-167.
40. - Veja, # 816, 25 April 1984 and # 817, 02 May 1984.
41. - The 1982 budget cuts, followed by a maxi-devaluation, have caused the deepest crisis in the Brazilian capital goods industry. In only three years that industry laid-off more than 50,000 workers. "Bens de Capital: O Gigante Amarrado - esta indústria custou um dinheirão. E agora?" Isto É, 19 February, pp. 59-62.
42. - Folha de São Paulo, 01 January 1984.

43. - Gazeta Mercantil, 06 January 1984. Cristóvam Buarque was one of the principal PMDB economists, part of a team who designed a governmental plan of action for Tancredo Neves to put in effect. This plan was never implemented.
44. - See Walder de Goés, O Estado de São Paulo, 25 November, 1979.
45. - João Paulo dos Reis Velloso, Brasil: solução positiva (Rio de Janeiro: Abril-Tec, 1977), p. 117.
46. - FIBASE, Basic Industries Financing (Financiamento da Indústria de Base); EMBRAMEC, Brazilian Mechanical Enterprises (Empresas Brasileiras de Mecânica); and IBRASA, Brazilian Investments (Investimentos Brasileiros) were created in 1975, to strengthen Brazilian government capacity to invest in productive sectors.
47. - Walder de Goés, O Brasil do General Geisel, op.cit., p. 28. See also Cesar Guimarães and Maria Lúcia Werneck Vianna, op.cit.
48. - See Table 4.2 - External Accounts.
49. - The decision to build the III Petrochemical Pole at Triunfo, in the southernmost State of Rio Grande do Sul; Expanding Camaçari Pole in Bahia, the Tucuruí Power Plant, the Greater Carajás Program and the alumina/aluminum smelting plants in the North, Itaipu in the frontier between Brazil-Paraguay and close to Argentina illustrate the point.
50. - An accurate account breaking down origins and uses of resources must be carefully viewed. Government documents, a source of information available, have to be investigated as to their accuracy. One of the most reliable sources is the Electric Sector's Sources and Uses of Funds, Table 4.5.
51. - Severo Gomes was minister for two and half years. At first Severo was Geisel's "alter ego" in his economic nationalism. With the prevalence of Simonsen's monetarist and internationalist views, Severo Gomes gradually lost Geisel's ear. See Isto É, 14 February 1979, p. 43.
52. - Velloso, Brasil: a solução positiva, op.cit., p. 124.
53. - Velloso, interview to Visão, 19 April 1976. Antonio Ermírio de Moraes is the chief executive officer of Votorantim Industries, the largest Brazilian private group, which is involved in cement, aluminum, nitrogen and other manufacturing

activities. Ermírio was candidate in the 1986 gubernatorial race in the State of São Paulo.

54. - See SEST, Empresas Estatais no Brasil e o Controle da SEST, Brasília, 1981.
55. - Carlos Lessa, "A Estratégia do Desenvolvimento 1974-1976: sonho e fracasso," (Thesis of "Livre-Docência," Universidade Federal do Rio de Janeiro, 1978), p. 96.
56. - The private investment in Brazil started to decline around 1976-77; meanwhile, the financial "merry-go-round" began spurred by the indexation of the economy and the vast amount of incoming loans in foreign currency.
57. - Velloso, Visão, 19 April 1976.
58. - Velloso, Balanço Preliminar do II PND, CDE - 20 December 1978.
59. - "O Costa Quente," Isto É, 1 October 1980, pp. 72-4. Also "Cals Atira e Acerta," Veja, 24 September 1980, p. 123.
60. - Interview on Isto É, November 1980, when bulldozing on the second site of the nuclear power plants -- Peruibe, SP, near Iguape -- was started.
61. - Interview with an Eletrobrás high official, 29 april 1986.
62. - Interview with Aide to the Eletrobrás Presidency, April 1986, Brasília.
63. - See The World Bank Report (P4335-BR) Report and Recommendation of President of the International Rank for Reconstruction and Development to the Executive Directors on a proposed loan in an amount equivalent to US\$ 500.0 million to the Federal Republic of Brazil for an Electric Power Sector Loan. Washington, 29 May 1986.
64. - The Navy ran a small laboratory program under the direction of Admiral Alvaro Alberto, who was the first president of the National Research Council created by Vargas in 1953.
65. - Brazil, Ministério Relações Exteriores. Secretaria Geral Adjunta para Organização Internacional. White Paper on Política Nuclear do Brasil - Textos e Declarações (Rio de Janeiro, 9 August 1967) PED, Programa Estratégico de Desenvolvimento, 1968.
66. - By 1968, scientists had seen their university nuclear research dismantled for lack of resources. See José Goldenberg,

"As Incertezas da Política Nuclear Brasileira", Dados e Idéias 2 (October/December 1976): 14.

67. - "As desventuras de Angra I" Isto É, 19 January 1983. Furnas and Westinghouse are presently in litigation: Furnas wants to be paid for losses incurred because of improper functioning, flawed design, and faulty engineering materials. See "Furnas quer indenização da Empresa fabricante de Angra I," Folha de São Paulo, 18 July 1987. The same type of reactor was installed in Puerto Rico and Spain by Westinghouse. Both facilities have been closed down.
68. - Eletrobrás anticipated, in 1975, future financial and political problems with the nuclear program, confirmed during the implementation. Interview with Eletrobrás's Director of Coordination Mauro Moreira, July 1984.
69. - Angra II, III, IV and V, and Peruibe I, II, III and IV in near Iguape, São Paulo, were to be built under the Accord. See Brasil. Presidência da República - O Programa Nuclear Brasileiro, Brasília, Edição Best-Seller Exame, 1977.
70. - It is estimated that if the total program is realized it will now cost close to US\$ 40 billion. Luiz Pinguelli Rosa, Política Nuclear e o Caminho das Armas Atômicas (Rio de Janeiro: Jorge Zahar Editor, 1985), p. 39, and Balanço de Energia Nacional, 1985. See also Gazeta Mercantil, November 1986.
71. - "Sarney Arma Seu Ciclo", Veja 9 September 1987.
72. - See Walder de Goés, O Brasil do General Geisel, op.cit..
73. - This "jet-nozzle" technology was abandoned by the Germans in 1986, Veja, 9 September 1987.
74. - Itaipu's kilowatt cost is considered an expensive unit cost. Wolf Grabendorf, "Brazil," in Harald Müller (ed.), An European Non-Proliferation Policy: Problems and Prospects (Oxford: Clarendon Press, 1987), pp. 323-66. The calculated cost for the program would run between US\$ 30-40 billion as of 1985.
75. - Eletrobrás, Plano de Suprimento de Energia Elétrica para 1990, 1978.
76. - Brasil. Presidência da República. O Programa Nuclear Brasileiro, op.cit., p. 9. One explanation for that bloated demand was that the growth rates used for consumption forecast used were those of the "miracle years."

77. - Eletrobrás, Plano de Suprimento de Energia Elétrica para o Ano 2000, 1982.
78. - Luiz Weiss e Aluizio Maranhão, "A Moratória Nuclear," Isto É, 19 January 1983.
79. - Brazilian proven reserves increased from 8,000 tons in 1974 to 301,500 tons in 1985, MME, Relatório, 1974, p. 73 and MME, Balanco Energético Nacional, 1985, p. 82.
80. - Jimmy Carter visit to Brasília was a tense journey in which the question of human rights collided frequently with the assertiveness of the military in the nuclear program. The US-Brazilian Military Accord, initiated after the World War II, was broken by Brazil at that time.
81. - Sérgio Salvo de Britto, David N. Simon and Joaquim de Carvalho, all directors of these nuclear firms, resigned from high-management positions in view of the power holding by the Germans. At NUCLEN, KWU controlled decisions despite being a minority partner. At NUCLEP, the Germans with no capital intake became owners of this US\$ 65-million-enterprise. For a detailed analysis see David N. Simon, Joaquim de Carvalho, José Goldenberg, Luis Carlos Menezes, Luiz Pinguelli Rosa, Roberto Gomes de Oliveira, Energia Nuclear em Debate (Rio de Janeiro: Vozes, 1981).
82. - Ibid, idem.
83. - David J. Myers, "Brazil's Reluctant Pursuit of the Nuclear Option," Orbis Vol. 27 No. 4 (Winter 1984): 892. A curious Service for Protecting the Nuclear Program (Serviço de Proteção ao Programa Nuclear - SIPRON) was created to direct the Parallel Program. in reality it was a decoy to protect the military somponent of the Nuclear Program.
84. - Interview with high-ranking Argentine diplomatic official, who had been Ambassador to Brasília, Washington, DC. July 1987.
85. - Between US\$ 3 and 4 billion were annually spent on accounts, called "Delta 1, Delta 2,..." that not even the president of the Central Bank nor the Minister of Finance knew about. They funded facilities such as IPEN, Aramar and several others. Cf. "Sarney arma seu ciclo," Veja, 09 September 1987.
86. - Paulo Nogueira Batista, Conference in the Superior School of War, (1 July 1982), Revista Exame, 14 July 1982.
87. - Borisas Climberis, "Um projeto caro para fazer urânio pobre," Veja, 9 September 1987.

88. - Statement of the Chief of Staff of the Armed Forces, Brig. Waldyr Vasconcellos: "We cannot stop research in nuclear technology. Any country which wants to progress has to carry it out and whoever manages to master that technology can even manufacture a bomb." The Latin American Times 30 January 1984, Cf. Grabendorf, op.cit., p. 331.
89. - In 1985, Nuclebrás president, Licínio Seabra, informed that US\$ 1.8 billion would be needed to clean-up rusty material and restart construction, and an additional US\$ 2.4 billion to pay debts in arrears. Gazeta Mercantil, 20 May 1985.
90. - In Goiânia, a city 200 kilometers South of Brasília, was the site of the second nuclear accident in number of deaths: a wrecking crew pried open an old X-Ray equipment on a hospital in demolition. "Sarney arma seu ciclo," op.cit.
91. - L. Coutinho and Henri-Philippe Reichstul, "Investimento Estatal 1974-80: Ciclo e Crise," in Belluzzo and R. Coutinho (eds), Desenvolvimento Capitalista..., op.cit., Vol. 2, p. 53, and MME, Relatório, 1984. See also "Petrobrás: tiro na mosca," Conjuntura Econômica, March 1985, p. 189.
92. - See Table of Real Price Index, 1978-84. It was the only sector which generated own resources for investment purposes.
93. - Petrobrás specialists and managers were convinced that "Brazilian geology was a 'stepmother,'" that is, that it would be extremely difficult to find oil in Brazilian territory. Cf. Getúlio Carvalho, Petrobrás: do monopólio aos..., op.cit.
94. - Figures for 1985 off-shore production make up most of the 500,000 bbd produced. Conjuntura Econômica, March 1986.
95. - Interview with a Petrobrás/National Energy Commission official. March 1986.
96. - Interview with Petrobrás/National Energy Commission official. November 1986.
97. - "Petrobrás: tiro na mosca", Conjuntura Econômica, March 1985, p. 189.
98. - Maria Helena Castro Santos, "Alcohol as Fuel in Brazil: An Alternative Energy Policy and Politics," PhD Dissertation, Dept. of Political Science, Massachusetts Institute of Technology (MIT), 1984.

99. - Petrobrás claimed it could better distribute it and that, without Petrobrás, distribution was doomed. Cf. Maria Helena Castro Santos, op.cit.
100. - In 1981, production was 4 billion liters, having doubled in doubled in only two years. Output reached 11 billion liters in 1985. By 1984, 90 percent of all new automobiles sold run on pure alcohol engines.
101. - See Charles Müller, "A Racionalidade, o Poder e a Formulação de Políticas Agrícolas no Brasil." Revista de Economia Rural 21, 2 (April-June 1983): 157-72.
102. - Ricardo Maranhão, Pro-álcool: Rumo ao Desastre (Petrópolis: Vozes, 1980).
103. - Ronaldo Seroa da Motta, "Alcohol as Fuel: A Cost Benefit Study of the Brazilian National Alcohol Programme" (PhD Dissertation, Univ. of London, 1985) and also "Sobre a Viabilidade do Pro-álcool" Paper presented at the Seminário de Avaliação de Programas, Projetos e Políticas Públicas - Energia. Centro de Treinamento e Desenvolvimento Econômico. April-May 1986, Brasília.
104. - Interview with National Energy Commission official, April 1986.
105. - From 16 percent in 1973 to 35 percent at the end of the decade. BNDE -Plano de Ação 1976-1979, p. 32.
106. - Aureliano Chaves was a perfect example of the military regime's fascination with a technocrat (an engineer) that could become a politician (he had been Federal Deputy in the 1970-1974 Legislature).
107. - The project involves work on 70 tunnels (one of them being more than five miles long), 92 bridges of complicated engineering execution. More than US\$ 1.6 billion have been spent in the project with dismal results as of 1987.
108. - "Governo retoma obras da Ferrovia do Aço," Correio Braziliense, 6 June 1988.
109. - Ação para a Empresa Privada Nacional, a document presented on 15 June 1976 by SEPLAN which spelled out directives for the private sector.
110. - CSN, USIMINAS, COSIPA, COFAVI were the main state steel plants.

111. - Instituto Brasileiro de Siderúrgia, Relatório, and Conjuntura Econômica, January 1985.
112. - Paulo Villares, in Exame 12 April 1978, p. 17.
113. - Seplan, Consolidação Anual de Programas de Governo - 1982/85. Brasília, 1982, 414 pp.
114. - New sales were made to Southeast Asia, Eastern Europe and Argentina. "Mais Exportações, Menos Dólares - Gazeta Mercantil, 13 January 1986.
115. - "In view of the relative sluggishness of the private sector in expanding its production to meet internal demand the government is going to fill that gap shortly." Mensagem ao Congresso Nacional, p. 65.
116. - Paulo Villares, Veja, 21 April 1976, p. 110.
117. - The Federal Railroad Network (RFF) and the National Highway Department (DNER) received Acominas resources. As of 1982, US\$ 2.95 billion had been invested but US\$ 1.9 billion were still needed without a clear sense of what would be done with the steel when it came on line. "Os Efeitos da Megalomania," Folha de São Paulo, 6 March 1983.
118. - Gazeta Mercantil, 23 September 1985.
119. - Plinio Assmann, Gazeta Mercantil, Caderno Especial de Economia 1º, p. 2, May 1984.
120. - Interview with Siderbrás official, November 1986.
121. - Two state enterprises are CVRD and Petrobrás. The private companies are the Votorantin Group (Antonio Ermirio de Moraes) and the Azevedo Antunes Group. Cesar Cals, "Pesquisa e Produção Mineral no Brasil," Conference at the Superior School of War, 28 July 1983.
122. - These fifteen groups with 332 subsidiaries controlled 12,162 mining areas, corresponding to 34 percent of all research investments (4,292), and were granted 40 percent of all research licenses (7,920), and 15 percent of concessions for exploration (508), with the vast majority being small-scale individual undertakings. MME, Relatório and Documents from the DNPM, and CPRM, 1985.
123. - Iron ore, copper, aluminum, coal, and phosphates making up 75 percent of mineral production concentrated in Pará, Bahia and Minas Gerais. MME, Relatório, 1984.

124. - Mining areas of Minas D'El Rey Dom Pedro, Urucum, Itavale, Caraça Ferro e Aço and Minas da Serra Geral contributed to that amount. Raw, op. cit., Table 12 - CVRD OUTPUT, 1968-80, p. 294. From that total, 10.5 million tons-year supplied the Tubarão Steel plant, the Japanese-Italian-Brazilian joint-venture. Cf. Lessa, op.cit.
125. - Antonio Delfim Netto, "Rumo ao Norte: A abertura de uma nova etapa do desenvolvimento." Interview to Grupo Liberal (O Liberal), December 1982, Belém. Seplan publication same name, pp. 4-18.
126. - According to a document estimate presented to the World Bank for financing. CVRD, Programa Ferro-Carajás. Brasil - Aspectos Ambientais, 1983, p. 19.
127. - Extracting 35 million tons-year it will take approximately 1,200 years to deplete the mine. Even considering the proven reserves of 20 billion ton, it would take 571 years to extract Carajás iron ore.
128. - Lúcio Flávio Pinto, Carajás: um ataque ao coração da Amazônia (Rio de Janeiro: Marco Zero, 1982), p. 73 and "Carajás: entre a lógica e a submissão," Opinião 5 (December 1975):9-10.
129. - "Carajás: entre a lógica e a submissão," op.cit. ; Pinto, Carajás..., op.cit., p. 74.
130. - PND II, p. 39.
131. - Pinto, Carajás..., op.cit., p. 75. See also Raymundo Garcia Cota, Carajás: A Invasão Desarmada (Petrópolis: Vozes, 1984), p. 63 and 156 ff.
132. - Antonio Barros de Castro, Jornal do Brasil, Caderno Especial, 1 September 1982.
133. - Delfinato II, was the happy expression used to depict the second time Antonio Delfim Netto had the command of economic policy. Antonio Barros de Castro, A Economia Brasileira em Marcha Forçada (Rio de Janeiro: Paz e Terra, 1985)
134. - César Cals, "Carajás: definindo as regras do jogo." Conjuntura Econômica, November 1981, p. 126.
135. - CVRD - Relatório da Presidência, 15 April 1985.
136. - This discussion was based on newspaper accounts, and on excerpts from the Hearings of the Joint Investigating Committee

on the Companhia Vale do Rio Doce. See also Severo Gomes, Companhia Vale do Rio Doce: uma investigação truncada (Rio de Janeiro: Paz e Terra, 1987.)

137. - CVRD, op.cit., 1980, p. 3.

138. - Resolução # 7, Conselho Interministerial do Programa Grande Carajás/SEPLAN, May 1982.

139. - Minister of Mines and Energy of Sarney's New Republic, Aureliano Chaves stated that "no concessions would be granted if areas were in dispute or in Indian territories." How then growing discontent among indigenous population?

140. - "O Delírio das Obras: informações de meter medo no inventário dos projetos faraônicos." Isto É, 28 July 1982.

141. - Interview with advisor to Min. of Planning, Delfim Netto, November, 1984.

142. - Luiz Gonzaga Belluzzo, "A Intervenção do Estado no Período Recente." (São Paulo: FUNDAP, n.d.), p. 7.

143. - Werner Baer, The Brazilian Economy, op.cit., p. 159.

144. - Interview with a Secretary of Planning official, April 1985. Author's note in bold.

CHAPTER V

THE BINATIONAL ITAIPU HYDRO-POWER PROJECT: MILITARY POLITICAL POWER, DEVELOPMENT POLICY AND INSULATED POLICY-MAKING

Having analyzed the energy, industrial and mining policies for the decade 1974-1985, we now turn to the first of the two specific case-studies. This study reconstructs the basic pattern of interest articulation that has marked the formation, decision and adoption of this development project. The analysis focuses on the specific political mechanisms through which bureaucratic and military power were translated into political power and control of policy-making in this specific development endeavor: the binational Itaipu Hydro-power Project.

As seen in Chapter II, policy-making efforts in semi-peripheral societies like Brazil are characterized by imperatives of capitalist development and by particular categories of political domination. This study is a case of the development of capitalism and of state intervention in the sphere of the economy, as well as demonstrating some characteristic patterns of behavior on the part of the bloc-in-power and state bureaucracy. The decision to build Itaipu was taken by authoritarian regimes of both Brazil and Paraguay which favored specific fragments of the dominant classes of both countries. Brazilian and Paraguayan ruling elites shared common beliefs, socialization¹ and strived to weave the same affinities between the authoritarian-

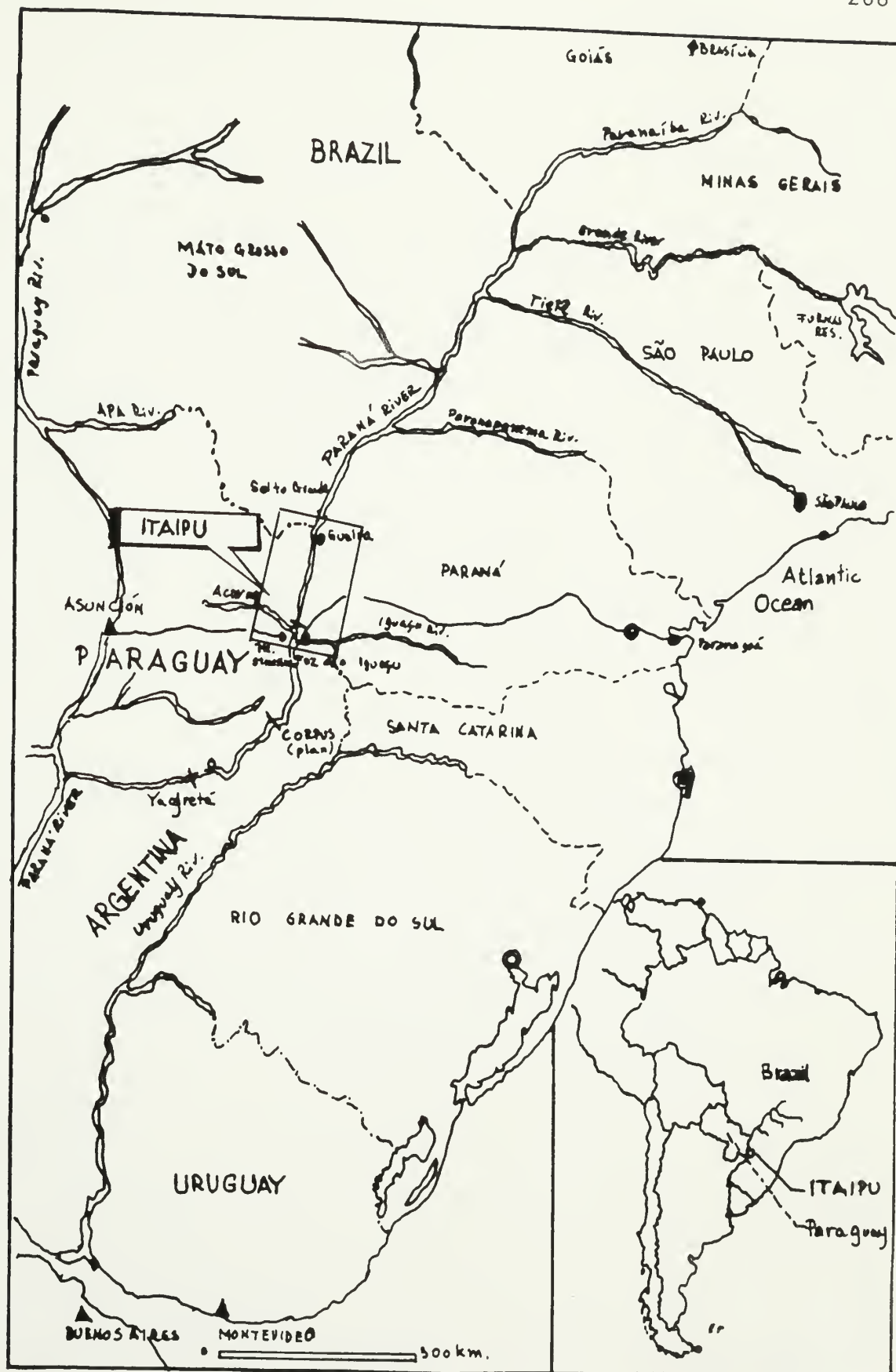
bureaucratic regime and dominant classes. The Itaipu case-study is a policy-making and implementation show-case for the internal political and economic dynamics of the two countries involved and it has an international dimension as well. As seen in Chapter II, the central variable state autonomy is to be investigated not only within the confines of national boundaries. As also mentioned on Chapter II, the political contexts within which the policy-making process takes place involve the agency-society context (electrical sector agencies, actors, interests), the politico-institutional context (an insulated, repressive regime, or a more liberalized one), and the international relations context (Brazil's political, economic and strategic position with respect to other Southern Cone countries).

A. The Background of the Binational Project

1. Economic and Technical Aspects

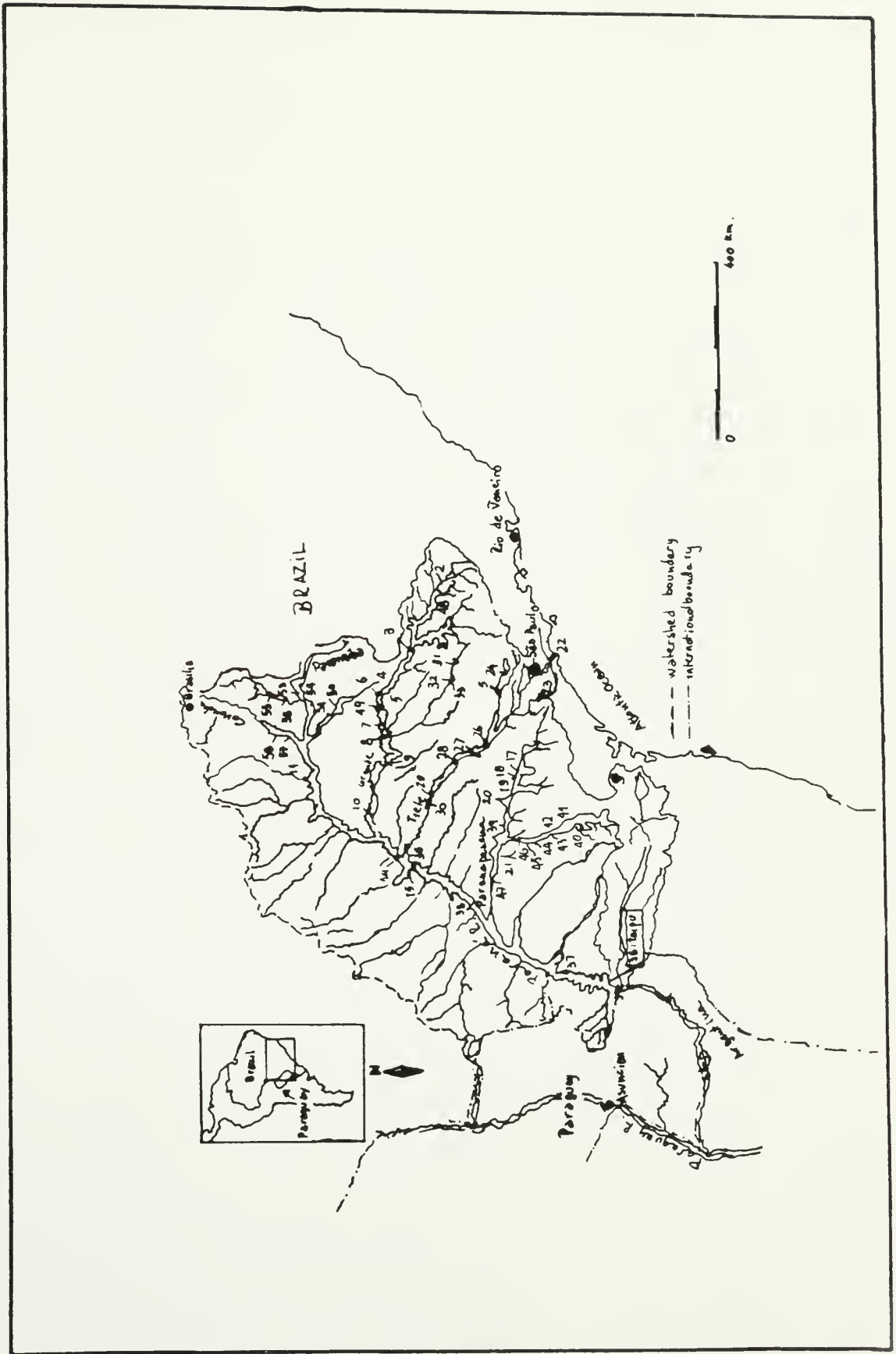
The River Plate Basin, formed by the Paraná River, is among the five largest river basins in the world, and is the second largest in the Western Hemisphere, after the Amazon Basin.² The Basin covers an area of 5.18 million square kilometers (1.98 million square miles) involving five countries, Argentina, Bolivia, Brazil, Paraguay and Uruguay. The most developed economically in South America, this region contains a

MAP 5.1
PARANA RIVER BASIN REGION



MAP 5.2

RAZILIAN DAMS AND RESERVOIRS OF THE PARANA RIVER BASIN



population of 178.12 million, according to a 1985 estimate. Forty six percent of the Basin is in Brazilian territory, 31 percent in Argentina, 13 percent is Paraguayan, and the remainder is equally divided between Bolivia and Uruguay. The Brazilian portion of the Basin is comprised by the more industrialized states of São Paulo, Minas Gerais, Rio de Janeiro and Paraná and by the Center-West and South regions. In Argentina, the Paraná river cuts across Misiones, Corrientes, Santa Fé and Buenos Aires provinces where 60 percent of Argentineans live. These four provinces account for 85 percent the economic activity of Argentina.³ Paraguay's population is concentrated to the West around the capital, Asunción, at the margins of the Paraguay River. Table 5.1 contrasts the Basin's countries, in terms of showing the overwhelming strength of Brazil and Argentina over more modest neighbors.

From the source of its largest tributary (see map 5.1) the Paraná River flows 4,500 kilometers (2,800 miles) southwesterly before joining the Uruguay River, forming the estuary River Plate between Argentina and Uruguay. Its principal tributaries in Brazil -- Grande, Paranaíba, Tietê, Paranapanema, Iguaçu -- flow East to West. The Paraná River flows South to where Paraguay and the Brazilian States of Mato Grosso do Sul and Paraná meet, forming the 200 kilometers of the Brazil-Paraguay border, from Salto Grande de Guaira to Foz do Iguaçu. In this Guaira Canyon, with deep embankments, the Paraná dropped more

TABLE 5.1
PARANA BASIN COUNTRIES
ECONOMIC INDICATORS, 1985

	Population million	GDP US\$ 1,000	GDP/capita US\$	Energy Consumption *
Argentina	30.56	60,251	1971	49.2
Bolivia	6.43	5,403	840	1.8
Brazil	134.51	249,137	1852	93.6
Paraguay	3.69	6,559	1777	0.6
Uruguay	2.93	6,473	2208	2.7
TOTALS	178.12	327823	1840	

Source: GDP, GDP per capita: IDB, Economic and Social Progress in Latin America, 1986 Report, Table 3, p. 394.
Energy Consumption: UN Statistical Yearbook, 1980;
* - in million metric tons of coal equivalent.
Population: IDB, 1986 Report, Country Summaries.

than 120 meters in 170 kilometers and formed the huge hydro-power potential where it is joined by Acaray River from Paraguay in the West and Iguazú River from Brazil in the eastern side. From there, the Paraná River flows between Paraguay and Argentina until it meets with Paraguay River -- a river also originated in the Brazilian State of Mato Grosso. After that point the Paraná flows entirely in Argentine territory until it meets, at the delta, with the Uruguay River forming the River Plate Estuary. The Uruguay River also has its source in the Brazilian State of

Santa Catarina and flows southwesterly successively forming Brazil-Argentina and Uruguay-Argentina borders.

The Paraná River Basin hydro-power potential is estimated to be 40,000 MW (or three and half times the Itaipu output), upstream of and downstream from Itaipu. Map 5.2 shows the existing power plants above Itaipu. Geography and historical facts combined to create a growing concern with the role that hydropower potential could play in the regional economy of the Basin's countries. Paraguay, although capable of absorbing only a small fraction that potential, became the principal beneficiary from the huge potential of the Paraná River. Paraguay benefitted from the indivisible nature of water as a resource -- a common-pool public good. Paraguay and Brazil jointly built the Itaipu plant and Paraguay and Argentina are building Yacyretá and Corpus power plants.

By 1987 Itaipu Hydro-power plant was generating half of its 12,600 MW (or 72,000 GWhour/year⁴), with its completion planned for 1991, when the last of the eighteen 700 MW-turbines will be installed. Itaipu, constructed between 1973 and 1985, is the largest hydropower plant in the world followed by Grand Coulee (USA), Guri (Venezuela), Tucuruí (Brazil), Krasnoyarsk (USSR), Churchill Falls (Canada), Paulo Afonso and Ilha Solteira Complex (Brazil), Asswan (Egypt). From Guaira, where the magnificent Sete Quedas Falls are now submerged, to Itaipu, the Paraná River drops 120 meters in just 170 kilometers, which makes

possible such a potency (see Figure 5.3). The dam was built on Itaipu Island ("the stone that sings" in Tupi-Guarany) located 20 kilometers (12 miles) from the Argentine border and 14 kilometers (8 miles) from the Friendship Bridge, on the road linking Asunción to Paranaguá, a port on the Atlantic Ocean. The construction consumed around US\$ 20 billion -- there included direct investment, interest, and transmission lines and a few billion more in other expenses in the region. It is by far the most expensive single project in Latin America.⁵

The Paraguayan-Argentine Yacyretá, near Encarnación, will operate with thirty turbines of 135 MW producing 4,050 MW and an annual generation of 19,000 GWhour/year when finished in 1994.⁶ Although in the initial planning phase due to persisting financial quandaries of the 1980s, Corpus is estimated to generate 4,400 MW. Other binational dams in the Uruguay River are Salto Grande Hydro-power Plant -- an Argentine-Uruguayan project --, and Garabi, a medium size power plant under joint Argentine-Brazilian construction.

Because Brazil's energy frequency is sixty cycles per second and Paraguay's fifty -- as the rest of South America -- nine turbines will generate at 50 and nine at 60 cycles. Since Paraguay now only uses about 2 percent of Itaipu's energy, the surplus energy is sold back to Brazil through a 50-Hz direct current circuit which is transformed to 60 cycles (alternate current) near São Paulo, where it enters in the regional grid.

Itaipu's energy supplied 20 percent of electric power consumption needs in 1987 (residential, industrial, commercial use) in the South, Southeast and Center-West Regions, where more than 70 percent of Brazilian GDP is produced and more than 60 percent of the population, and 81.5 percent of total energy consumption in Brazil.⁷ Table 5.2 depicts regional disparities of the Brazilian energy market .

TABLE 5.2
ELECTRIC ENERGY CONSUMPTION
BRAZILIAN MARKET, 1986 (GW-HOUR)

Regions Consumption	North	Northeast	Southeast/ Center-West/ South	BRAZIL
Residential	1,517	4,399	29,148	35,064
Industrial	5,865	12,998	79,553	98,417
Other*	1,811	5,754	34,639	42,204
TOTAL	9,194	23,151	143,340	175,685

Source: Estimates used in the Eletrobrás, Plano de Recuperação do Setor de Energia Elétrica, 1985.

* Obs. includes commercial, rural, public street illumination, use for water and sewage treatment, temporary use on construction site, irrigation.

2. Political and Diplomatic Background

Generalissimo Alfredo Stroessner has ruled Paraguay since 1954, when he seized power in a coup d'etat. Every five

years he is re-elected in an election that resembles the caudillo rule of his Latin American predecessors. In a few years he gained political control of the Army and the Colorado Party, thus assuring that all positions of command and of political power were appointed by him, and dominating these two powerful bureaucracies.⁸ His regime is based on a system of personal rule, distributing privileges and deriving power and support from different groups. The military are deeply involved in the smuggling of whiskey, electronic equipment, cattle, vehicles (180,000 cars, trucks and pick-ups are stolen yearly in Brazil and taken to Paraguay, according to the Contraband Control Agency of Brazil's Ministry of Finance). Stroessner rule created a class of powerful, Mafia-like businessmen who arbitrate import and export licenses among themselves and the military in a country with a virtually non-existent middle class. Small farmers and peasants have gained little under Stroessner, except from the fact that he manipulates on specific occasions their nationalist support. Civil servants are corrupt and incompetent in general.

Brazilian President Kubistchek and Alfredo Stroessner were responsible for the rapprochement of both countries, whose relations were soured by the Triple Alliance War (1865-1870)⁹ and by decades of Paraguay's economic and cultural dependence on Argentina. Stroessner had been trained in Brazilian military schools beginning in 1943, and his training included the Superior

School of War later. Even before he seized power, Stroessner criticized Paraguay's dependence on Argentina, and to change that, after he seized power, he named Paraguay's Ambassador to Brazil, Raul Sapena Pastor, as his Foreign Relations Minister with the specific task of opening "a new Brazilian economic lung" through which Paraguay could breathe economically.

In the early 1960s, in view of the rapidly industrializing Southeast/South regions's demand for energy, Brazil's pressing needs for energy forced it to come close to Paraguay. The Urubupungá Complex on the Paraná River (Jupiá, Ilha Solteira and Três Irmãos dams, finished in 1973) was started during Jânio Quadros's term as Governor of São Paulo (1955-59), and in Quadros's scant 7-month presidency (1961) future studies were recommended by the newly created electric power agencies, the Ministry of Mines and Energy (MME) and Eletrobrás. Later under the Goulart presidency (1961-1964), the consulting firm of Octavio Marcondes Ferraz was hired to perform a study of the Paraná's potential. Marcondes Ferraz recommended a 60-kilometer channel before the Sete Quedas which would divert the river into Brazilian territory, making possible the construction of a totally Brazilian hydropower plant, thus avoiding the problems lingering from limits demarcated by the 1872 Treaty, re-examined in 1927. After Goulart's Minister of Mines and Energy, Oliveira Brito, went to Asunción stirring protests by the Paraguayan elites Brazilians came to realize that the river could only be

used to mutual advantage and with previous consent.¹⁰

Paraguayans fears were meaningless since Goulart was overthrown a few months after and Brazil-Paraguay relation with respect to Itaipu changed substantially.

In 1965, fears of Brazilian imperialism in the region were exacerbated when a Brazilian platoon occupied a small strip of land near the Sete Quedas Falls, which previous treaties had not defined, and which was a source of diplomatic problems, influencing the very use of the hydroelectric potential of the river.¹¹ Brazil's awareness of the wealth in the waters of the Paraná River in the Guaira Canyon and of its importance for the country's development, made the military regime stage that muscle-flexing exercise. Although the question of limits had already been settled by the Goulart-Stroessner January 1964 meeting in the State of Mato Grosso, the new military regime acted as if it was overlooking that diplomatic agreement between two heads of state.

Even though the study commissioned by Quadros's Minister of Mines and Energy, João Agripino, and the Octavio Marcondes Ferraz study commissioned by Goulart's Mines and Energy Minister, Oliveira Brito, spoke of more than 10,000 MW potential with the lowest cost of hydroelectric energy ever achieved in the world,¹² the Paraguayans insisted that nothing be done until final demarcation of the most important of the seven falls (the fifth). Therefore the military muscle flexing in fact weakened

the Brazilian position, only demonstrating that there were problems of limits.¹³ The impasse was set: Brazilians were convinced of the ownership of Sete Quedas while Paraguay insisted on a definitive demarcation of the area before anything was decided.

Apparently the incident of the occupation was unimportant, just serving to see how far Paraguay would go in the case of a military solution.

Counterattacking, the Paraguayan rhetoric increased. Stroessner's 1 April 1965 speech in the Assembly, though reinforcing Paraguayan will to negotiate, inflamed spirits even further. The Brazilian Embassy was attacked, a Brazilian flag burned and students demanded the Brazilian Military and Cultural Mission to leave Asunción. That year of 1965 was particularly meaningful to the Paraguayans as the centennial of the National Epic Journey (Epopéya Nacional -- the Triple Alliance War against Paraguay) was being celebrated, so that the invasion stirred deep-rooted sentiments.

In late 1965, General Golbery do Couto e Silva, then head of the SNI, went to Asunción to meet Stroessner about the Sete Quedas issue, a question he mastered as he had been a skilled strategist for the military and taught it at the Superior School of War and written a book on the issue.¹⁴ The special envoy of the Brazilian government tried to change the bad image left by the military occupation and the foreign policy towards

Paraguay implemented by the Brazilian Ministry of Foreign Relations (Itamaraty), then headed by General Juraci Magalhães. Golbery tried to negotiate a settlement of joint development of the Paraná river if Paraguay would accept Brazil's rights to the Sete Quedas.¹⁵ Evidently the Paraguayans denied the Brazilian claim to Sete Quedas or to the Salto Grande de Guaira, arguing that historically the Luzo-Brazilians had always played cartographic expansionism.¹⁶ The fact that Brazil and Paraguay sent troops to the Dominican Republic in 1965 did not contribute to remove the basic diplomatic, economic, and political deadlock: the tremendous importance of the water in the Guaira Canyon. For the Brazilian strategic and diplomatic interests, the solution to the Sete Quedas question represented a steady source of much needed renewable energy for the Southeast/South regions. For Paraguay, above and beyond the decisive economic meaning of generating considerable income from the sale of energy, it could also benefit Stroessner politically as he could maneuver the impoverished peasants for nationalist causes against the imperialistic Brazilian stances discharging their frustrations not against the local oligarchy but rather on a foreign aggressor responsible for their plight.

B. The Itaipu Decision: Accommodating Paraguayan,
Argentine and Brazilian Political, Economic and
Strategic Interests

The decision-making process about the tapping of the Paraná potential took several more years to materialize, roughly from 1966 to 1973 and it involved the participation of several actors, namely the ruling military forces of Brazil, Paraguay, and Argentina, (all three under military-authoritarian regimes during that period), the diplomatic circles and the economic elites.

1. Paraguayan-Brazilian Joint Decision-Making

In June 1966, the Brazilian and Paraguayan Ministers of Foreign Relations met and signed the Accord of the Cataracts (Ata das Cataratas or Acta de Iguazú) whose main accomplishment was the establishment of the common property of the waters between Guairá and Foz do Iguaçu and the equal division of the electric energy, including the preferential right to buy back the same energy for a fair price.¹⁷

Although conceding to Argentina's interest "to study the common problems of the region"¹⁸ in the upcoming Meeting of Chancellors of the Plate Basin Countries, Brazil and Paraguay in fact alienated Argentine support for the endeavor by adding, in a separate note, that the excess energy would be first offered to

the other signatory before being offered to any other country.

In this way the dispute over limits seemed superseded by the recognition of the Paraná River waters as a common-pool resource, what contributed to the completion of the Itaipu Treaty. The situation required a novel solution to common-pool goods in which a less efficient use of the Paraná River or a use which encroached on second or third-party rights were to be avoided.

In the following act, then Brazilian Ambassador to Asunción, Gibson Barbosa, and Chancellor Sapena Pastor established a Joint Technical Commission (Comissão Mista Técnica Brasileiro-Paraguaia) to study the economic, technical and legal feasibility of the endeavor. Although the Commission was staffed in May 1967, it was not until the early 1970s that serious studies began. The Brazilian representative was General Amyr Borges Fortes, later nominated for the Administrative Council of Itaipu Binacional company, and the Paraguayan representative was the president of ANDE (Administración Nacional de Electricidad), Engineer Enzo Debernardi, (together with three other specialists from each country), which demonstrated the Brazilian military preoccupation with security and development.

However only after Médici took office (in October 1969) did the project take off. Médici nominated Gibson Barbosa as his Minister of Foreign Relations and José Costa Cavalcanti was shifted from the Ministry of Mines and Energy (1967-1970) to be

Médici Minister of the Interior -- the agency in charge of regional and frontiers development, to which Itaipu fit perfectly. Only then Eletrobrás and ANDE signed a protocol designating an Executive Committee with powers to contract feasibility studies with foreign engineering consulting firms.¹⁹

The 1971 Partial Report showed that more than 50 sites in the Canyon were feasible for the construction of the project. One of the two main alternatives considered building a single dam at the Itaipu site, while the second recommended the building of two dams -- one at the Santa Maria Rapids, using the 60 meters fall from the Sete Quedas Falls, and a second dam near Itaipu, with another 60 meter fall.²⁰

According to an electric power sector official, one of the technical staff at the Treaty of Itaipu, the second alternative, though providing more output per unit cost, had the political disadvantage of dispersing resources. This alternative would require more firms executing the civil works, and contractors were not willing to transfer part of their potential profits to other firms. Since the engineers at the Executive Committee and their counterparts in the private sector (mainly the engineers within it) wanted Itaipu to be the "project of the century" the single dam alternative was chosen. "The engineers bunch wanted it!" ("A engenheirada quis!") was mentioned by an electric sector official used to mean not only that the technical aspects were considered but the financial and

technical aspects as well of performing a grandiose project. With two power plants the contractors's profits would have been smaller.²¹

2. Argentina-Brazil Relations and Itaipu Decision-Making, 1966-1973

Brazil and Argentina have historically been rivals in the Paraná Basin. Their Armed Forces have been suspicious and tried to outwit each other for decades. In the 1960s, when Argentina's economy lost its primacy to the Brazilian economy the relations between them soured. Brazil came to replace Argentina as the supplier of economic, cultural and military assistance to the smaller countries of the area.

The Itaipu project only exacerbated that trend. Increased Brazilian activism in the region, specifically with the common-pool waters of the Paraná River fueled Argentina protests and suspicions of Brazil's strategic interest in the area, namely to secure Paraguayan and Bolivian (and to a lesser extent, Uruguayan) markets for Brazilian manufactured goods and services, as well as aiding their Armed Forces with training and equipment.²²

Right after the Foreign Relations Ministers's Meeting in Buenos Aires in February 1967, Argentina repeatedly diverged with respect the use of the Paraná waters. As the downstream country, Argentina proposed the establishment of certain

principles by which Argentine rights would be secured. Argentina has favored the attainment of a global solution, that is, a tripartite accord reconciling the interests of Brazil, Paraguay and Argentina. Argentina's main concern, right after the signature of the Ata da Cataratas was better depicted as being a

protective move against eventual unilateral utilization of those resources by Brazil which could impair its own use [Argentina's]."²³

Despite public protest and enraged attacks by extremist reactionary Admiral Isaac Rojas and newspapers staging a public anti-Brazilian campaign; EL Clarin (30 September 1968) mentioned that the river navigation would be seriously affected, water pollution from factories installed along the river would reach Buenos Aires, the Port of Rosário would have to stop its activities and even the waves from the turbines would affect Argentina, probably flooding would occur. Argentine diplomacy worked with more reasonable arguments. They defended the principle of prior consultation in order to evaluate possible inadvertent flooding on another riparian country. In the Salto Grande Accord (the hydropower plant built on the Uruguay River between Argentina and Uruguay), Brazil was brought in to agree to prior consultation with those downstream countries in cases which might cause severe damages.²⁴

Such was not the case with Paraná River, however. Brazil was opposed to the principle of prior consultation because Brazil was pressed to use this energy source (93 percent of the electric power generated is hydraulic²⁵) in order to meet a growing demand derived from rapid industrialization. Moreover the military strategic interest of security and eventually making Paraguay a buffer zone -- likewise Uruguay -- was paramount.²⁶

For Brazil the principle of indivisibility of water resources existed only for countries sharing common border-waters, as was the case between Brazil and Paraguay, Argentina and Paraguay in the Paraná River, and Argentina and Uruguay in the Uruguay River. If Brazil had accepted the principle of indivisibility of shared resources and prior consultation, Brazil would have relinquished its sovereignty and granted Argentina a veto power over any Brazilian action with respect that resource, over and above the cases of negative spillovers. The fact of a sudden drop in the volume of waters in the Iguazú Falls caused by the diversion of the river to build Jupia and Ilha Solteira in 1968, prompted the Argentinians to press their case further.

Between 1969 and 1973 a convoluted diplomatic and legal dispute over the controversial issue took place.²⁷ Stroessner continued to play his pendulum diplomacy²⁸ having been to Buenos Aires to talk with Argentine president Alejandro Lanusse about Yacyretá and Corpus, which provoked even further Argentine

resentment. At stake was Argentina's historical influence over Paraguay and a struggle over hegemony in the region. Itaipu (or a dam to be built between Brazil and Paraguay as it was not yet decided) represented the way in which Brazil asserted its hegemonic ambitions.²⁹

The 1971 Declaration of Asunción and additional documents of the Coordinating Committee, signed by the Chancellors of the Paraná Basin Countries reinforced Brazilian positions of applying the principle of prior consultation only for contiguous jurisdiction cases and the principle of avoiding "sensible prejudice to the other states of the Plate system" in the case of consecutive jurisdiction.³⁰

However, internal strife in Argentina led Lanusse to make concessions to the Peronists, who were staging a comeback by 1972, which deeply concerned the repressive, exclusionary military regime of Brazil. Due to continued disagreement over the use of common-pool resource, the Argentineans took their case to the June 1972 United Nations Conference on Human Environment, in Stockholm where an agreement could not be reached by both parties, who then referred that draft about the principle of mutually sharing information on the use of the natural resources to the UN General Assembly which met later that year. Symptomatically, the Brazilian delegation was headed by Interior Minister, José Costa Cavalcanti.

But before the General Assembly met, both parties agreed to the principle of prior consultation only between contiguous countries and, in the case of severe damages, for countries with successive jurisdictions.³¹

3. The Treaty of Itaipu and the Political Context

The signature of the Treaty of Itaipu was expedited by the election of the Peronist candidate Hector Cámpora in the Argentine 1972 presidential elections, an important event in the decision-making process for Itaipu Project. The Treaty was signed on 26 April 1973 by Stroessner and Médici in Brasília, one month before Campora's inauguration in Buenos Aires. Most diplomats and state officials believe this did not occur simply coincidentally.³² The Argentine Ambassador in Brasília was recalled to Buenos Aires as a protest, and even before Cámpora took office, Argentina denounced the "shameful New York Accord" as detrimental to its interests as a user of common-pool waters and "submitting Argentina to accept the demands of continental subimperialism."³³ Argentina feared losing the river as a vital means of transportation between the Northeast Provinces (or Paraguay for that matter) and Buenos Aires, and that the Itaipu construction would hinder the construction of its own power plants in the Paraná River (Corpus and Yacyretá).

The good relations between Brazil and Paraguay were not restricted to the construction of Itaipu or building bridges or smuggling of luxury items in and out of the country. Médici's Minister of the Army, Orlando Geisel (brother of president-to-be Ernesto Geisel) promised military help in case Paraguay suffered an external aggression³⁴ since both regimes were anti-Communist, repressive, exclusionary and against the Leftist trend sweeping Chile (Unidad Popular), Uruguay (Frente Amplio) and principally Argentina (Peronist Party). One week later, Allende was ousted in Chile with the involvement of Brazilian security forces not only during the overthrow but also in the following harshly repressive years.

The signing of the treaty, however, was viewed as a confrontation by Argentina. The Peronists, resolved to reinstate their previous influence with the smaller countries of the Basin area, pushed for an autonomous foreign policy, non-alignment with United States' foreign policy and the adoption of a pro-Third World posture. Argentina took its complaints against the Treaty of Itaipu to the 1973 Algiers Conference of the Non-Aligned Countries and to the 1973 UN General Assembly, having approved in both fora, resolutions which called for cooperation between countries sharing natural resources, systematically conducted by prior consultation and mutual sharing of information. This was viewed by Brazil as another attempt to hinder the construction of Itaipu.

However, Brazil was in an advantageous position with respect to the Paraná River, and Brazil's historical concern for a Spanish-speaking alliance in the Southern Cone influenced the military regime's concern for security and sovereignty in the area. Brazil's military regime took advantage of its ideological continuities with Stroessner's government and projected its economic supremacy by embarking on the largest single Latin American project, roughly estimated at US\$ 3 billion at that time. In spite of Third World and UN fora support of the Argentina's grievances, the latter were ineffectual as Argentina failed to obtain Paraguayan support of its views.

The novel binational entity -- Entidade Itaipu Binacional -- was created in May 1974, with its capital equally divided between Brazilian Eletrobrás and Paraguayan ANDE (Administración Nacional de Electricidad). Because of Paraguay's inability to raise US\$50 million in its capital market, Brazil lent the Paraguayan share in the enterprise. The additional investment capital needed would come almost exclusively from Brazil, both from its domestic capital market and from international commercial loans. No loans came from the World Bank or the Inter-American Development Bank for the project.

Itaipu Binacional is managed by a council and an executive board of directors made up by an equal number of representatives from both countries. The bylaws devised a system of rotation between Brazilian and Paraguayans directors in such a

way that neither would have greater control over the other. However, since its inception, Itaipu's Director-General has been Brazilian, either General José Costa Cavalcanti (retired) (May 1974-May 1985) or General Ney Braga (retired) (1985+) with Engineer Enzo Debernardi as Deputy Director-General since 1974. Furthermore, Brazilians occupied the most influential positions in the Administrative Council, and the Technical, Financial and Coordinating executive directorships, "the most important ones in the phase of implantation of the project."³⁵

The years of 1974-75 represented a watershed in the Itaipu policy-making process. The decisional phase of the Itaipu development project had ended -- although the cycles and height decisions were still to come.

The variable of relative state autonomy in this phase of the process refers to the international relations context referred to in the beginning of this chapter. Brazilian diplomatic and military interests were critical and determined the policy output. Itaipu could have been more than just a project contemplating, on the one hand, national security and regional hegemony, and, on the other, technical or economic demand: this project could have facilitated political integration for the Basin countries. Instead the project, derailed by ideological and geopolitical character of the National Security Doctrine, only awakened "rivalry and mistrust."³⁶

C. Implementation of Itaipu: Interest Accommodation Among
Basin Countries and the Influence of Construction and
Capital Goods Industries

1. National Interests Accommodation

a. Brazil-Paraguay and the Question of Cycles. The Treaty of Itaipu and the Itaipu Binacional were just the initial act of the implementation of Itaipu. However there were still national interests to be reconciled. The Treaty of Itaipu stipulated the distribution of energy but it did not mention anything on how the energy would be generated and/or delivered by Itaipu to each of the two national electric power utilities, Eletrobrás and ANDE. Moreover, no mention was made about the fact that Brazil and Paraguay consumed energy at different frequencies nor mentioned in what frequencies would Itaipu generators produce electric power. This was in all likelihood premeditated on the part of Brazil. The foreign-owned LIGHT converted 50 cycle-to-60 cycle in the city of Rio de Janeiro (1965), which at the time had approximately the same power demand as Paraguay in 1975.³⁷ Brazil expected to raise the issue when it would be more beneficial for its own interests and expected to convince Paraguay to change over its frequency adopting the Brazilian 60 cycles. In such way, Brazilians expected to use a technical solution to its advantage by creating a market for Brazilian equipment and manufactured products.³⁸

Stroessner and the Paraguayan elite viewed Itaipu "not [as] a business but an opportunity for the development of Paraguay" so the distribution question was not raised at the talks once Paraguay lacked the technical expertise and the sharp difference on industrialization level dissuaded any competition. Stroessner also let the question linger as he could use it to Paraguay's advantage at the negotiating table with Argentina and Brazil.³⁹ It was following up on that strategy, that Paraguay signed the Yacyretá Treaty in December 1973 with Argentina, a few months after the Treaty of Itaipu was signed, and drew heavily on the latter as a path-breaking legal instrument.

Brazil and Paraguay then agreed to build the 18-turbines, 700-MW generators, nine on the Paraguayan side of the river and 9 on the Brazilian side of the river. According to an official who was instrumental in the signing of the Treaty, Itaipu Project had the unique feature of,

whatever was done in the Brazilian side, and was necessary, was unnecessarily repeated on the Paraguayan side.⁴⁰

Annex C of the Itaipu Treaty mandated Itaipu Binacional to sell one half of the energy generated to ANDE and half to Eletrobrás's regional subsidiaries, Furnas and Eletrosul (Centrais Elétricas do Sul do Brasil). The first US\$ 3.5 billion credit line was opened from Eletrobrás to Itaipu Binacional when Geisel visited

Asunción on December 1975 to sign the Treaty of Friendship and Cooperation (Tratado de Amizade e Cooperação).⁴¹ A special credit line was opened at the Banco do Brasil in Asunción for Paraguayan industries to buy Brazilian industrial products and improvement of the roads of the neighboring States of Paraná and Mato Grosso do Sul was also included in that Treaty.⁴²

As a result of this agreement, Brazil asked Paraguay to change its frequency to 60 cycles for which Brazil would compensate Paraguay. This solution seemed the most economical to Brazil, as the Brazilian government was prepared to pay US\$ 130-150 million in cash and provide financial and supplier's credits. Stroessner played the pendulum diplomacy once more. At his request, he met with President Geisel (11 April 1977) and demanded a compensation of US\$ 300 million cash, financial and technical assistance to explore hydropower from the Monday River near Itaipu for its own use and military hardware and training.⁴³ The Brazilian government perceived that this was another of Stroessner's double-dealing, since, if Brazil did not agree to the deal, Paraguay would be free to sell the surplus of its share to Argentina, using the same 50 cycles frequency.

In the final analysis, this meeting ended laconically and no decision was taken. The Paraguayan Union of Industries manifested its discontent with the proposed change to 60 cycles because it would mean their complete surrender of political and economic sovereignty to Brazil. That was the insinuation needed

by Stroessner to rally around the internal nationalist discourse.⁴⁴ Soon after General Rafael Videla, Argentina's strongman, visited Stroessner and a note was issued stating that the change of Paraguayan cycles would hinder joint Paraguayan-Argentine projects in the Paraná River.⁴⁵ Brazil had emphasized the conversion to 60 cycles but expected a nationalist reaction, as in fact occurred.⁴⁶

In November 1977 Antonio Carlos Magalhães, Eletrobrás president announced that Brazil would adopt a dual system for transmission of Itaipu energy, in view of new technology in transmitting bulk, high-voltage direct current through long distance lines. In all probability resources from European banks (including the French agreement for Tucuruí and for Northeastern power plants, as discussed in Chapter VI) were involved since Eletrobrás procured foreign loans in whichever way in order to fulfill government macroeconomic needs. Geisel finally decided against conceding to Stroessner demands because: i) that technology would help in the development of know-how for future transmission lines from the Amazon Region, where a 100,000 MW potential was waiting; ii) he disliked Stroessner's proposal of building a dam for Paraguay's own use near Itaipu.⁴⁷ The costs for this system were much higher than what Stroessner had asked. The bid, won by a consortium of a Swedish firm (ASEA) and its Brazilian subsidiary together with the Brazilian Promon which would build the civil works of the lines, was originally tendered

at US\$ 850 million, but that cost has escalated to US\$ 3.5 billion, of which US\$ 2 billion were already spent by 1987. This decision, although based on American, Swedish, Canadian and Soviet prior experiences, was the first to utilize super-high-voltage (625 kilovolts) on a 840-kilometers distance.⁴⁸

b. Brazil-Argentina and Height Issue. Brazilian-Argentine relations had not improved since the beginning of the civil works at Itaipu site and deteriorated with the return of the military, by means of a coup d'etat against Isabelita Peron in March 1976. Argentina advocated that the height of Itaipu dam would hinder its development of the Corpus hydro-power plant. At root was the issue of a geopolitical rather than a technical nature. Brazilian-Argentine relations only improved after President Geisel and Brazilian Minister of Foreign Relations Antonio Azeredo da Silveira left office in March 1979.

Although Brazil and Paraguay largely ignored Argentine protests with respect to Corpus, Paraguay and Argentina had signed the Treaty of Yacyretá in December 1973. The upcoming decision on the generators imposed a tripartite solution -- a technical solution contained within a larger political solution.

With the beginning of Itaipu works, a few basic technical decisions had to be made -- number of turbines, generators' frequency, specifications of complimentary equipment --, which made Argentine-Brazilian confrontations more evident.

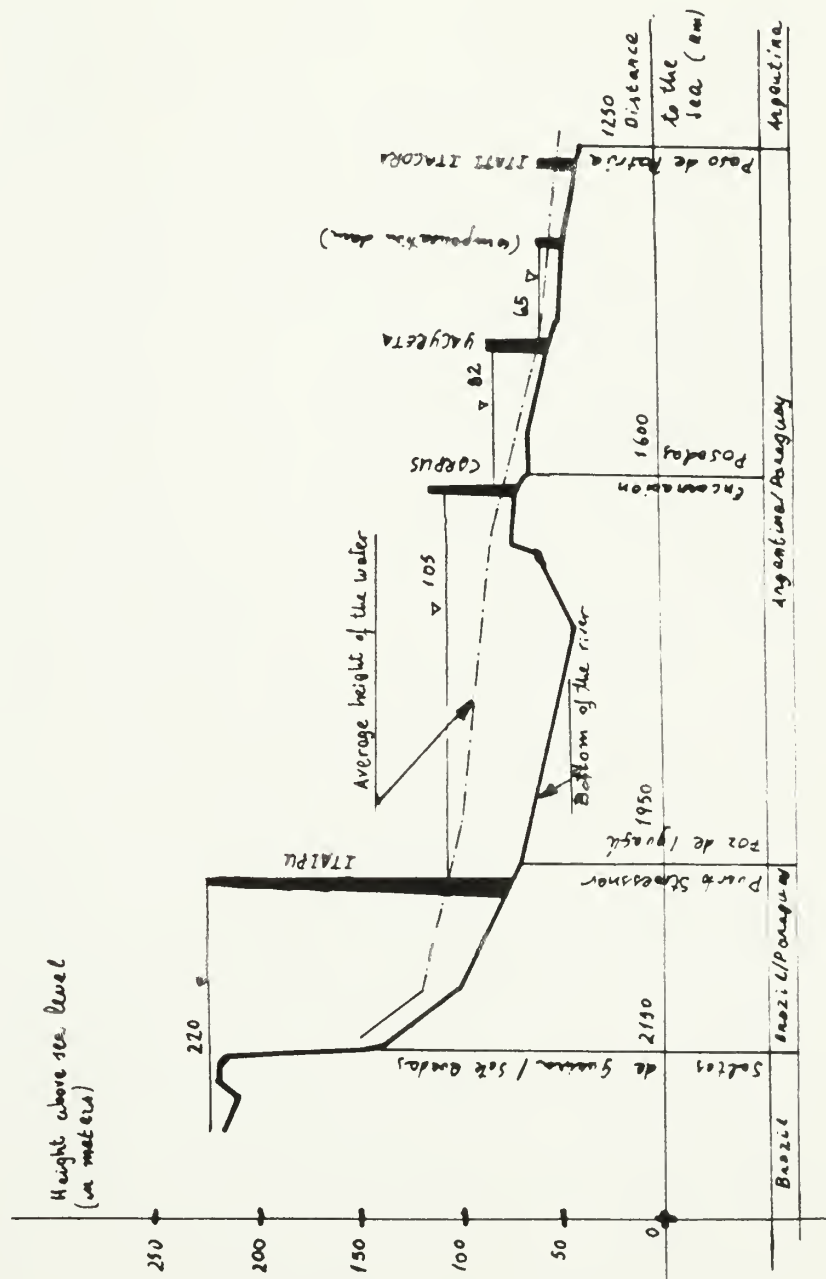
Itaipu and Corpus interdependence naturally raised the question of the maximum height which would entail the most efficient use of the common-pool resource. The potential energy of a hydro-power plant depends on the fall measured by the difference between the levels of water above and below the dam and on the volume of water that flows through the river. In Itaipu, Brazil and Paraguay agreed to build the dam at the point where the fall was 120 meters above sea level.⁴⁹ That limited Corpus height to 100 meters above sea level, what caused Corpus to loose 1,900 MW, or 1/3 of its power capacity.⁵⁰ Considering that the level of water which provided Yacyretá with its maximum output (4,050 MW) was 82 meters above sea level then the fall of Corpus could not be more than 18 meters. Feasibility studies done by Argentina indicated that the maximum efficient use of the waters would be an upstream level of 120-130 meters and a downstream level of 100 meters, giving Corpus its maximum capacity of 6,400 MW. The optimal solution for Argentina, then, was to raise the level between Itaipu and Corpus to 130 meters what would have made Corpus even more feasible. However, that would cause the flooding of Itaipu's turbines since they were already defined in a specified master executive engineering project, in addition to flooding fertile Brazilian and Paraguayan lands, and hindering the use of power plants in nearby rivers. Therefore this interdependency required a tripartite negotiation among the three countries.⁵¹

Negotiations on the trilateral accord began in September 1977 in Asunción at the Meeting of Foreign Relations Ministers and they ended with the signing of the Accord Itaipu-Corpus in Ciudad Presidente Stroessner, at the meeting point of the three countries on 19 October 1979, when Figueiredo had already taken office in Brazil. The most feasible height to Itaipu and Corpus was 105 meters above sea level which caused the smallest reduction of Itaipu's output.⁵²

Argentineans were particularly worried about what would happen when the sluices of Itaipu were closed to fill up the lake in 1982. They were concerned that the water level would lower so much that the ports of Rosário and Corrientes would have to close down. Moreover the whole navigation on the river would be endangered. The Accord of the Heights (Acuerdo de las Alturas de Itaipú y Corpus) addressed this responsibility question. Notwithstanding the political solution to a technical problem, what was truly important to an Argentine high official was the new standing on which Brazilian-Argentine relations rested. As he stated,

More than the definition of the heights, indubitably important, the 1979 Treaty represented a new beginning of cooperation on the nuclear field, in the exploration of the Antarctica, and on economic integration. The tripartite accord created the climate of exchange.⁵³

FIGURE 5.1
BINATIONAL HYDRO-POWER PLANTS



That was a fundamental change from confrontation to cooperation, a qualitative improvement in the relations between Argentina and Brazil. That was followed by a May 1980 intergovernmental accord in areas of nuclear cooperation, and mutual consultation on joint development of the Uruguay River; interconnection of electrical system; building of a bridge over Iguaçu River directly to Argentina; cooperation between both state steel-making companies, military hardware and the forming of a permanent consulting body between chancellors. It should be noted the difference of style between Geisel's Minister of Foreign Relations, Ambassador Antonio Azeredo da Silveira -- who served in Buenos Aires during the early 1970s and was aggressive towards Argentina -- and his successor during the Figueiredo Administration, Ambassador Ramiro Saraiva Guerreiro, who was more amicable to Argentineans and implemented a more cooperative policy,⁵⁴ although difficulties are always recognized.

2. Capitalist Development and Brazilian, Paraguayan and International Interests

The construction phase in the Itaipu Project began in 1974 and is to finish in 1991 when the last turbine will be installed. In 1986 Itaipu was almost four years behind its 1975 original schedule which stipulated the last turbine to go on line by 1988. Political and financial problems repeatedly delayed the construction, in spite of Itaipu being a priority project.⁵⁵

The comparison between the 1975 planned costs and the 1987 debts is illustrative of the dimension of the project and of the interest it provoked among many groups and actors in the economic sphere. As Table 5.3 shows, at the outset of the Itaipu Project its cost was estimated to be US\$ 4.24 billion, including interests during construction. Thirteen years later that cost soared to US\$ 21.3 billion.

TABLE 5.3

ITAIPU BINATIONAL PROJECT
COST ESTIMATES AND DEBT

US\$ billion

ITEMS	COST ESTIMATES		DEBT
	June 1974	January 1976	1987
Total Direct Cost Engr. works, technical supervision and ad- ministrative	2.87	3.47	8.5
Financial Cost during construction	1.37	1.66	6.8
Transmission Lines*			3.5
Investment Necessary to complete the project**			2.5
TOTAL	4.24	5.13	21.3

Source: Itaipu Binacional, Relatório, various years. 1987
Financial Statements.
* Including interests.
** As of 1986.
In current US\$.

This amount of resources stirred interest not only in both countries but also worldwide. As Minister Dias Leite stated,

After the Treaty of Itaipu was signed it seemed that the representatives of the international banks crawled from under my bed offering money.⁵⁶

From the start, the Itaipu project used international consulting, financial, and industrial goods and services. The feasibility study was conducted by the International Engineering Company -Electroconsult consortium and it involved four Brazilian and six Paraguayan firms.⁵⁷

Internal and international capital goods and financial institutions involved in this project have been negotiating since 1976. Technical decisions on the number and frequency of the turbines and generators were frequently influenced by the political and diplomatic decision-making process. The process slowly evolved in search of a solution which would converge demands and conditions imposed by Brazil and Paraguay as well as the dynamic of internal interests to the two countries.

In view of the worldwide 1976-1978 recession, the international capital goods industry was avid for orders, and Itaipu seemed a project which would meet that need. The international capital goods manufacturers and their national subsidiaries formed pools for supplying the machines and

equipment needed by Itaipu, in a model similar to what was examined by Newfarmer.⁵⁸ The Itaipu Electromechanical Consortium (CIEM, Consórcio Itaipu Eletromecânico), a pool of Paraguayan, Brazilian, and European firms (see Figure 5.4) was responsible for manufacturing, delivering and supervising the assembly of the 18 turbines and generators, plus complementary equipment. The Brazilian capital goods industry, probably the most impacted by the Itaipu project, was transformed as a result of the Itaipu project, both in organizational and technological terms.⁵⁹

An amount of US\$ 1.55 billion was estimated in 1978 as the total needs of the equipment excluding engineering project costs and other complementary expenses.⁶⁰ Since there are still US\$ 2.5 billion to be spent on Itaipu until the last machine goes on line that was a conservative estimate, even considering devaluation of the dollar. At the signing of the contract, in 20 October 1978, this represented the finalization of a long, protracted process in which political and economic interests had to be reconciled among the companies that fashioned the consortium.⁶¹ To demonstrate how politically important were the negotiations of the Itaipu Project, sixteen executive meetings between Itaipu Binacional and CIEM were held between February and October 1978. The Executive directorships of Itaipu participated directly in price negotiations, conditions of

BRAZIL:

- Mecânica Pesada (leader)
- Bardella SA Indústria Mecânica
- BSI Indústrias Mecânicas
- Indústria Elétrica Brown Boveri SA
- Siemens SA
- Voith do Brasil SA - Máquinas e Equipamentos

PARAGUAY:

- Consórcio de Ingeniería Electromecánica (CIE) - assembly of components manufactured abroad; at times just handling; amounted to 10 percent of the total operation.

EUROPE:

- Brown Boveri & Cie. Ltd. (Baden-Switzerland)
 - " " " " A.G. (Mannheim-West Germany)
 - Siemens (Aktiengesellschaft A.G.) (West Germany)
 - J M Voith GmbH (West Germany)
 - Creusot-Loire/Neyrpic (France)
 - Alsthom Atlantique (France)
-

Source: Itaipu Binacional, Relatório, 1978, p. 44.

FIGURE 5.2
LIST OF FIRMS
ITAIPU ELECTROMECHANICAL EQUIPMENT CONSORTIUM - CIEM

payment and financing dealings directly with the Brazilian, Paraguayan and international directors of the consortium.

The CIEM consortium received a total of US\$ 930 million (1978 US\$) of which US\$ 750 million were paid to Brazilian firms or to the subsidiaries of the multinational firms. Between 1978 and 1982 Itaipu alone was responsible for 40-to-50 percent of the utilization of productive capacity of the capital goods

industries located in Brazil.⁶² But it was only after Brazil-Argentina negotiations were well underway that the number of turbines was defined (18 plus 2 reserve to be operated during maintenance). The "index of nationalization," that is, proportion of a unit which is produced domestically, was as high as 85 percent for generators, but averaged 75 percent.⁶³

The civil construction part of the process involved Brazilian and Paraguayan firms only, although several international firms were interested; after all, it involved heavy engineering works from which large profits could be made.

In 1973-74, at the outset of the bidding process, five large consortia of Brazilian and Paraguayan firms were pre-selected, considering their technical and financial capacity and from the juridical viewpoint.

The first hurdle the companies had to surpass was to gain Stroessner's political approval. In 1973, Stroessner called for a meeting with officials of the largest Brazilian civil construction companies previously selected (Cetenco, CBPO, Andrade Gutierrez, and Mendes Junior). Upon realizing that "Don Sebastian," as he called Sebastião Camargo, the owner of Construtora Camargo Corrêa -- the largest Brazilian construction company --, was not among them he adjourned the meeting until that company was included among them.⁶⁴ This episode illustrates the collusion between the construction companies and Stroessner military regime in Paraguay. The Brazilian firms in a

series of meetings acquiesced in letting part of the civil works -- especially those on the Paraguayan side -- be accomplished by Paraguayan firms, united under CONEMPA.

In order to legitimize the bidding process, in 1975 Itaipu Binacional opened all tenders presented to the excavation of the channel through which the river would pass while the dam was under construction (Phase I, 1976-78). Since no single firm was able to satisfy Itaipu Binacional's standards, then Itaipu Binacional invited all bidders to form a sole, solidary consortium for the construction.⁶⁵

Itaipu Binacional's rationale for the unified construction considered: i) the size and volume of the works in the first stage, to which no Brazilian company alone was able to undertake, despite their two previous decades experience in large scale engineering projects;⁶⁶ ii) Eletrobrás' credit of US\$ 3.5 billion for this required complex administrative and logistic systems, all of which conduced to the formation of a consortium.

Two consortia were formed in Brazil (UNICON) and in Paraguay (CONEMPA). Since many of the of the works programmed for the second stage entailed similar services to those up to bid in the first stage, then Itaipu Binacional decided to augment the civil works

which were object of the first contract in such a way as to eliminate the need for another bidding process in a short period of time [1978].⁶⁷

This proposal was promptly accepted, and the following Brazilian and Paraguayan firms formed the two consortia.

In December 1975 the Paraguayan firms constituted in December 1975 the Paraguayan Consortium of Construction Companies (CONEMPA - Consortio de Empresas Constructoras Paraguayas, srl), while the Brazilians formed the Union of Constructors (UNICON - União de Construtoras Ltda.)

The Paraguayans were probably the most benefitted from the works. The civil construction sector reached growth rates above 30 percent between 1978 and 1982, reaching 32 percent in 1981.⁶⁸ Itaipu helped the Paraguayan companies to increase their technological level. CONEMPA participated in all phases of the construction but initially it had to invest US\$ 5 million in the purchase of equipment to be used in the construction. That capital was provided by Brazil in the form of suppliers' credits for equipment preferentially produced in Brazil. During the peak of the construction (1978-1982) CONEMPA hired a maximum of 5,000 Paraguayan workers in Itaipu, most of which are now working in the Yacyretá Project. UNICON had a maximum of Brazilian 35,000 workers during the same period.⁶⁹

CONEMPA

UNICON

Paraguay

Brazil

Compañía General de
Construcciones, srl

Cetenco Engenharia SA

Barrail Hermanos SA de
Construcción*

Companhia Brasileira de
Projetos e Obras (CBPO)

Jimenez Gaona y Lima
Ingenieros Civiles*

Camargo Corrêa SA

Ingeniería Civil Hermann
Baumann

Construtora Andrade Gutierrez
SA

Construcciones Viales,
Civiles-Industriales - ECCA
SA (Ingeniería J. C. Wasmosy)

Construtora Mendes Junior SA

Empresa Constructora Minera
Paraguaya (ECOMIPA)**

* One firm until 1981

** Began in 1981

FIGURE 5.3
LIST OF FIRMS. CONSTRUCTION CONSORTIA

Likewise for the assembly of permanent equipment in Itaipu, another consortium of companies was formed, as shown on Figure 5.6. Itaipu Industrial Construction Ltd. (ITAMON - Construções Industriais Ltda - Montagem Eletromecânica da Hidrelétrica de Itaipu) is formed by the following firms:

ITAMON

Montreal Engenharia SA	A. Araújo Engenharia e Montagens SA
SADE - Sul Americana de Engenharia SA	EBE - Empresa Brasileira de Engenharia SA
TECHINT - Companhia Técnica Internacional	SERTEP Engenharia e Montagem
TENENGE - Técnica Nacional de Engenharia SA	ULTRATEC Engenharia SA

FIGURE 5.4
LIST OF FIRMS
ITAIPU ELECTROMECHANICAL ASSEMBLY

Referring to the financial aspects of the project, Table 5.4 shows the vast amount of resources consumed by Itaipu during the its implementation. Comparing the investment made by Eletrobrás (its subsidiaries and associated state companies) to those made by Itaipu Binacional, the resources spent at Itaipu were almost equivalent to those spent for the Electric Power

sector as a whole. As shown on Table 5.5, the origin of resources invested in Itaipu came primarily from credit operations. Although high values are shown for Internal Credit operations they should be viewed carefully, as those are funds transferred from Eletrobrás, which has borrowed abroad heavily during the late 1970s and early 1980s.

TABLE 5.4
INVESTMENT ELECTRIC SECTOR, ITAIPU

	GDP BRAZIL US\$ bn (1)	Eletrobrás Investment US\$ bn (2)	Eletrobrás as % of GDP (2)/(1)	Itaipu Investment US\$ bn (3)	Itaipu as % of GDP (3)/(1)
1971-75	732	12	1.6		0.1
1976-80	1,059	23	2.2		1.1
1981-85	1,202	23	1.9	16.6	1.4
1981	235	4.9	2.1	4.2	1.8
1982	237	5.2	2.2	3.8	1.6
1983	229	4.5	1.9	2.7	1.2
1984	240	3.9	1.6	3.1	1.3
1985	260	4.4	1.7	2.8	1.1
1986-90*	1,580	30	1.8		
1991-95*	2,049	28	1.4		
1996-00*	2,678	48	1.8		

Source: Eletrobrás. Plano 2010. 1987

* Estimates.

TABLE 5.5
BRAZILITAIPU BINACIONAL
SOURCES AND USES OF FUNDS, PERCENTAGES

	1981	1982	1983	1984	1985	1986
SELF-GNTD		-25.7	-40.9	-50.6	-49.1	-67.2
NSG		-31.1	-41.1	-51.7	-55.4	-70.5
OtRes		5.5	0.2	1.1	6.3	3.2
GVT TRSRY		0.0	0.0	0.0	0.0	0.0
CRDT OPTNS		125.7	140.9	150.6	149.1	167.2
Internal		67.6	80.5	57.2	59.7	21.7
Ext+Res63		29.5	16.6	42.8	38.6	77.5
USES						
CAPITAL EXPDT		100.0	100.0	100.0	100.0	100.0
*Inv.		95.5	90.5	74.1	38.5	59.2
*Amtz		4.5	9.5	25.9	39.9	40.8
Int.		0.1	7.8	13.4	7.9	8.7
Ext.		99.9	92.2	86.6	92.1	91.3

Sources: Calculated from SEST, Relatório, various years and from ITAIPU BINACIONAL, Relatório, various years. Percentage of Total Resources.

SELF-GNTD - Self-generated resources = NSG + OtRes
 NSG - Net Self-generated resources
 OtRes - Other resources
 GVT TRSRY - Funds allocated from Federal, State or Municipal sources Government/Total Resources
 CRDT OPTNS - Funds allocated from Credit Operations/Total Resources
 Internal - Credit institutions within Brazil
 Ext+Res63 - Credit institutions abroad and Res.63
 CAPITAL EXPDT - Capital Expenditures = invst + amtzn
 *Inv. - Investments as percentage of Capital Expenditures
 *Amtzn - Amortizations as percentage of Capital Expenditures
 Int. - To credit institutions within Brazil
 Ext - To credit institutions abroad, Res.63 and Av MF/GB588

See Observations p. 197, for explanation on negative values.

D. Implications and Conclusions

The intent of this chapter was to study the decisions regarding the Itaipu hydropower project from political and economic facts to evince the high degree of state autonomy during the decision-making phase and the gradual loss of that autonomy during the implementation stage vis-à-vis powerful private national and international interests -- namely the civil construction, electrical and mechanical equipment manufacturers and financial institutions. The joint Brazilian-Paraguayan Itaipu endeavor is characterized by unique accomplishments referring in particular to the variable state autonomy and its subcategories, political and financial autonomy, and the international context, as established at the outset of this chapter.

It was seen that Itaipu decision and implementation has spanned seven different Administrations and three regimes in recent Brazilian political history -- Quadros/Goulart, Castello Branco, Costa e Silva, Médici, Geisel, Figueiredo, and Sarney. Paraguay, on the other hand, was governed by Stroessner since 1954. In Argentina, a decisive actor in the Itaipu decision, the political regimes have gone from a populist-electoral to a military dictatorship to an elected-Peronist government, to a military-authoritarian, highly-repressive regime, and lately to a transition regime.

The Itaipu decision was conducted in a political climate dominated by conflictive relations between Brazil and Paraguay and Brazil and Argentina, especially the latter. Although this decision stemmed from the fact that energy was necessary primarily to power factory equipment and to supply electricity to homes and public services in the Southern industrial part of Brazil, the final decision in reality stemmed from national security concerns. In the early 1970s, Brazil had the expertise and the political/economic conditions to build several dams along the Southern rivers, thus being able to supply the energy demanded by the region. One of the principal national security concerns was to avoid collusion between Paraguay and Argentina against Brazil, for the simple reason of strategic location of the Brazil/Paraguay border and the extremely fertile soil. Therefore the Brazilian military insisted in making Paraguay a partner in the Itaipu endeavor.

That, however, was not the road chosen by the repressive, insulated, authoritarian regime between 1967 and 1974. Costa e Silva, under the influence of the hard-line faction of the Brazilian military, engaged in construction of the turn-key Angra I Nuclear Power Plant as shown in Chapter IV, and the first step toward defining the construction of large hydropower plant with Paraguay, along the common stretch of the Paraná River. These were two fundamental decisions which reflected the highly militaristic character of the authoritarian

regime, that privileged the ideology of national security and development above all other considerations. The highly autonomous central government agencies of information (SNI, National Information Service) and security (National Security Council), together with the military ministries, were influential in underpinning the Itaipu decision to national security objectives in the Basin region. Politically important to the development project of the military regime, Itaipu was one of the highly visible, grandiose project which the exclusionary, pro-business military regime visualized as bringing economic development to Brazil. Economically, Itaipu policy output was welcomed by the financial capital, by the capital goods manufacturers, both local and multinational, and by the construction firms which depended on hydropower projects.

The decision was taken rapidly when a mistrustful (as perceived by the Brazilian military) Peronist government was ready to take office in 1973, which prompted the signing of the Itaipu Treaty in April of that year. Whereas this was a first step in the decision, it was a decisive step which involved a commitment between the two governments.

Although Brazilian government imposed its bureaucratic and political strength during the Itaipu decision-making phase, in the implementation phase Brazilian state autonomy dwindled, both politically and financially. Itaipu devoured a huge sum of investment, the vast majority being internal and external debts.

That investment represented an important percentage of the Brazilian GDP, primarily during the recession years of 1981-1983 and was particularly significant when compared with investments made by Eletrobrás -- the holding Brazilian electric power company (Table 5.5). More significantly, Itaipu's share of investment during the same period remained at 10 percent (see Table 4.3), but much of Eletrobrás investment was directed to Itaipu (loans, transmission lines). During the late 1970s resources were relatively easier to secure due to the high liquidity situation of the international financial market in the aftermath of the 1974 oil price increase. When the international financial systems signaled the first warning signals in 1980, the highest political post on the electric power sector was changed to comply with governmental priorities. Schulman did not accept the policy and spending orientation set by Delfim Netto and Cals and his substitution by Costa Cavalcanti as president of Eletrobrás reaffirmed the Brazilian government's disposition to maintain international financial agreements and contracts to purchase equipment.

General José Costa Cavalcanti -- a 1937 military academy classmate of President Figueiredo and of Army Minister, General Valter Pires --, held jointly the position of president of Eletrobrás with that of president of Itaipu Binacional, showing a political resiliency which made him survive through successive administrations.⁷⁰ Costa Cavalcanti is probably the

most perfect example of an anfíbio.⁷¹ His nomination guaranteed that the electric sector and the large scale endeavors of Itaipu and Tucuruí would continue undaunted, despite the generalized lack of financial resources. Costa Cavalcanti's nomination was a guarantee to the business community that resources for Itaipu would not stop flowing.

Notwithstanding that voluntarism, it seems that the autonomy showed by Itaipu, or Eletrobrás, in the late 1970s and early 1980s did not match the relatively higher levels of state autonomy of the decision-making phase, 1966-1973, which coincided with the insulated, exclusionary Costa e Silva e Médici terms. During its implementation phase, Itaipu lost political autonomy vis-à-vis business interest and political clientele -- in a similar manner to other central government agencies. Political society, entrepreneurs and workers gradually began forcing more liberalized political stances on the part of the Brazilian government and an administrative openness which demonstrated the weaknesses of Itaipu project. Its gigantism and geopolitical connotations were often criticized despite its need.

The beginning of its operation showed further weaknesses. In late 1982, Itaipu's lake was filled. In 1984, Itaipu installed two 50-cycles turbines, but generating at only 20 percent capacity to supply Paraguay. The transmission lines to the Brazilian grid were only completed in 1985. Repeated cuts

in investments have curtailed Itaipu's financial and administrative autonomy.

For Brazil, undoubtedly Itaipu is and will continue to be an important source of electric power for industrial Southern Brazil. However, Brazil is bearing the full burden of the debt incurred to build it (See Tables 5.5 and 5.6). In 1985 Itaipu Binacional began selling energy to Eletrobrás and ANDE and should have received US\$ 273.4 million dollars; actually Itaipu only received US\$ 9.8 million. The remainder was used to pay royalties and to roll over loans.⁷² If this system of rolling over almost 100 percent of the debt continues, the total amount Itaipu

TABLE 5.6

ITAIPU DEBTS, 1987 BALANCE

TYPE	US\$ 1,000	%
WITHIN BRAZIL		
Eletrobrás	5,715,419	47.4
BNDES/Assembly	529,487	4.4
FINAME/Agents	610,984	5.1
Other	23,355	0.2
SUB-TOTAL	6,879,245	57.1
ABROAD		
Commercial Banks	1,743,126	14.5
Resolution 63	95,284	0.8
Buyer's/Supplier's Cr.	566,776	4.7
SUB-TOTAL	2,405,186	20.0
BANCO DO BRASIL		
Notes - Ministry of Finance	2,763,519	22.9
T O T A L	12,047,950	100.0

Source: Itaipu Binacional, Financial Division.

will owe at the end of its planned life (50 years), will be US\$ 250 billion in 2023, more than double the present Brazilian foreign debt. Thus it will not pay for itself as originally planned.

For Paraguay, Itaipu changed its economic life in a way similar to that of Volta Redonda (CSN) Steel Plant which changed Brazilian economic life in the 1940s. Like Brazil, Paraguay's development can be divided before, during and after Itaipu.

The Paraguayan economy went through boom and bust under Stroessner. During the construction of the dam (1975-1981), GDP annual growth rates reached 11.4 percent in the years 1978-81, the peak of the construction. The so-called Paraguayan "miracle" generated euphoria; the construction sector expanded above 30 percent each of those years; the great majority of Paraguayan private commercial banks were set up at that time. Similarly to the so-called Brazilian "miracle," the Paraguayan counterpart engendered perverse social and economic consequences when Itaipu construction ended.

Since 1982 Paraguayan GDP decreased or barely maintained its previous level. Inflation has risen from 15 to 30 percent. Characteristically, the Itaipu boom was not been used to save and invest in productive activities; Paraguayans preferred to speculate in the financial and real estate markets as well as expanding its informal economy -- particularly contraband.⁷³ Paraguay's fertile soils have attracted 450,000

Brazilian to live and produce on Paraguayan lands, what caused the Portuguese language to be spoken and taught inside Paraguay, whereas Spanish was spoken in the Western portion of the State of Paraná a few decades ago.⁷⁴ Additionally, the Paraguayan foreign debt, which was non-existent until Itaipu began, soared to US\$ 1.8 billion in 1986, approximately the amount which Itaipu brought into the country.⁷⁵ Paraguay is currently using 250,000 KW or 5 percent of the electric power currently produced at Itaipu (4,800 MW). It is not receiving any money to repay the US\$ 50-million loan to establish the partnership. This situation should change in the future as Paraguay is already moving toward a revision of the payment clause.⁷⁶

In conclusion, the state autonomy during the initial decision phase of the Itaipu project gradually eroded, giving way to putting political power and autonomy under some form of control, parallel to what has happened to the central government. The seemingly unchecked financial autonomy of the 1970s was substituted by a controlled form spending by the Brazilian government (SEST) or became subject to macroeconomic guidelines imposed by the IMF. In addition, political parties, labor unions and industrialists reigned in the state autonomy during the last decade of the military regime.

Endnotes

1. - Paraguayan military academy graduates are trained in Brazilian Officer's School (in particular the Army) and the Superior School of War in Rio de Janeiro.
2. - The Paraná River basin is formed by the Paraná River, the main river of the region, Paraguay, Uruguay and River Plate. Several smaller tributaries make up the Basin as shown in Map 6.2.
3. - J. Eliseo Da Rosa, "Economics, Politics and Hydroelectric Power," Latin American Research Review 18 (3):77.
4. - One Gigawatt hour = 1,000,000 kWh. This unit is reached multiplying nominal power (MW) times 8,760 hours-year. Each power plant has a variable factor which adjusts for utilization and peak-hours.
5. - Itaipu Binacional, Relatório Anual, 1986.
6. - Gustavo Ribeiro described the Yacyretá construction process from the anthropological viewpoint arguing that the project did not originate as much development as it constituted a form of production linked to economic expansion, for other than local or regional populations. "Developing the Moonland: The Yacyretá Hydroelectric High Dam and Economic Expansion in Argentina." (PhD Dissertation. The Graduate Faculty of Anthropology - City University of New York - CUNY 1988), p. 242.
7. - Calculated from Consumption Statistics used in the Plano de Recuperação do Setor de Energia Elétrica, Eletrobrás, 1986. Consumption figures were given by Getúlio Lamartine, Director of the National Department of Water and Electric Energy (DNAEE).
8. - See Howard Wiarda and Harvey Kline, Latin American Politics and Development (Boston: Houghton and Mifflin, 1979).
9. - See Luiz Alberto Moniz Bandeira, O Expansionismo Brasileiro (Rio de Janeiro: Ed.Civilização Brasileira, 1979).
10. - One prominent member of the Paraguayan oligarchy, concerned about the issue, declared "Now the Brazilians want to take the river away!" ("Ahora quieren llevarse el río!") in a clear reference to the Paraguayan war one hundred before. Cf. Osny Duarte Pereira, Itaipu: Prós e Contras (Rio de Janeiro: Paz e Terra, 1974), pp. 55-60.

11. - This question is discussed thoroughly by Alfredo Menezes, "The Stroessner Heritage: Brazilian-Paraguayan Relations, 1955-1980." (PhD Dissertation, Dept. of History, Tulane University, 1984), pp. 44-48.
12. - See Jornal do Brasil, 05 January 1966, p. 12.
13. - "The truth is that this fifth fall and the 20 kilometers of the Maracaju Hill behind it have never been demarcated, not in 1872 neither in 1927," stated a Brazilian diplomat. Interview Brasília, November 1985.
14. - On Geopolítica do Brasil (Rio de Janeiro: Ed. José Olympio, 1967 2nd ed.) Golbery stresses that the Argentine province of Misiones is the "field of maximum tension" between the two most antagonistic powers of the region, Brazil and Argentina.
15. - O Estado de São Paulo, 27 November 1985, p. 8.
16. - In 1750, Alexandre de Gusmão changed the maps of the Cortes, favoring Luzo-Brazilian interests. Cf. Luiz Alberto Moniz Bandeira, O Expansionismo Brasileiro, op.cit..
17. - Ata das Cataratas or Acta Final de Iguazú, in Ricardo Canese and Luis Alberto Mauro Itaipú: Dependencia o Desarrollo (Asunción: Ed. Araverá, 1985), pp. 151-2.
18. - Ata das Cataratas, title V.
19. - The Executive Committee was formed by Mauro Moreira, Leo Penna, Frederico Bojanovich, Zoilo Rodos in addition to the technical staff of the Commission. The International Engineering Company (USA) and Electroconsult (Italy) have won the bid.
20. - See Comissão Executiva - Comissão Mista Técnica Brasileiro-Paraguaia, Relatório Preliminar, 1971.
21. - Interview with Eletrobrás official. Rio de Janeiro, January 1986.
22. - Hélio Jaguaribe, "Brazil-Argentina: Breve Análisis de las Relaciones de Conflicto y Cooperación," Estudios Internacionales 15 (Jan-Mar 1982): 9-27.
23. - Maria Regina Soares de Lima, "The Political Economy of Brazilian Foreign Policy." (PhD Dissertation, Dept. of Political Science. Vanderbilt University, Nashville, Tennessee, 1986) p. 358.

24. - That happened in 1960 when Brazil was relatively weaker with respect to Argentina.
25. - MME, Balanço Energético Nacional.
26. - See Meneses, op.cit, p. 84.
27. - See Christian Caubet, Le barrage d'Itaipú et le droit international fluvial (Toulouse, Université des Sciences Sociales - Toulouse I, France, Dec 1983); Laercio Betiol, Itaipu: Modelo Avançado de Cooperação na Bacia do Prata (Rio de Janeiro: Ed. da Fundação Getúlio Vargas, 1983).
28. - See Meneses, op.cit., p. 120 ff.
29. - Veja, 27 July 1977, p. 20.
30. - See Resolution # 25, IV Meeting of Ministers of Foreign Relations of the Plate Basin (Asunción, June 1971) on Jornal da Tarde, August 5, 1972.
31. - That text was called the New York Agreement and was adopted as the Resolution 2995 at the 1972 Session of the UN General Assembly.
32. - Osni Duarte Pereira, p. 268. Interviews, Ministry of Foreign Relations (Itamaraty), Eletrobrás and Itaipu. Brasília and Rio de Janeiro. 1985-86.
33. - See Campora, La Revolución Peronista, op.cit., pp.17,103-4.
34. - Estado de São Paulo, 7 September 1973.
35. - Interview with high Itaipu official. Rio de Janeiro, January, 1985.
36. - Cf. Osny Duarte Pereira, op.cit., p. 283.
37. - See Tendler, op.cit.
38. - Soares de Lima, op.cit., p. 383.
39. - Rosa, op.cit, pp. 82, 92-3 and Soares de Lima, op.cit., p.384.
40. - Interview with J. D. Langier, Rio de Janeiro, 1986.
41. - Estado de São Paulo 5 December 1975.

42. - Ministério das Relações Exteriores - Tratado de Amizade e Cooperação, 1975.
43. - Jornal do Brasil, 12 April 1977, p. 2.
44. - "Brasil Preocupa-se com Paraguay," Jornal do Brasil, 13 April 1975, p. 5.
45. - "Brasília Aguarda Resultados," Jornal do Brasil 20 April 1977, p. 2.
46. - Carlos Marchi, "É Complicado Negociar com Stroessner," Isto É, 21 April 1977, p. 29.
47. - Veja, 16 November 1977, p. 18; "Na Guerra da Ciclagem Stroessner Balança," Isto É, 10 September 1977 and April 16 1980, p. 17-8.
48. - Itaipu Binacional, Relatório, various years; Furnas, Sistema de Transmissão de Itaipu, 1980.
49. - Or a 100 meters difference between the water inlet (220 mts) and the water outlet from the turbines (100 mts).
50. - Veja, 27 July 1977, p. 18.
51. - Rosa, op.cit., p. 95-6; "Itaipu Perde 1/6 de sua Potencia se Barragem de Corpus Tiver Cota de 120 m," Jornal do Brasil, 22 May 1977, p. 8; Menezes, op.cit., pp. 104-9.
52. - "Acordo de Itaipu sai Após 13 Anos de Desentendimento," Jornal do Brasil, 20 October 1979, p. 17.
53. - Interview Ambassador Hugo Caminos. Washington, DC 1987. Caminos was Argentine Ambassador to Brasília during the years Ambassador Oscar Camillion was Minister of Foreign Relations during Roberto Viola's term.
54. - "Figueiredo and Videla querem vincular energia nuclear à soberania," Jornal do Brasil 18 May 1980, p. 22. Figueiredo's visit to Buenos Aires was called "A Nostalgic Visit" ("Visita da Saudade") since Figueiredo's father was exiled there during the Vargas period in the late 1930s.
55. - Itaipu, Relatório, 1975 and 1986.
56. - Antonio Dias Leite, Política Mineral e Energética. (Rio: IBGE, 1974).

57. - Bozio, Chase y Asociados, Consultec, Incopar, Paraconsult, Tecnipar from Paraguay and HidroBrasileira (HidroService), Engevix, Promon and Themag from Brazil.
58. - Richard Newfarmer, Transnational Conglomerates..., op.cit., Chapters XI and XII in particular.
59. - A Brazilian Association of Electrical and Electronic Industry (ABINEE) director stated: "Itaipu was an initiative which gave a tremendous impulse to the national industry." Luigi Di Bonito, Gazeta Mercantil - Relatório Itaipu 10 November 1987, pp. 1-6. Another director of the Brazilian Association of the Machines Industry (ABMAQ) stated: "Itaipu machines demand such high quality control that they imposed greater organization on the part of the firms involved." José Carlos Teixeira Coelho, Gazeta Mercantil -Relatório Itaipu 10 November 1987, pp. 1-6.
60. - Itaipu Binacional, Relatório, 1979.
61. - Interview with high Itaipu Binacional official. Rio de Janeiro, January 1986.
62. - ABMAQ's statistics published in Relatório Itaipu.
63. - Interview with official of Itaipu Binacional, Division of Articulation with the Industry. Rio de Janeiro, January 1986.
64. - Interview CBPO-Norberto Odebrecht official. Washington, 1987. Apparently Stroessner asked "How come Don Sebastian is not among you? Where is he?"
65. - Itaipu Binacional, Relatório 1974-1984.
66. - See Julio Sergio Gomes de Almeida, Estudos sobre a Construção Pesada no Brasil. Relatório de Pesquisa #2 (Rio de Janeiro: UFRJ - Instituto de Economia Industrial/PNPE, 1983).
67. - Itaipu Binacional, Relatório 1974-1984.
68. - Itaipu Binacional, Relatório, various years.
69. - See Gustavo Ribeiro, Developing the Moonland, op.cit. Ribeiro analyzes the use of the peon ("bicho de obra" in the Paraguay/Argentina border area) for the large scale Yacyretá project.
70. - This episode was described in Chapter IV. Costa Cavalcanti explicitly mentioned: "Now that I am Eletrobrás's president Itaipu is guaranteed." That is, Eletrobrás was to give Itaipu investment priority over other generating investment. His

position at Itaipu Binacional was also guaranteed because he considered the project to be "a daughter who I created and I am seeing her grow up." Costa Cavalcanti considered himself "...an optimist. I am lucky and I have friends. It is going to work," referring to the double presidency of Eletrobrás and Itaipu. See "O Costa Quente," Isto É, 01 October 1980, pp.72-74; also related to this subject see "Cals atira e acerta," Veja, 24 September 1980, pp. 122-3.

71. - Anfibios are both retired military officers which pursued a political career and often occupied relevant positions in the military government.

72. - Data from Itaipu Binacional, Relatório, 1986.

73. - It is estimated that contraband accounts for 60 percent of Paraguay's GDP; that is, an additional US\$ 3 billion circulating underground in the country.

74. - Menezes, op.cit., especially Ch. VI "The Ybiará and the Ysupó Are Coming." In Guarany the names mean : Ybiará - the Brazilian settlers who own the land they work on, or when the Paraguayans consider the settlers as the owners of the land on the border between Brazil and Paraguay; Ysupó - the Paraguayan jungle which is full of Brazilians. Cf. Menezes, op.cit., p. 249.

75. - Gazeta Mercantil - Relatório Itaipu, 1987.

76. - See Canese and Mauro, op.cit.

CHAPTER VI

THE TUCURUI HYDROELECTRIC POWER PLANT: POLITICAL POWER, DEVELOPMENT POLICY AND LIMITED STATE AUTONOMY

The infrastructure development project of Tucuruí Hydroelectric Power Project must also be analyzed under the notion of state relative autonomy, as this case-study contrasts with the autonomous decision on Itaipu. During the elaboration and execution of this project the capacity of the Brazilian state to formulate and implement the Tucuruí policy diminished because of factors related to the international interests.

This chapter analyzes how and why authoritarian Brazilian policy-makers decided to build the largest solely Brazilian hydroelectric power plant on the Tocantins River, 300 kilometers South from Belém, State of Pará. This chapter analyzes how the agency for electric power in the Northern region -- Centrais Elétricas do Norte do Brasil S.A. - Eletronorte, a subsidiary of Eletrobrás -- implemented the Tucuruí project even when the international market for metals was in crisis and in face of the critical financial situation of the mid-to-late-1970s, both of which called for careful and sound planning of any grandiose projects, especially with a US\$ 8 billion project like Tucuruí.

Tucuruí was born as an integrated development project. It does not justify itself solely on the basis of supplying

MAP 6.1
EASTERN AMAZON REGION

MAP 6.2
DETAIL OF TUCURUI AREA

electricity to cities and towns of the Eastern Amazon. Sound engineering practice for hydroelectric power plant construction even recommended Tucuruí to be the last dam built on the Tocantins River.¹ The determining reason for building Tucuruí was the high energy demand for the production of non-ferrous metals and the requirements for mining, a overwhelmingly superior demand to that mentioned above.

This chapter is organized as follows: it begins with a brief historical overview of development in the Amazon. This is followed by the decision reconstruction of the mining-industrial, bauxite-alumina-aluminum, energy complex. This reconstruction will examine how decisions or non-decisions have influenced what was decided about Tucuruí. A parallel analysis is undertaken showing how the international interests articulated with the Brazilian state and the national private capital interests, especially in the area of export of industrialized metal products.

Next, an analysis of how the Tucuruí decision was implemented is elaborated. Beginning 1976, two European consortiums of banks and capital goods industries manifested interest in financing Tucuruí. This section shows how and why the international financial capital and the multinational capital goods industry had its eyes on the development of the energy, mining and industrial projects of the Eastern Amazon, and how they related to the Tucuruí project, from a position of political

power. This section also shows that interests within Brazil -- just as powerful as the foreign ones -- articulated around Brazilian contractors and suppliers, were strong enough to prolong and sustain the building of Tucuruí during the crisis years of the early 1980s and even after the 1982 debt crisis.

The chapter ends with a section analyzing some of the outcomes of Tucuruí. Despite facilitating production and export of alumina/aluminum and other minerals, contributing to an increase of foreign currency generated by export of manufactured products, Tucuruí has left a legacy of unresolved environmental and social problems, exacerbated when one verifies that the pollution caused by activities that generate foreign currency will be costly to the environment, thus decreasing the benefits.

Therefore, not only decision reconstruction -- as in the Dahlian pluralist method of policy analysis --, is considered; this case study also considers reputation analysis of the decision-making and implementing elites -- a methodology derived from the joint elite and policy analysis. Therefore, an analysis of the ministerial and presidential action is crucial to fully comprehend the decision-making process in this case. In addition to these two methods, structural analysis is fundamental in this case: the hypothesis that the state could be a provider of the conditions of reproduction of capitalist relations of production in the periphery, internationally and within the country, must be analyzed through structural analysis.

Multinational and large national firms were the beneficiaries of the integrated development mining-industrial-energy project, leaving behind thousands of unemployed workers who had to dislocate once again.

First, it is argued that the decision to build Tucuruí can be empirically determined as a result of the multinational interest in the mining and industrial transformation of bauxite in the Eastern Amazon. It will be determined whether it has been a decision taken by Eletrobrás or Eletronorte directors or resulted from government decision and actions taken by the Ministers of Mines and Energy, Antonio Dias Leite (1969-74) and Shigeaki Ueki (1974-79). Eletronorte, despite its apparent high degree of autonomous formulation and definition of engineering projects, could not rely on self-generated financial resources in the case of Tucuruí; it depended on negotiated pricing policies which curtailed Eletronorte's managerial and technical capacity to define the equipment to be used in the construction.

Furthermore, during the latter part of the implementation under Minister César Cals (1979-85), Tucuruí was delayed numerous times due to lack of financial resources -- in view of the severe balance of payment crisis of the early 1980s and the debt crisis of 1982 --, and because of badly managed environmental issues.

Second, as argued in Chapter II, the government itself dictated the use of its state enterprises as sustainers of growth, in order to maintain the conditions of and to promote

capitalism in the periphery. Therefore the utilization of state enterprises to implement development projects in the 1970s and early 1980s, resulted from a political relationship which limited the state enterprise managers' autonomy to pursue sectoral objectives. Directed from a higher echelon of decision-making, such decisions only partially reflected the interests of Brazilian society. After all, electric energy was needed, but the form by which it was achieved could have been used to distribute resources better throughout Brazilian society. It will be shown how political power was used by the highest hierarchical positions on the state to influence or to obtain actions from state enterprise managers and how firms responsible for the construction of Tucuruí were capable of changing the implementation to serve their particular interests, endangering the environment and social settings, as well as on the part of the interests of financial and industrial foreign capital with respect to their Brazilian clients.

A. Historical Overview

In the Amazon region several myths coexist with bleak realities. Everything there has a sense of vastness, of immense wealth. Since the 1600s it attracted different interests. Spaniards and Portuguese built the first forts in the mouths of the larger rivers, protecting the Amazon hinterland from

exploring expeditions. In the 1700s, settlers tried to enslave the native Indians while the Jesuits counteracted trying to establish a religious nation. The results were whole nations decimated. The rubber boom of the 1800s attracted half-a-million Northeasterner to the Amazon. Even an epic battle to conquer what today is known as the State of Acre from Peru was fought.² In the early twentieth century Brazil nuts, gold and diamonds continued luring thousands to the Amazon El Dorado. However, of those who sought wealth very few became rich or made it back home alive. The vast majority was overwhelmed by the forest, remained planting subsistence crops or entered in the circle of indebtedness of the "aviamento"³ system, which resulted in wealth for few and misery for many. Nevertheless, Amazon myths still attract even today.

Today's explorers are more sophisticated, but the patterns of exploration resemble past ones. During the past decades the Amazon region has seen government-sponsored action in infrastructure, mining and industrial development, which have favored the dynamics of capitalism. Recent Amazon development projects -- a region which comprises 59 percent of the 8.5 million square kilometers of the Brazilian territory but has only 11 percent of the population (3.0 inhabitants per square kilometer) --, were started with the construction of the Belém-Brasília Highway in the late 1950s, as an offspring of the construction of Brasília integrating the North to the South. In

the mid-1960s Herman Kahn, of the Hudson Institute, proposed the creation of an immense lake. The National Security Council responded with the National Integration Plan (PIN), a policy directed to keep the Amazon region under the Brazilian control, in view of these foreign interests. These actions took place under aegis of the National Security Doctrine, fully supported by the harsh authoritarian Costa e Silva and Médici governments (1967-74). In the early 1970s the Transamazon Highway was started, disrupting Indian tribes and leaving a path of misery behind. Daniel Ludwig's floating pulp and paper plant (Jari Project) startled everyone with its trip across three oceans. Recently, infrastructure, mining and agricultural projects cause extensive, uncontrolled deforestation, displacement and relocation of native populations, disrupting their traditions and culture and killing thousands.

When the mineral reserves of the Serra dos Carajás were revealed in 1967 by U.S. Steel, and particularly when the bauxite reserves of the Trombetas River (Oriximiná) region and of the Capim and Gurupi Rivers (Paragominas) region were announced by the Aluminium Company of Canada (Alcan) in 1972 and by the British Rio Tinto Zinc, these companies urged the government to provide energy to explore these resources.⁴ In the case of aluminum alone large amounts of energy were necessary since it accounts for a substantial proportion of the inputs; in the case of mining, it was necessary for electrifying the exploration of

mines and the railroads on an industrial scale.⁵ Most importantly, in the costs of production of a ton of aluminum -- what ultimately determines the profits of the firms -- bauxite accounts for 15 percent (including transportation), alumina for 18 percent, and the other inputs in the final transformation into aluminum 67 percent. Just in the second stage of transforming alumina into aluminum, electric energy accounts for 80 percent of the input costs. Therefore electric energy accounts for 55 percent of the total cost of factors of production of a ton of aluminum.⁶

President Geisel's grandiose development projects were thought to provide the structural requisites that would enable Brazil's entrance into the class of developed countries and world power.⁷ That plan proved to be unrealistic and continued an inequitable development process on social and on economic grounds. In addition, the still unresolved ecological problems caused by Tucuruí turned it into a potential danger as well as learning case for future Amazon development projects.

Tucuruí, the largest solely Brazilian hydro-project, -- a 3,960 MW-power plant in its first phase (2,640 MW in 1988, progressively augmented then on) and 7,920 MW in its final stage (in 1993) --, is the largest single development project in the Amazon region, and the fourth in the world after Itaipu, Guri in Venezuela, Grand Coulee in the U.S. Its dam spans almost thirteen kilometers (eight miles) taming the fast waters of the

large Tocantins River, up stream from its mouth in Belém, State of Pará. Until the late 1960s electric power officials believed Amazon Region rivers were unsuitable for energy generation, believing that the river beds lacked the rock layers where dams and powerhouses could be anchored. In reality, it is now understood that there was a political decision to postpone infrastructure projects in the Amazon, since they were not yet attractive and profitable for the empreiteiros.⁸ The Coordinating Committee on Energy Studies for the Amazon Region (ENERAM), found it unsuitable to build power plants along a 250-kilometers-strip of flat lands on both sides of the Amazon River because of the high flooding risks and environmental damages. The studies, lasting from 1968 to 1971, indicated a potential -- after the 250 kilometers range -- of more than 100 million kW for the region, ten times larger than the total Brazilian installed capacity in 1971.⁹

As mentioned before, the power plant itself was unjustified if it were not linked to the energy intensive mineral and metallurgical projects, since any transfer of electric power among regions required technology for long-distance transmission, then unavailable. Even with impressive population and economic growth rates, the states of the Northern Region to which Tucuruí would supply electricity do not demand large amounts of electric power, as shown on Table 6.2. Still, in the Médici period (1969-74), Minister Antonio Dias Leite began negotiations on the

construction of a hydroelectric power plant on the Tocantins River, then not yet defined to be Tucuruí. Minister Dias Leite negotiated the construction of a hydroelectric plant with Japanese groups in conjunction with the implanting of the alumina and aluminum plants. During the negotiations, Dias Leite invoked the "Law of Participation," mandating beneficiary large consumer industries to be co-investors in infrastructure projects.¹⁰ The Japanese were eager to produce alumina and aluminum in the vicinity of energy sources since the cost of producing aluminum in Japan skyrocketed on the wake of the 1973 oil shock. When Prime Minister Kakuei Tanaka visited Brazil, both governments signed a letter of intention considering an US\$ 800-million financing agreement for the construction of a hydroelectric plant, "but there was no firm commitment on the part of Japan."¹¹ Furthermore, the Japanese groups were more interested in avoiding high transportation costs and escaping strict controls and regulations for producing alumina and aluminum in the advanced countries. Therefore, placing production units near the estimated 7-billion-tons-bauxite mines and near the source of abundant energy, with lax environmental controls suited their interests. Another important consideration was the 1974 prices for bauxite "in natura," US\$ 6-7 per ton; alumina sold for ten times as much, and the price of aluminum was quoted at US\$ 1,000 per ton in the London market, prices attractive enough to

transform the Eastern Amazon into a significant bauxite-alumina-aluminum producing and exporting area.

B. The Tucuruí Decision: A Decision within
a Major Development Policy Decision

When the Mining Code was re-enacted in 1967, one the objectives was to give unprecedented incentives to private mining companies to research and exploit mineral areas, especially in the Amazon while maintaining the state enterprises' rights to explore mineral resources. Before 1967, the foreign companies could explore minerals only if they were associated to Brazilian firms (The 1987-88 Constituent Assembly negated such right). Some of the examples were Companhia Auxiliar de Empresas de Mineração (CAEMI, of the Azevedo Antunes Group) associated with Bethlehem Steel in manganese exploration in the Federal Territory of Amapá and with Hanna Mining in iron ore in Minas Gerais, and Union Carbide (in association with U.S. Steel) and CVRD in the Iron-Carajás project. The association model for mining became commonplace, protected and fostered by the authoritarian regime. In contrast, during the Goulart regime, demonstrations and political resistance were continually staged against the associative model for mining.¹²

Tucuruí was decided during the Ernesto Geisel government, which began March 1974. Geisel appointed Shigeaki Ueki -- who had been the Financial Director of Petrobrás when

Geisel was its president -- as Minister of Mines and Energy.¹³ Geisel's presidency was characterized by the active use of the state enterprises as instruments of economic development policy. In the wake of the 1973 oil shock, the Brazilian state planned its industrial and mining policies within PND II seeking to develop the capital goods industry and the basic inputs sector through large scale import-substitution, and the insertion of peripheral regions into the capitalist relations prevalent for the rest of the country. As Minister Ueki stated,

The large scale production of aluminum would be the ideal solution to the absence of non-ferrous materials -- copper, zinc, tin -- as it [aluminum production] would enable the import of other basic inputs without unfavorable balance of payment repercussions. Therefore government should take the initiative to produce abundant and cheap energy in the region to ultimately produce aluminum.¹⁴

To achieve the objectives defined on the PND II the Brazilian state specifically engaged its state enterprises in the mining sector -- the CVRD and its subsidiaries -- in activities related to substituting imports in basic inputs. Between 1974 and 1976, CVRD was turned into a policy instrument¹⁵ and its capacity was extensively used in development projects located in the Eastern Amazon. CVRD's access to foreign capital and commodities markets was instrumental in engaging the company in several projects. In that period, CVRD diversified into new areas of action according to government objectives. In addition

to new mining projects, new plants for pelletization of iron ore, sea transportation, prospection and engineering, CVRD expanded its activities into the fields of paper and pulp, fertilizers and aluminum, including a regional decentralization contributing to PND II's national integration objectives. We turn to the analysis of the linkage between CVRD, its partners and Eletrobrás/Eletronorte, specifically for the construction of Tucuruí serving the bauxite-alumina-aluminum and Greater Carajás projects.

1. Bauxite

The mining of bauxite in the Amazon started as a result of the 1967 Mining Code which lifted restrictions to giving mining concessions to multinational companies. Alcan (Aluminum Company of Canada) revealed its bauxite deposits on the Trombetas region right after the 1967 Mining Code went into effect, calculated in more than 500 million tons or the equivalent of 50 years exploration at 10 million ton per year. In 1972, the Canadian firm partially pulled out of the Trombetas reserve because of a slump on the international markets for bauxite. Although the decision resulted from the market uncertainties regarding the fuels and mineral areas -- a signal for coming rearrangement of the sector -- the decision also reflected the fact that the Brazilian authoritarian state induced its mining

enterprise, CVRD, to become part of the project, and to incur in expenditures for prospection. Alcan's pullout was an intentional delay waiting for Docegeo (Rio Doce Geologia e Mineração), CVRD's mineral prospecting subsidiary, to assist the multinationals in minerals research in the Amazon. Docegeo spent an annual average of US\$ 15.6 million in geological prospectings of non-ferrous minerals, phosphate and inputs for steel industry during the years 1975-80.¹⁶ While the Brazilian state acted as a "growth sustainer" making knowledge of mineral resources in the Amazon available to the multinationals, it also took care of its own interests. At the same time that CVRD was induced to participate, it gave fiscal incentives and made available knowledge, attracting other investors. Although CVRD participation was justified on grounds of preventing total dominance of the multinationals, CVRD lacked autonomy to decide in the bauxite projects.

Once knowledge of soil was available it was passed along at very little cost to Alcan and other multinational firms. Although Alcan, and a group of other six multinational firms resisted CVRD's partnership, Minister Dias Leite negotiated CVRD participation in the bauxite exploration, and its industrialization before export. They constituted the Mineração Rio do Norte (MRN), in charge of the exploration of bauxite from the Trombetas region. In 1975 CVRD and the partners agreed on the following division of shares: CVRD retained 46 percent, Alcan

19 percent, Companhia Brasileira de Alumínio (CBA) -- the largest aluminum private Brazilian company -- 10 percent, and the remaining 25 percent were divided among a Norwegian, a Dutch, an American and a Spanish firms.¹⁷ By 1986 the composition of state-multinational-local capital on MRN had changed, and the Spanish firm had pulled out:

OWNERSHIP OF MINERAÇÃO RIO DO NORTE

CVRD	-	40%	CBA	-	10%
Alcan	-	24%	Billiton-Shell (Great		
Reynolds			Britain-Netherlands)	-	16%
Metals (US)	-	5%	Norskhydro As (Norway)	-	5%

Source: SEST; Gazeta Mercantil, 13 January 1986.

The initial annual production of this US\$ 300-million-project was estimated at 3.4 million tons beginning 1979. In the first years the output was totally exported but the bauxite was progressively used to make alumina and aluminum, marking Brazil's presence in the aluminum world market; by 1985, 69 percent of Brazil's bauxite production (4.5 million tons) came from the MRN-Trombetas project.¹⁸ Actual investment in MRN by 1981 was US\$ 403 million dollars for the first phase, making it the largest Brazilian firm in mining of non-ferrous metals, and the world's second largest exporter. The expansion of the mining of bauxite up to 8 million tons was linked to the conclusion of the alumina/aluminum projects in the country. In 1983 and 1984, CVRD was negotiating

the MRN expansion of production to 4.7 million tons per year in order to meet Alumar's (Aluminio do Maranhão S.A.) demand of 1.2 million tons.¹⁹ The alumina/aluminum plants -- Albrás/Alunorte and Alumar -- will be discussed in the next section.

Other bauxite reserves, in addition to the 1.7 billion tons Trombetas reserve,²⁰ were discovered by Docegeo on the Almerim region and in the region between the Gurupi and Capim Rivers (Paragominas), the former estimated in more than 0.5 billion and the latter, 2.4 billion tons.²¹ The British firm Rio Tinto Zinc was given concession to explore part of the deposits in the Paragominas region in association with CVRD, forming the Mineração Vera Cruz. CVRD's share is only 36 percent, but its importance is its closeness to the alumina and aluminum plants, Albrás and Alunorte, contributing to the lowering the costs of production. The investment in the Mineração Vera Cruz project was US\$ 300 million aimed at producing 4 million tons of bauxite per year.²²

MRN was a controversial joint-venture from the start despite its important role in the international market. CVRD's position as the largest shareholder did not equate to having much weight in the firm's decision-making. MRN Brazilian partners (CVRD and CBA), despite having 50 percent of the capital always experienced pricing problems. By 1986 CBA's Chairman, Antonio Ermírio de Moraes -- one of the larger industrial entrepreneurs in Brazil and a critic of the military regime -- spoke out

condemning the pricing behavior of the foreign partners in MRN. According to MRN's policy imposed by the multinationals, any changes in price requires approval of 2/3 of voting capital; any capital increase requires 90 percent of the votes. The foreign partners using their oligopsonic strength forced the selling price down, thus obtaining fallout profit in international markets. Ermirio pointed out that

If undeveloped countries like Brazil do not develop a serious policy on bauxite, they will always be mere suppliers of raw materials and exporters of low-priced goods.²³

Furthermore, BNDES decided against financing MRN or entitling it to incentives in view of Alcan's disproportionate decision-making power over the other partners -- namely the right to withdraw from the MRN-Trombetas Project during the first ten years (1974-1984) and the right to acquire as much as 1.2 million tons per year (more than half of the production) at reduced prices on long term contracts just because it was the original holder of the concession.²⁴ The Brazilian state enterprise CVRD therefore lost autonomy in the MRN-Trombetas project, and became weak where it most counted: in the financial decision-making component of that variable and in the capacity to price its own products.

2. The Industrial Projects and Tucuruí Hydro-Power Plant: The Loss of Relative State Autonomy

The aluminum policy of the Brazilian state was a priority on the PND II in view of the pressing need to substitute imported basic inputs to complete industrial development in Brazil. It was a combination of political will of developing the Amazon, producing for the internal and external market, and of foreign producers' strategic transfer of production to the periphery near the bauxite mines and abundant energy sources, in the wake of the 1973 oil crisis. Negotiations for these projects began in 1972-73, accelerated with the Geisel government's wishes of exporting energy with profit from the Northern Region's rivers. Tucuruí was going to materialize part of this plans together with the alumina/aluminum plants implanted near Belém and São Luís, Maranhão, both ports on the Atlantic Ocean facing world markets of the North Atlantic.

As in the bauxite exploration (mining-electric sector linkage), industrial and energy policies were also intertwined for the Northern Region. Since 1977 CVRD's subsidiary Valenorte Alumínio Ltda, originally created (1972) as an engineering and consulting firm for bauxite exploration, became the CVRD holding coordinating aluminum investment in the North of Brazil.²⁵

Negotiations for the processing of bauxite began with Dias Leite, the Minister of Mines and Energy, in 1973. Dias Leite, a kind of CVRD spokesman since he had been its president

during the its greatest expansion period, initially only dealt with Aluminum Resources Development of Japan concerning the production of alumina, which interested the Japanese because of stricter environmental controls. In December 1973, the Japanese demonstrated interest in the production of aluminum as well, since their energy costs at home were rapidly increasing. Soon after Geisel's inauguration, Minister Ueki formed a joint committee involving CVRD, the recently created Eletronorte and the Light Metal Smelters Association (LMSA) of Japan with the aim of performing a feasibility study.²⁶ The five largest companies making up LMSA -- Nippon Metal, Showo Denko, Mitsui, Sumitomo and Mitsubishi -- were looking for alternative sites of production outside Japan; among the sites considered were Venezuela, New Zealand, Australia and Brazil's Eastern Amazon.²⁷ Brazilian long association with the Japanese in steel making (USIMINAS) was a strong asset in the new aluminum partnership. Both countries and the firms did control prices, the investment was highly risky and included the energy factor as well: they were complex and they required the intervention of both governments.

The initial study, with projected investment totalling US\$ 2.6 billion, recommended a two-staged one-million-ton year plant (at US\$ 1.1 billion), an alumina plant (US\$ 500 million), a hydroelectric power plant (US\$ 800 million for a Stage I 1200 MW) and infrastructure (US\$ 200 million, village, roads). The Alumínio do Brasil (Albrás) first stage was projected at 640,000

tons, with half the total investment, an attractive investment considering the international price of US\$ 1,000 per ton in 1974; it would consume 1,200 MW and was going to be built in the town of Barcarena near Belém. The Alumina do Norte do Brasil (Alunorte) was included in the initial study to produce 1.3 million tons annually, but the attractiveness of alumina production was lower since it competed in price with imported alumina. Both were in partnership with Valenorte and LMSA-NAAC.

The euphoria regarding of the initial plan between CVRD and LMSA agreement signed on 17 September 1974 dwindled as the Japanese become aware of the economic downturn as the aftermath of the 1973 oil crisis. Excessive inventories of aluminum worldwide and falling demand turned the aluminum/alumina project in the Eastern Amazon unprofitable at that time, specially considering that the "law of participation" mandating final consumers as beneficiaries to invest in the construction of the hydroelectric power plant.²⁸ LMSA stalled the negotiations while the Tucuruí decision was being drafted. The Japanese withdrew their responsibility for investing in the energy supply, turning the "law of participation" into a dead letter. Three other factors induced LMSA's delay on a decision until 1976: a) both Japanese and Brazilian governments and firms had no control over aluminum prices internationally; b) highly risky investment demanded government action, as presented in Chapter II, and government-to-government negotiations ; and c) as the scale of

production increased, so did the cost of investment and cost of electric energy. All three factors caused Japan's loss of interest in the project. Additionally, an aluminum plant takes three years between its design and commissioning. A Tucuruí-size hydropower plant takes eight to ten years to build, considering the difficulties of construction in the Amazon. This Japanese decision delayed for a year the Brazilian government decision about the construction of the power plant. A statement from Minister Ueki showed some embarrassment with the situation created by the Japanese pull out. He stated that "with or without partners" Tucuruí was a priority program for governmental action.²⁹ Furthermore Ueki specifically mentioned,

We want to break a vicious circle that is happening. There is no industrial project in the Eastern Amazon because there is no electric energy and there is no decision to build the power plant because there are no industries to create demand. Therefore, the government decided to build the hydroelectric plant once and for all.³⁰

Albrás and Alunorte were eventually installed in the 1980s, but not before strenuous long negotiations. According to an Eletrobrás official, the market slump was used by the Japanese to scale-down the project, to achieve preferential electric energy price varying with the aluminum price on the London market, to negotiate supplier's credits to CVRD for Albrás and Alunorte equipment, and to obtain BNDES fiscal and investment

advantages. Albrás and Alunorte were scaled down and the Brazilian government committed itself to the supply energy, to build the infrastructure for the project and to guarantee foreign loans in exchange for eventual export income.³¹

Geisel's 1976 visit to Japan was decisive in materializing the project. It was already clear that PND II was an "exercise in voluntarism,"³² thus Geisel wanted to accomplish a few large scale projects, of which Tucuruí was a show-case example. Albrás -- by then transformed into an association between Valenorte (51 percent) and NAAC, Nippon Aluminum Amazon Corporation (49 percent) -- was built slowly, beginning operation in 1984, and is expected to produce at full capacity (320,000 tons per year) by 1988.³³ Alunorte decision was repeatedly delayed for it was cheaper to buy alumina in the international market. Nevertheless, Alunorte project of an 800,000 tons per year alumina plant, which was integrated to Albrás (Barcarena, Pará), only started construction after Albrás was operational in 1985.

Despite Geisel's reassurance that the Brazilian government was going to bear the full burden of the hydroelectric project and the needed infrastructure -- apparent in Ueki's and Geisel's classification of Tucuruí as "the redemption (sic) of Pará and of all the Amazon"³⁴ -- the Japanese LMSA continued redimensioning the project down to less than 10 percent of what was originally planned in 1974 (40,000 tons by 1981). In 1977

Brazilian restrictions on imports and rising internal interest rates, discussed in chapter IV, frustrated Japanese suppliers who had planned on selling equipment to Brazil.³⁵

Albrás and Alunorte accords on stockholding, technology and sale of aluminum and energy involved Seplan, BNDE, Consider, the National Institute for Industrial Property (INPI), import-export incentives agency (BEFIEX), Portobrás and Eletronorte, and were only signed in 1978. Despite CVRD being the majority stockholder many decisions required approval by 2/3 of voting stock, what in effect gave LMSA control of decision-making.³⁶ Once more BNDE refused to finance the projects and to grant them fiscal incentives. Only in 1980, after BNDES had been transferred to the Secretariat of Planning (adding an "S" for Social in its acronym), could the all-powerful Minister Delfim Netto obligate BNDES to finance the Albrás/Alunorte project.³⁷ The Japanese association obtained from Mines and Energy Minister, César Cals, the guarantee that energy would cost Albrás and Alunorte a price corresponding to a 1/5 of the aluminum price in the international market, during 20 years, without readjustment or increases, income tax exemptions up to 15 years guaranteed to projects in the Eastern Amazon and the provision of infrastructure by the State of Pará.³⁸ In mid-1980 LMSA-NAAC obtained an elimination of the contract clause which stipulated that 50 percent of Albrás production would serve the purpose of substituting aluminum imports to Brazil. Only when this

agreement was finalized, the Japanese NAAC invested US\$ 400 million dollars in the plant.³⁹ In a demonstration of its power over the Brazilian partner, NAAC also secured the purchase of 55 percent of output at 93.5 percent of the international market price with an option to buy the other 45 percent of the output at 96.6 percent of that price.⁴⁰

By 1985, in area of 6,000 hectares, Albrás had invested US\$ 580.7 million of a total of US\$ 1.5 billion. In 1982 the consortium Albrás/Alunorte was extinct and the two plants operating under separate management. Albrás increased its production to 80,000 tons in July 1985 -- a target which had been planned for six years earlier according to the original schedule.⁴¹ Alunorte's investment, estimated at US\$ 700 million, was at the level of US\$ 175 million by 1985, without any indication that it would be profitable to produce alumina, since it could be found at a much lower price than the estimated US\$ 250 per ton coming out of Alunorte.⁴²

Alumínio do Maranhão (Alumar) was decided in 1982, and it was considered to be one of most modern, efficient integrated alumina-aluminum plant in the world, with an annual production capacity of 500,000 tons of alumina and 110,000 tons (Stage I out of a total of three). A totally private enterprise owned by Alcoa (Aluminum Company of America, with 49.9 percent), Billiton Metais (Shell, 40.1 percent) and Camargo Corrêa (10 percent), bought in 1984 from Billiton,⁴³ it competes with Albrás for

external markets, and a portion of the internal market. It has an adjoining alumina plant, Alumar, which will be capable to produce 3 million ton per year of alumina when completed. By 1987 two modules were operating of Alumar.

Tucuruí's engineering design was conditioned by the aluminum plants, as shown on Table 6.1 and 6.2. Eletronorte's engineering had to specify the machines to be used in Tucuruí "backwards, that is from Albrás's point of view."⁴⁴ They worked closely with Japanese specialists from LMSA in the specification of the basic project.

TABLE 6.1

ELECTRIC ENERGY CONSUMPTION-ALUMINUM OUTPUT
(MW - 000 TON)

	ALUMAR		ALBRAS	
	energy	output	energy	output
1984	186	80	32	20
1985	200	100	90	40
1986	460	200	290	120
1987*	486		434	
1988*	486		434	
1989*	558	300	596	320

Source: Eletronorte, Relatório Anual, 1986.

* Estimates.

Energy in MW, Output in 000 tons-year.

TABLE 6.2
PARTICIPATION ON TOTAL ELETRONORTE SUPPLY, (%)

	1985	1986
CEA - Centrais Elétricas do Amazonas	1.95	1.16
EletroAcre	1.53	0.94
CELPA* - Centrais Elétricas do Pará	23.70	14.47
CEMAT - Centrais Elétricas Mato Grosso	11.80	6.87
CERON - Centrais Elétricas Rondônia	3.07	1.74
CELG* - Centrais Elétricas Goiás	0.55	0.58
ALBRAS*	11.15	20.98
CVRD*	0.84	0.80
CEMAR*- Centrais Elétricas Maranhão	15.34	9.62
ICOMI -	0.25	0.14
ALUMAR*	27.90	33.28
Manaus	15.76	10.13

Source: Eletronorte, Relatório Anual, 1986.
* receive energy from Tucuruí.

With the beginning of the industrial projects, Tucuruí's importance was fully recognized. The designing of the Greater Carajás Program, initially elaborated by Japanese consultants,⁴⁵ took into account that the developments planned for the Eastern Amazon were not possible without Tucuruí's energy.

However, according to the data above in Table 6.3 and Table 6.4 one can easily contrast that the income paid by final consumers (Albrás, Alumar) to Eletronorte does not match the energy they receive. Alumar, which is paying 25 mills per KWh (1 mill= 1/1000th US\$ 1.00), consumed 33.9 percent of the total

TABLE 6.3

ELETRONORTE
OPERATIONAL INCOME
PARTICIPATION OF ASSOCIATED COMPANIES AND FINAL CONSUMERS, (%)

	1985	1986
1. ALUMAR	21.9	30.2
2. MANAUS*	33.3	25.5
3. ALBRAS	6.7	12.6
4. CELPA	15.0	11.7
5. CEMAR	10.0	8.3

Source: Eletronorte, Relatório, and Income Statements, 1985-6.
Energy supplied from Tucuruí, except for Manaus (*).

TABLE 6.4

ELETRONORTE
ENERGY SUPPLY
PARTICIPATION OF FIVE LARGEST CONSUMERS, (% of MW)

	1985	1986
1. ALUMAR	27.9	33.9
2. ALBRAS	11.2	21.0
3. CELPA	23.7	14.5
4. CEMAR	15.3	9.6
5. MANAUS	15.7	10.1
6. OTHER FINAL CONSUMERS		7.7
7. OTHER STATE CONCESSIONAIRES		13.9

Source: Eletronorte, Relatório, 1986

Obs.: - Total Eletronorte Supply = 10,254,809 MWh or 1170 MW
 - 38 % to State Concessionaires, Celpa, Cemar, Cemat, etc.
 - 62 % to Aluminum Companies.
 - Manaus, not supplied by Tucuruí, had its own thermal generation.
 - Tucuruí generated circa 80 % of Eletronorte's energy, in 1986.

while it paid 30.2 percent. More strikingly, Albrás is heavily subsidized paying only 13 mills per KWh -- about one fourth of its cost to Eletronorte. The data shows that for an energy

supply of 21 percent it paid only 12.6 percent of Eletronorte's sale of energy in 1986.

The description of the Tucuruí decision highlighted the fact that it was taken as part of the PND II mining and industrial policies oriented toward substituting basic imported inputs and toward the development and occupation of the Eastern Amazon. Those policies however were contingent upon exogenous factors, such as the 1974 oil shock, the ensuing worldwide recession and the environmental regulations imposed to aluminum manufacturing in advanced countries.

International interests prevailed in both MRN and Albrás/Alunorte decisions. The availability of resources for investment in the bauxite-alumina-aluminum complex, its timing -- and more importantly the form by which the investment arrived in Brazil -- dominated the evolution of the decision-making process rather than a voluntaristic political and technical rationale. The elites in charge of the mining, industrial and energy policy coalesced with national and international financing institutions and with mining and industrial groups to agree on this development policy. The resulting Tucuruí policy output is therefore geared to provide the international and national private sector with a crucial, inexpensive basic input -- a basic state role described by Gerschenkron for promoting rapid industrialization and development.

C. The Implementation of Tucuruí

When Tucuruí's first two turbines began generating power on 22 November 1984, that fact was the culmination of almost ten years of implementation of that development project. This section will analyze how the national and international interests have articulated to carry out the project which provided income and profits for the corporations in charge of building and supplying equipment and materiel.

1. Investment Financing and the Influence of the International Banking and Capital Goods Industries

The influence of international banking system on investment financing in the Third World was thoroughly studied by Stallings.⁴⁶ The abundance of petro-dollars in the European financial markets and the advanced countries's economic recession were sufficient reason for the eagerness in finding new and promising markets. Brazil's hydroelectric projects were such interesting and promising markets.

When Tucuruí was decided and its implementation began in late 1975, Eletronorte president, Colonel Raul Garcia Llano, wanted to produce a "fait compli" which would make Tucuruí's construction irreversible. President Geisel and Minister Ueki were committed to its construction, even without the Japanese loans and lawful participation. At that time, Tucuruí was

expected to cost US\$ 2 billion, including the transmission lines which would supply electric power to the alumina/aluminum complex, the Carajás-Itaqui Railroad, to Belém and other cities in the region and a long transmission line to the Northeast in view of exhaustion of Northeastern's hydroelectric potential. Shigeaki Ueki insisted that

...the dimensions of Tucuruí make it the largest project to be executed by Eletrobrás in Brazilian territory, since its value surpasses that of all the ships, refineries and oil pipelines summed up that Petrobrás owns. President Geisel himself referred to just two projects in his latest 'pronunciamento': Itaipu and Tucuruí.⁴⁷

With political support of that caliber, Llano went ahead and began the bidding process for the preliminary civil works necessary before the construction of the dam itself. Construtora Camargo Corrêa won that first bid which paved the way for future bid-winning since it was already installed at the construction site, 13 kilometers of the city of Tucuruí.

In the meantime, an intra-agency rivalry began. During the negotiations involving Eletronorte, Eletrobrás, Ministry of Mines and Energy, Ministry of Industry and Commerce, Ministry of Finance and Planning, it was clear that Eletrobrás was only interested in finding funds for Tucuruí if it could also find resources for the development of Itaparica, a power plant on the São Francisco River, in the Northeastern State of Bahia, in such

a way that it would render political dividends for Eletrobrás's president, former State of Bahia Governor Antonio Carlos Magalhães, and for Eletrobrás Director of Coordination, former State of Ceará Governor César Cals.

Eletronorte, "resulting from the laziness of Eletrobrás in developing Amazon potential," ⁴⁸ sided with the agencies of Ministry of Industry and Commerce, CONSIDER, and its nationalist Minister, Severo Gomes, and with CVRD -- interested in developing Eastern Amazon mines and industrial potential -- trying to find markets for the development of Brazilian basic and capital goods industries, one of the PND II's primary objectives. Severo Gomes announced that Tucuruí and Albrás/Alunorte were going to be delayed for lack of resources, according to the economic policy of the early part of Geisel's term. That gave time for the national aluminum producers to prevent commercial damages. Against this nationalist view of Brazilian development, Antonio Carlos Magalhães, stated that it was the "Ministry of Mines and Energy's responsibility to determine hydroelectric projects, their schedules and their power."⁴⁹

Antonio Carlos Magalhães travelled to Paris with President Geisel in April 1976 to continue negotiations initiated by Brazilian Ambassador to France, former Finance Minister Antonio Delfim Netto. There were two main proposals for financing the construction of Tucuruí from different banks and capital goods industries. The first proposal, involving an

European Consortium⁵⁰ was objected to by Ueki because of its diverse range of equipment suppliers from three different countries (France, West Germany and Italy) that could cause delays.⁵¹ The second proposal was more acceptable and eventually adopted making Tucuruí's equipment be supplied solely from a French group of banks and capital goods firms.⁵² However, both groups were granted Brazilian projects, since the economic recession in Europe and excess liquidity made the negotiations very attractive to the Brazilian authorities. A. C. Magalhães could not resist the political appeal of building another large hydroelectric power plant in his native Northeast (Bahia) and granted the European Consortium the financing and supplier's credit to Itaparica Hydro-Project, built on the São Francisco River, in the Northeast. This was an accommodating solution that pleased Eletrobrás, the foreign commercial banks, equipment suppliers and the construction companies.

Eletronorte, not having participated of the Paris round of negotiations, was suddenly surprised. A high official stated

Those negotiations with the French came as surprise to us and it was stuck down our throat.⁵³

Eletronorte reluctantly accepted this contract with the French since it meant a slim margin of equipment to be built by Brazilian firms, who were already capable of an "index of nationalization" of 90 percent on turbines and 100 percent in

generators, following the guidelines of the Nuclei of Articulation With the Industries (NAI), institutionalized by Geisel at each state enterprise, and of the PND II.

Eletronorte's concerns were seconded and strongly resented by several interest groups, such as the Brazilian Association for the Development of Basic Industries (ABDIB), the Brazilian Association of Electrical and Electronic Industries (ABINEE), and the Brazilian Association of Machinery Manufacturers (ABMAQ), whose directors voiced their discontent for the low share granted to the Brazilian firms on the Tucuruí project.⁵⁴

As a result of the financing and supplier's credits agreement the Brazilian industry could only supply less than 40 percent of total equipment to Tucuruí. Eight turbines were going to be supplied by Creusot-Loire/Neyrpic (330 MW each totalling 2,640 MW for the first stage), with some minor assembly done by its Brazilian subsidiary, Mecânica Pesada, even though formally it was Mecânica Pesada who supplied half of the turbines. With respect to the eight generators that could be totally produced in Brazil, four of them were to be produced in France by Alsthom-Atlantique, and four of them produced in Brazil by General Electric (United States) and Brown Boveri (Switzerland) utilizing internal financing from BNDE.

However the financial scheme obligated the suppliers to uncommon associations. For example, normally the generators manufactured in Brazil by GE and Brown Boveri had their most

sophisticated parts not yet produced in Brazil imported from their main plants, Canadian GE and Brown Boveri-Switzerland. But since Tucuruí's imported equipment was financed by French banks, both General Electric and Brown Boveri had to couple their equipment with some French parts for the two generators each had contracted with Eletronorte.⁵⁵

This unusual financial package was finalized only in late 1978, when the French president, Valery Giscard D'Estaing, visited Brazil. In that visit the agreement between the Brazilian Government and the French banks and manufacturers was signed, but that was detrimental to Brazilian interests. As stated by an Eletronorte official,

Evidently the costs of such an agreement were much higher than they would have been were the contracts made with a simpler scheme of supply.⁵⁶

There is a clear sense here that the French financing and supplier's credits have contributed to the slump in capital goods industries, as have all other loans made to Brazil in the period, beginning a protracted crisis from 1978 on.

The hydro-mechanical equipment of Tucuruí were supplied by Brazilian firms in another package, but the majority of the firms supplying Tucuruí project were subsidiaries of the multinational firms mentioned above. By force of the contract of supply of turbines, generators and transformers, the firms which

were supplying the first package were not able to participate in the second bid.

This process described in this case was a pattern reproduced many times over the latter part of the 1970s and early 1980s. A severe crisis in the national capital goods industry resulted from the fact that loans were tied to supplier's credits. Tucuruí's index of nationalization did not achieve 50 percent as a result of the loans agreed with the European Consortium of banks.⁵⁷ In addition, the dollars entering Brazil via Central Bank caused a spiralling inflation, and a financial "merry-go-round" as financial applications became less risky than productive investments. The political liberalization climate helped the capital goods fraction of the industrial entrepreneurs to endorse opposition banners, to sign the "Manifesto of the Eight," and make statements in favor of the Estado de Direito Democrático and redemocratization.

Not only international banking and capital goods manufacturing interests were operative in the case of Tucuruí project. Brazilian contractors which had been historically linked to infrastructure development projects since the late 1940s were just as eager to participate, as will be seen next. However, they have not coalesced in a consortium, as they did in the case of Itaipu; this time only one major construction company was awarded the contract.

2. Construtora Camargo Corrêa and Tucuruí Project: the blurring of the public-private distinction

When Sebastião Ferraz de Camargo Penteado -- carrying all three traditional Paulista coffee-elite last names -- began his company in the 1930s he could not imagine that Construtora Camargo Corrêa (now the parent company of subsidiaries in agriculture, industry and services) would build numerous dams throughout Brazil⁵⁸ in consortium with other firms or alone, producing 25,400 MW, about half of the 1986 Brazilian installed electric power capacity. The history of Construtora Camargo Corrêa (from now on just Camargo Corrêa) can be traced parallel to the development hydroelectric power sector in Brazil. Sebastião Camargo's personal worth was calculated to be US\$ 1.2 billion, according to a recent Fortune survey.⁵⁹

Since 1975, Camargo Corrêa has been building Tucuruí. Having won the initial bid for the preliminary works in 1975, the company was awarded a construction contract, in January 1977, for the civil works valued in US\$ 1.82 billion. In 1977, all state investments were being scaled down, as we have seen in Chapter IV, except for investment in Itaipu and in Tucuruí, although Tucuruí was delayed for other reasons as will be seen.⁶⁰ Several delays and cost overruns have increased the costs of Tucuruí to more than US\$ 5.6 billion (plus US\$ 3.5 billion on interest yet to be paid), of which Camargo Corrêa received more than 57 percent of that total.⁶¹ Right after the

commissioning of the power plant in November 1984, Camargo Corrêa was awarded -- without any formal bidding process once more -- the construction and installation of Tucuruí Stage II to be built until 1993, but costing only 14 percent of the total.

Camargo Corrêa and Eletronorte worked close together in the solving the logistics problems -- that is, the "Amazonian" problems of building a huge power dam in the middle of a forest whose only means of transportation were military airplanes and barges up the river 300 kilometers from Belém. (The Transamazon Highway passed nearby but it was impassible during the rainy season.)

Camargo Corrêa benefited from the three consecutive years in which unprecedented floods occurred (1978-1980), which increased Tucuruí's costs and schedule of completion at the same time. The first flood, on March 1978, ruined the civil works done, which obligated Camargo Corrêa to ask resources not only to reconstruct what was lost but also to change the construction principle from an "economic height" to a "safest height of the dam" -- that is, adding 13 meters to the total height of the dam --, increasing the costs of the dam by 20 percent, approximately.⁶² Subsequent heavy floods in 1979 and 1980 also delayed construction and forced Camargo Corrêa to layoff and dismiss thousands of workers, resulting in social unrest in the area.⁶³

However none of these problems described above were as indicative of Eletronorte dependence on Camargo Corrêa as the financial backing Camargo Corrêa provided to finish Tucuruí. By 1980, with the definitions of the Greater Carajás Program (including Iron-Carajás, industrial plants, railroad and hydro-power plant) and the pressing need to supply electric power to Belém -- then suffering successive black-outs -- turned Tucuruí an "indispensable" project. But that need was not met with resources by the federal government. As Eletrobrás president, Maurício Schulman stated

The electric sector is pressed for funds, and that's why those projects that can be postponed will be postponed in order to concentrate resources on the indispensable ones.⁶⁴

Despite that fact, Tucuruí's activation was delayed to December 1982, then December 1983 (from 1981), and then again to December 1984. From 1980 to 1982, notwithstanding Costa Cavalcanti's reassurance that the priority projects of Itaipu and Tucuruí were not going to be stopped, repeatedly Eletronorte remained short of resources for investment. As an illustration, in 1979 Eletronorte asked for an investment budget of Cr\$ 17 billion (US\$ 632.7 million); Eletrobrás reduced it to Cr\$ 14 billion; Seplan reduced it to Cr\$ 12 billion and later cut a flat 20 percent from all state enterprise investment. As a result, Eletronorte received only Cr\$ 10 billion (US\$ 372.2 million), 59 percent of

what it had asked for.⁶⁵ This lack of resources had little influence on Camargo Corrêa's ability to continue civil works with its own resources. During three months on the first semester of 1982 Eletronorte did not pay a cent to Camargo Corrêa, which disbursed a total of US\$ 250 million of its own resources. According to Eletrobrás's supervisor at Tucuruí site, Roberto Dourado,

Although a Cr\$ 157 billion-budget (US\$ 875 million) has been approved for Eletronorte during the 1982, only Cr\$ 35 billion (US\$ 195 million) have been actually disbursed up to June 1982, rather than Cr\$ 80 billion (US\$ 445 million) which should have been paid.⁶⁶

Camargo Corrêa avoided paralyzing the construction, but it charged interest of 10 percent a month, plus monetary correction, above interest charges by banks. Camargo Corrêa thus avoided dismissing half of the almost 30,000 employees, a fact which would have caused further severe social problems, what, in fact, demonstrates Eletronorte weakness and its dependency on the contractor, Camargo Corrêa.

Evidently Camargo Corrêa had all interest in keeping the construction going -- eventually Eletronorte's financial troubles would be solved. At the highest point of the feverish construction activity in 1980-81, Camargo Corrêa received from Eletronorte about US\$ 90 million per month, which represented more than 70 percent of all receipts Camargo Corrêa had for those

years.⁶⁷ Notwithstanding this impressive income, Camargo Corrêa did not pay its workers as well as it was paid by Eletronorte. In April 1980, in the wake of labor strikes in the industrial Southeast, some 8,000 Camargo Corrêa workers went on strike for better wages, better food rations and better living quarters. One week of workers protests evolved into riots and looting at the site of the construction. The workers confronted security guards and later the Military Police sent in from the State Capital, Belém, headed by a sheriff from the Division of Social and Political Order (DOPS - a division of the Federal Police Department), to repress the generalized mutiny. The extra official count was 7 dead -- including a woman and child in market looting -- and dozens of injured.⁶⁸

Camargo Corrêa's power and influence can also be depicted not only by what was delineated above but from the fact that this firm has invested heavily in industrial enterprises in the Eastern Amazon region. In 1984 Camargo Corrêa disbursed US\$ 240 million to associate itself with Alcoa and Billiton Metais in the Alumar - Alumínio do Maranhão project. Moreover, Camargo Corrêa was granted exemption of income tax (US\$ 92 million, representing 75 percent of due income tax) provided it would invest in the area. Camargo Corrêa used that to implant a Ferro-Silicon industrial plant near Tucuruí. That location also gave Camargo Corrêa a 15 percent discount on electric power rates, granted by the National Department of Water and Electric Energy

(DNAEE), an important input since the smelting of silicon is a highly energy-intensive activity.⁶⁹

The facts described above demonstrate an important blurring of the public-private distinction. The literature on implementation of public policy has dealt with specific problems of implementation -- namely the problems of communication of ends and means, of resources, of capability, and of political disposition of implementors.⁷⁰ The Tucuruí case is a show-case example of how international actors -- multinational corporations and financing institutions -- have influenced its implementation with over-pricing and restrictive commercial schemes. It also shows how Camargo Corrêa became a surrogate public institution in order to obtain private gains during the 1982-83 debt-crisis.

D. The CAPEMI Case: Military Politics, Presidential Succession and The Environmental Question at Tucuruí

When Tucuruí lake began filling up 2,430 square kilometers (240.000 hectares or an area of 170 by 15 kilometers average) of land it submerged 13.4 million cubic meters⁷¹ of tropical forest with 43 billion cubic meters of water. Besides the worth of the wood, valued anywhere from US\$ 350 million to US\$ 2.5 billion, depending on the estimates done, Tucuruí lake has become one of the largest potential ecological disasters in the history of hydroelectric reservoirs. The environmental

question at Tucuruí was also at the centerstage of political events in the first half of the 1980s.

Tucuruí's lake was not only the largest flooding of a tropical forest but it was potentially the most dangerous case, as pointed out by experts.⁷² At least three other similar cases have occurred before: i) in 1974, the Temmengar dam (Malaysia) was closed inundating the adjacent forest, whose decomposition produced an acid strong enough to break the rotors of the Japanese turbines; ii) in Brokopondo Hydro-Project (Surinam) tons of fish died, and clouds of hydrogen sulfide, methane gas and sulfur dioxide emanating from the semi-dead reservoir waters flooded in 1964, were carried as far as Paramaribo, 100 kilometers from the dam at the delta of the river, intoxicating thousands⁷³; iii) in the Amazon region itself, the small hydro-project of Curuá-Una, near the city of Santarém, Pará where the submerged forest is still bubbling gas and poisoning water since 1977, occasionally preventing operators from getting close to the operations control house.⁷⁴

Technically, the photosynthesis of a torrid tropical sun over that quantity of water, wood and leaves produces an incredible amount of nitrogen and phosphorus in its biochemical reaction. The existing wood and leaves -- which were supposed to be extracted by Capemi Agropecuária, a subsidiary of a private military pension fund conglomerate, CAPEMI (Caixa de Pecúlios, Pensões e Montepio-Beneficente S.A.), especially created for the

Tucuruí project --, summed up 500 tons of biomass per hectare; when that quantity of biomass rots it produces 200 tons of carbon dioxide per hectare, 7,295 kilos of nitrogen per hectare, 450 kilos of phosphorus and 40 tons of plankton, all of which consume an enormous amount of oxygen.⁷⁵ To maintain the ecological equilibrium the waters should be renovated every two months, what has not occurred causing a deficit of available oxygen to prevent fertilization and decomposition. If Eletronorte had not eliminated, for cost reasons, a water passage at the bottom of the dam's main body, the reservoir waters would be continuously renovated preventing that problem. As a consequence of not having done that only the top 15 to 20 meters of the lake are being renewed, leaving stagnant the bottom 50 meters.

That ecological damage called the attention of environmentalist and researchers worldwide: a National Institute of Amazon Research (INPA, Instituto Nacional de Pesquisas da Amazônia) report indicates that only in 1993 will there be an ecological equilibrium after repeated mortality of fish and release of poisonous gas;⁷⁶ the World Bank concluded that environmental and health concerns, adding up to 3-5 percent of a hydro-project total costs, and finally conceded, in 1986-87, to numerous demands of environmentalist groups demanding revision of loans for tropical forest hydro-projects where environmental damages were imminent.⁷⁷

By 1985 there were signs of Tucuruí being an "ecological bomb," resulting from the a series of technical mistakes and omissions, and politico-administrative malfeasance.⁷⁸ In December 1984, only one month after the closing of the dam, scores of fish laid dead at the margins of the lake.

1. Decision Reconstruction and Elites Involved

Tucuruí's " ecological bomb" could have been avoided if Eletronorte and other agencies had power to stop the uses of public resources for political objectives and private gains. Despite deforesting the reservoir being an Eletronorte concern since 1977, only in 1979, when João Figueiredo was already in power, was the decision made to extract the wood.⁷⁹ That decision however, became one of the worst political, financial, administrative and ethical scandals of the military regime, strongly contributing to the "ecological bomb" situation created at Tucuruí.

The agreement between Carlos Galluf, the president of the Brazilian Institute of Forest Development (IBDF), the agency for forest management and control, and Eletronorte to extract the wood coincided with the interests of the small lumber and timber entrepreneurs of the Eastern Amazon -- the madeireiros. IBDF and madeireiros considered that to do the job there were needed 90

small lumberyards scattered throughout the area with an yearly production of 60,000 cubic meters during two years, in addition to the existing capacity of 1.5 million cubic meters in the Southern Pará area. Despite the short length of time the project's return on investment seemed attractive for all involved, but it rapidly diminished as the decision was postponed for political reasons.⁸⁰ By May 1979 local madeireiros found that two years (Tucuruí was then scheduled to be commissioned in December 1981) were simply insufficient to import forest equipment, install the lumberyards, open roads, build ports, make barges for transportation, all of which could easily take one year. Apparently the decision was delayed repeatedly to alienate the local entrepreneurs, as will be seen next.⁸¹

Behind the delay were powerful political and military groups struggling for the commercial exploitation of the area. On the one hand, the civil construction companies which were sensing severe reductions in future public investment spending and saw an opportunity to project their image abroad.⁸² On the other hand, the military high echelon (the SNI, the National Security Council) were considering a vast, politically visible project for the area (Greater Carajás); therefore there should be a grandiose scheme for exploiting the wood too. According to the June 1979 IBDF/Eletronorte basic guidelines, an area of 10,000 hectares near the dam was reserved to be cleared under Eletronorte's responsibility. But in the remaining 216,000

hectares IBDF would be responsible for the extraction, for contracting small local entrepreneurs, for the construction of roads, ports, deposits, and for the sale of "class I"-wood abroad.⁸³

IBDF and Eletronorte defined that only national companies could participate in the bidding process with a minimum capital of US\$ 750,000. That was rapidly changed to US\$ 9.5 million to exclude dozens of small timber and lumber firms contracting directly with the government. But the problem of selling that huge amount of wood in only two years without wrecking markets and prices remained.⁸⁴ IBDF anticipated the bid arguing that time was running out while Eletronorte kept postponing the bid for the small area near the dam.⁸⁵

So in November 1979 Construtora Norberto Odebrecht , Andrade Gutierrez , Servix Engenharia and Brasilinvest , associated to foreign firms and to, at least, 23 local madeireiros , proposed bids for extracting the wood.⁸⁶ Apparently Carlos Galluf had his way in the project, involving large Brazilian companies, foreign associates contributing with technology and know how, and engaging experienced local entrepreneurs. However by April 1980 this decision was superseded by on-going negotiations to implant large scale development projects inserted in the Greater Carajás Program and to have a grandiose scheme for the forest extraction. Carlos Galluf was ousted for his refusal to accept other solutions and was replaced by Mauro Reis, who was

more cooperative with the central government wishes to nullify and redo the bid. By that time, exultant madeireiros demanded that in the second bid the minimum capital be reduced from US\$ 9,5 million to US\$ 950,000 "reducing IBDF's pharaohnic solution."

⁸⁷ None of that occurred, of course, since the Brazilian government wanted to find a grandiose, visible project to which it could cling for the duration of Figueiredo's six-year-term.

Few changes occurred in the second bid, the most notable one being the reduction of the area to 103,410 hectares and 5.6 million cubic meters, about half of the original forest. Most strikingly, a sole tender was presented by Capemi Agropecuária this time around. The other companies "were 'convinced' not to participate"⁸⁸ because that was "a mission, more or less imposed by the government to be executed by us," as a Capemi official stated.⁸⁹

Capemi Agropecuária and its company holding were repeatedly favored by the central government, after signing the contract in August 1980. First, the fact that it did not have enough capital was disregarded by the Minister of Agriculture, Amaury Stábile (1979-85), who ordered IBDF to consider the holding's capital to satisfy that clause. Second, an addendum to the contract was signed in November 1980 reducing the area to be extracted to 65,000 hectares (from 103,410) and the volume to 3.0 million cubic meters (from 5.6). Additionally, even if the original contract explicitly mentioned "the maximum amount

possible" to be extracted, the supplemental contract allowed Capemi Agropecuária to extract only "class-I", export-type wood. Third, the National Council of Foreign Trade (Concex) acceded to central government pressure to lift legislation prohibiting the export of unprocessed logs.⁹⁰ Fourth, the National Bank for Cooperative Credit (a federal agency subordinated to the Ministry of Agriculture) guaranteed a US\$ 100 million French loan to Capemi, against its bylaws mandating such collateral be posted only to cooperatives. Such actions were part of a powerful hard-line military scheme in the 1979-82 years to return to power, or at least to maintain some political power, as discussed in Chapter IV. General Ademar Messias de Aragão, president of Capemi, supported the hard-line stance of top-echelon military ministers (SNI, the Cabinet of the Army Ministry and the office of the Secretary General of National Security Council attended meetings with Capemi, IBDF, Ministry of Agriculture, Eletronorte on a regular basis) who were struggling against political liberalization. These actions were also inherent to the government's decision of concentrating investment in the Greater Carajás Program, instituted a couple of months after the signing of Capemi contract, a fact that demonstrated the political importance of this project.⁹¹

Two years later in 1982, the outcome of Tucuruí's wood extraction project was dismal. Early in 1981 Capemi had subcontracted Servix Engenharia (one of the four original

tenders) but a few months after Servix rescinded it because Capemi was not honoring payments.⁹² Notwithstanding expected sales of US\$ 1 billion for "class-I" wood against an investment of US\$ 165 million, Capemi, unable to perform the job alone, contracted three other firms, which in their turn were also unprepared for such a gargantuan endeavor.⁹³ Facing unsatisfactory results, Eletronorte commissioned an ecological study concluded in March 1982 recommending that "the minimum area to be cleared should be 85% of all vegetation in future Tucuruí reservoir."⁹⁴ Still uncertain whether Capemi was going to perform the job Eletronorte constantly warned IBDF/Capemi of the timetable while, at the same time, knowingly allowed Capemi to use toxic defoliants with the tacit agreement of the SNI and National Security Council.⁹⁵

Capemi's performance was criticized from several angles. First the effective extraction of the wood did not comply with "the maximum possible" dictated by the contract. Tucuruí wood samples marketed at Hannover and Paris fairs attracted potential European buyers, in late 1980, incited Capemi's to find international partners. Maison Lazard Frères, a French financial house, constituted a firm associated to Capemi, Compagnie Forestiere d'Amazonie (or Amazon Timber Company, in Panama), and put together a US\$ 100 million loan. Under the terms of their contract Capemi agreed to supply 5,000 cubic meters of logs per month for two years and 1.8 cubic meters in lumber, totalling 3

million cubic meters. However the results were bleak. Jean Claude Meyer, Lazard Frères official, stated

The greatest criticism of the Brazilian wood is its irregular delivery. We negotiated with Paris National Bank (Banque Nationale de Paris) a global 'envelope' of US\$ 100 million, divided in three parts to finance the local expenses, another to finance the import of equipment and the third supplier's credit of French equipment. Capemi only took the US\$ 25 million of the financial part, leaving untouched what interested the bankers the most.⁹⁶

In terms of volume Capemi only delivered 3,600 cubic meters of logs and 340,000 cubic meters of lumber up to June 1982.⁹⁷ Financially, Capemi only applied US\$ 10 million direct expenses in the project, and circa US\$ 30 million in roads, ports, etc. However, US\$ 15 million were spent in various other activities including political public relations to the hard-line fragment of the bloc-in-power: i) at least US\$ 3 million were contracted with Antonio M. Abissâmara, who bought the magazine O Cruzeiro from Alexandre von Baumgarten, assassinated in October 1981 allegedly with the involvement of SNI⁹⁸; ii) another US\$ 2 million in a contract signed between Capemi Agropecuária president, Fernando Pessoa, and Antonio M. Abissâmara (FAN-Consultoria e Empreendimentos Internacionais) to publicize Indian Foundation activities and the relocation of the Paracanã and Gaviões Indians, as a 'proof' of Brazilian government good-will;

iii) other two contracts to advertize Tucuruí wood abroad and within Brazil, for an undisclosed amount.⁹⁹

Capemi was also politically favored with the July 1982 Seplan decision to cut 10 percent across state investment. SNI rapidly endorsed it, seeing an opportunity to delay Tucuruí for a year and thus permitting Capemi to recoup. SNI's shifting role -- already characterized in Chapter IV by its involvement in the Riocentro bombing, in electoral analyses and in countrywide labor conflicts, can be definitely characterized with its involvement with Capemi/Tucuruí. That 10 percent cut across the board did not reach Itaipu, a development project as important as Tucuruí, but Capemi's peculiar situation of malfeasance were not enough reasons for the government (IBDF) rescind the contract after the French Maison Lazard Frères had done so for Capemi's dishonoring of schedules.

2. Political and Environmental Consequences

In March 1983, Capemi bankruptcy was requested by Unibanco, a Brazilian commercial bank, and Deputy Carlos Alberto De Carli (PDS-AM), a congressman and an entrepreneur from the State of Amazonas engaged in the Paulo Maluf presidential bid and creditor of US\$ 414,000, who became administrator of Capemi's remaining assets.¹⁰⁰ Capemi political importance related to the fact that its high-officials were involved in a power struggle,

internal to the military regime, for Figueiredo's succession. Capemi's chief-executive, General Ademar M. Aragão, a retired hard-liner, who supported General Octavio Medeiros candidacy (Figueiredo's in pectore and the sistema's¹⁰¹ candidate), but would support the Planalto Palace second choice, Minister of Interior, Mario Andreazza.

This bankruptcy prompted a Parliamentary Investigating Commission to investigate Capemi's politico-administrative malfeasance. Capemi's folding forced the Brazilian government to assume its US\$ 27.75 million-debt with French financial institution, Maison Lazard Frères.¹⁰² Capemi Agropecuária's inexperience in exploiting a tropical forest should have been offset by hiring foreign experts, as a clause in the IBDF-Capemi contract mandated. Capemi, on the contrary, dishonored the contract with IBDF and with French backers, who finally broke the contract. After that, Capemi sought help from domestic banks, further complicating its already precarious situation

Eletronorte was left with the pressing responsibility to clear 10,000 hectares adjacent to the dam, and to use defoliants diminishing the biomass left to decompose in the rest of the area. Eletronorte was determined to follow recommendations suggesting the clearing of 85 percent of the future lake's area. Considering that less than 3 percent had been cleared by Capemi, in April 1983 -- with Capemi already out the picture --, IBDF/Ministry of Agriculture opened a 32,000

hectares-tract for bid at the right margins of the Tocantins River, where were concentrated first-grade, resistant to climate wood (mahogany, ipê, angelim, jatobá, etc.). Three alternatives were devised:

i) the service was offered to large domestic construction companies, but did not wish to participate at their own risk (when they wanted in 1979 they were shunned away)¹⁰³

ii) medium size Pará madeireiros - who did not want in view of little time left and lots of risks.

iii) small size Tucuruí and Marabá madeireiros - no financial structure, no equipment to do the large scale job.¹⁰⁴

None of these alternative worked for reasons ranging from economic (high cost of cutting, transporting, warehousing), insufficient time to promote sales abroad, social and judicial pending questions (Capemi left unpaid more than 1,000 workers and relocations of 18,000 people in three cities and two indian reserves, Paracaná and Gaviões, shown in Map 6.2). But time continued to be a crucial factor, as argued by an IBDF report

Considerations led to the conclusion that the endeavor was not economically feasible given the ten months period (1 May 1983 to 30 September 1984). Considering the rainy season from October 83 to April 84 that was reason enough for the large construction companies and madeireiros to refuse participating at their own risk."¹⁰⁵

Therefore an imminent environmental disaster both by the ecological impossibility of lake's waters to digest the submerged forest -- for the lake would need 230 times more oxygen than it has¹⁰⁶ --, and by the indiscriminate use of hazardous chemicals, forbidden in most countries including Brazil.

According to Eletronorte, clearing the 10,000 hectares resolved the safety problem of operating the turbines. But it did so at a very expensive cost of US\$ 25 million with no return since the trees -- which could have been sold by US\$ 550 million in foreign markets -- were buried before the reservoir was filled¹⁰⁷, and the job was only done after Capemi had left its area of influence to avoid legal conflicts.¹⁰⁸

Since there was no escape from ecological damage, the Minister of Agriculture, Amaury Stábile, tried to reduce the environmental, financial, and political fiasco. IBDF inventory found out that Capemi had spent US\$ 53.5 million in equipment, building roads and ports, villages, offices and warehouses, cut some 400,000 cubic meters of wood but only delivered a fraction of that. As disparate as estimates of cutting, warehousing and export had been Capemi's own estimates were only a little above that.¹⁰⁹ Above all, not even General Aragão and Eletronorte president, Douglas Luz¹¹⁰ statement at the hearings of the Capemi Investigating Commission elucidated much.

Capemi's folding influenced negatively the hard-line candidacy of General Octavio Medeiros, for his known connections

with the case reported in daily newspapers and magazines as a consequence of growing political liberalization. Figueiredo's support for Andreazza matured, at the same time as government pressured against the approval of the "Direct Presidential Election - Now!" amendment. By mid-1984, after the amendment was defeated, Tancredo Neves' consensus candidacy developed with the distinctive feature that military power exorbitance and wrongdoing were not going to be investigated.¹¹¹

In the absence of censorship, and the fact that an opposition governor was elected in the State of Pará (Jáder Barbalho) helped unveiling the proofs of use of defoliants and toxic chemicals sequentially. Eletronorte had allowed the use of defoliants with the knowledge of the National Security Council (CSN, Conselho de Segurança Nacional) already knew that Capemi had used and left unused, unmarked barrels in the areas that it worked during 1981 and 1982.¹¹² Therefore Eletronorte and INPA were constantly attacked by the press and politicians. INPA president stated that although ecological impact would certainly happen, five to eight years would be necessary to extract that amount of wood, but it would "smell less than Venice anyhow!"¹¹³

Moreover, Eletronorte itself used defoliants to clear path for transmission lines. In all areas where defoliants have been used at least forty six people¹¹⁴ died and hundreds were left with sequels of grave consequences such as increase in the number of natural abortions, blood in the urine of children.¹¹⁵

The use of pentachlorophenol and Tordon 101 (Agent Orange) disrupted local economy. Fifteen percent of Pará's economy lived off Brazil-nut extraction by natives in the forests; part of that economic activity was impacted by the killing of some 2,000 by those toxic chemicals. The most striking fact, however, was that Capemi paid workers wages in arrears in kind, that is with unused barrels of pentachlorophenol. Since the workers evidently had little use for the substances they abandoned the barrels in at least 400 different places dispersed throughout the area. Even though former Capemi teams were hired by Eletronorte to collect the toxic barrels it was hardly possible to comb such a large area. Water pressure burst the barrels left, although a large portion of were found.¹¹⁶ In order to minimize consequences to fauna Eletronorte initiated an animal rescue project¹¹⁷ which was extensively used in public relations campaigns during 1984-1986 to demonstrate that Eletronorte cared about environment.

As of July 1984 the water passages at the bottom of the dam were progressively being closed with concrete with the last one scheduled for closing on September 1984. Nevertheless several actions were taken to prevent it. The State of Pará Legislature requested explanations about the consequences of Tucuruí closing. The State government was concerned about salinization of drinking water -- which would result from the water reflux of Tocantins River right after the closing of the

dam -- and the disruption of the riparian fishing economy affecting some 300,000 people downstream when Tocantins River would stop running for 60 days in the 300 kilometers tract from the dam to the delta and the 1.2 million people in Belém.¹¹⁸ The Government of Pará sued arguing if Eletronorte had infringed state and federal laws in several counts: water code, forest code, national environmental law (Law 6938) and for the "criminal submersion of the wood."¹¹⁹ Furthermore citizens grouped under the National Movement for the Defense of Life sued to stop Tucuruí.¹²⁰

Tucuruí created social problems as grave as the ecological ones. Around 4,000 families or 17,310 people¹²¹ were expropriated at prices set in 1978 and not readjusted when payment was made in 1980. That was a motive of unrest and deaths in 1980, when the majority of relocation cases were resolved including by the use of force. Governor Alacid Nunes (1979-83), indirectly elected by the PDS, ordered the intervention of the Military Police of the State of Pará to clear the areas, causing unrest and at least 11 deaths.¹²² Furthermore, the village of Tucuruí -- which had had a 3,000 inhabitants, a sleepy, Brazil-nut selling town until the mid-1970s -- was by 1985 a disorderly town, with a population of 80,000 dwellers, most of them young and unemployed, a condition exacerbated by the end of the construction of Tucuruí Project. These social facts were explored by Opposition governor Jäder Barbalho.¹²³

The fact that sixteen tons of pentachlorophenol were found in the future lake's area¹²⁴ containing 23 percent of lethal dioxin (enough to kill 5.3 million persons according to experts), despite its irrefutable dangers, were politically used by Deputy De Carli to obtain an injunction forcing the closing the dam by Eletronorte.¹²⁵ What in reality was asked was that the closing of the dam be done only after Capemi's assets had been taken out of the future flooded area and auctioned. In fact this was the creditors last ditch effort to save some of the money sunk in the Capemi project. Eletronorte responded trying to gain time by legally maneuvering and counteracting politically. As it was stated by a high Eletronorte official, if Capemi/IBDF were so interested in the case they would have rapidly taken out the tractors, the three operating lumberyards, 5,000 cubic meters of wood in deposits, 300 small wood houses, an energy generator.¹²⁶ In addition, Eletronorte had formally asked Capemi where the barrels were and got no response prompting a hurried search over the area¹²⁷ Eletronorte's president, Douglas Luz did not hesitate between abiding by the injunction and following technical opinions. He stated

The lawsuits are untimely, innocuous, and have political objectives... We will not be able to close the water gates after the rain begins and the dam may break with the force of the water.¹²⁸

In an action resembling more an adventure, Douglas Luz dodged the court summons for 15 days. His action was politically backed

since no other action was taken by central government. Luz profited from an early rain in the headwaters of the Tocantins River, and on 6 September 1984 ordered to close the ten remaining adufas, out of total of forty. The only other authority present was, significantly, the Minister of Welfare, Senator Jarbas Passarinho (PDS-Pará), who remained behind Figueiredo government even after defeat was certain on Electoral College. That very night Douglas Luz was dismissed for "budgetary reasons."¹²⁹

Since Tucuruí was one of the principal Figueiredo government projects, part of the Greater Carajás Program put together by his Administration, its commissioning was politically crucial for Figueiredo. Thus the Luz action was politically justified, in the optics of the bloc-in-power, and also was kept Capemi and Maluf supporters away from central power avoiding the dangerous financial malfeasance which could possibly incriminate high-echelon figures in Figueiredo team, which would worsen their lame-duck months. The dismissal involved other political aspects too. Douglas Luz maintained close working relations with Eletrobrás president, Costa Cavalcanti, and with former Governor of Paraná, Ney Braga, a PDS dissident (Liberal Front) who embraced Tancredo Neves candidacy. (In 1985 Braga was nominated president of Itaipu Binacional.) That was reason enough to irritate Figueiredo. However Figueiredo was already irritated with Luz because some months earlier Luz refused to purchase the building where Eletronorte headquarters is located in Brasília.

The price of the building was increased by Cr\$ 3 billion (US\$ 1.63 million) over its market price, this difference was going to be donated by the building's owner to finance the presidential campaign of João Figueiredo's candidate, Mario Andreazza.¹³⁰

Tucuruí was inaugurated with pomp and fanfare 22 November 1984 by Figueiredo, in the hope that the waters would cover the political, environmental and social damages done. Six months later samples of water were analyzed at the Swedish University of Upsala, financed by London's The Observer, when unmistakable proofs of poison pentachlorophenol and dioxin were found.¹³¹

Tucuruí's gloomy outcome was better exposed by Lúcio Flavio Pinto words. He wrote

Ten of million of tons of vegetal mass were submerged by Tucuruí lake In 1984. More than 10 million trees were slowly drowned and died. Two years later every one who visited the lake saw a desolating, perturbing scene: limbless and leafless trees lay at the margins or even on the center of the lake floating in direction of the dam. Even though a total disaster has not occurred water plants proliferate, gases are released despite the strong Tocantins current.¹³²

E. Implications and Conclusions

This chapter set out to analyze the influence of political power over a policy process -- the decision and implementation of the pioneer Tucuruí development project in the Eastern Amazon. The hypotheses posed at the beginning of the chapter -- that is, the use of state enterprises as sustainers of growth and promoters of capitalist development, according to the theoretical model set out in Chapter II and the influence of the political power structure and system of political domination had over decision and implementation of Tucuruí policy -- were not rejected.

The methodologies used in this study of the relative influence of private and state actors over the decision and implementation of Tucuruí -- decision reconstruction and elite reputation analysis -- produced a pattern of findings from which some observations can be made. At the institutional level, political power was observed to be heavily concentrated at the top executive position -- the Geisel and Figueiredo presidencies --, at the ministerial level (Mines and Energy, Agriculture, Planning, SNI and CSN), at the main executive officers of the state enterprises (Magalhães, Cals, Schulman, Costa Cavalcanti, Llano, Luz), and at the international and national large private companies involved in the project or in any other economic activities in the region.

The chief figures active in this development project originated from the ranks of the military, of the politicians and of the dominant class. Anfibios (amphibious, see glossary), such as Cesar Cals and Costa Cavalcanti, politicians such as A.C. Magalhães, and military such as Medeiros, occupied positions in the state bureaucracy, both in repressive apparatus and in the Executive high positioned técnicos and bureaucrats. Native populations, working class and middle sector leaders or organizations had very little say and were not active participants in the policy-making process or in influencing some the implementation surrounding Tucuruí, nor did they or could they exert any real influence over the ultimate outcomes of this project.

Eletronorte was involved in an intra-agency rivalry with holding Eletrobrás, which only agreed to Tucuruí after the final decision had been reached within the highest circles of power. Geisel and Ueki justified the project in terms of both the "redemption of the Eastern Amazon region" and of capitalist development in a peripheral zone of the country, although that principle was camouflaged under the "National Integration" banner. The interest shown by Japanese, Canadian, British, Dutch, and American capital associated to state and private Brazilian mining and industrial capital in aluminum and other non-ferrous metals, and iron-ore were crucial elements behind their initial decision in 1974-75.

Eletrobrás supported Eletronorte's creation and planning of Tucuruí only rhetorically, merely conferring real support after financing had been secured with the European consortium of banks, not only for Tucuruí but also for a Northeast power plants, since the region was the homeland of the two major politicians at Eletrobrás helm (1975-1978), Antonio Carlos Magalhães and Cesar Cals.

Unable to obtain the application of the "law of participation," that is the joint investment of major consumers in the hydro-projects, the agency (Eletronorte) and Tucuruí project were at the mercy of the foreign banks and capital goods suppliers, Tucuruí became a show-case example of loss of political and financial autonomy. The capital goods interest associations -- ABDIB, ABINEE, ABIMAQ, which included Brazilian and international capital -- voiced their discontent with low proportion of equipment ordered to national companies. Brazilian entrepreneurs, moreover, choose to embrace opposition views and to support its political party, the MDB during the latter part of Geisel years.

In addition Eletronorte left entirely to Camargo Corrêa and other private firms the implementation of the project, depending on the financial capacity of the main contractor to keep the construction running. Eletronorte also left to private engineering firms the supervisory and logistic functions, which have greatly elevated the final cost.

Confronted with the objections from the Brazilian capital goods producers and with the limitations imposed by a more restrictive international financial market, the Figueiredo government, also pressured by balance of payment deficits, choose to counterattack by including Tucuruí in the over-arching mining/industrial, energy-intensive complex, Greater Carajás Program, for which available resources were channelled. In addition, Figueiredo mobilized the support from the hard-line military faction of the regime, by engaging Capemi "as a mission," a private military pension fund run by retired military. Although a private company, Capemi, was an instrument for marketing the achievements of the military regime and particularly of Figueiredo government. That firm, with the veiled support of the SNI and of CSN and other sites of hard-line military positions, counteracted the ongoing political liberalization. As a consequence state autonomy -- as well as the autonomy of the Eletrobrás subsidiary in charge of building it -- was relinquished once more in the greatest political, administrative and environmental fiasco at Tucuruí, adding to earlier losses of political and financial autonomy.

Endnotes

1. - Interview with Eletronorte official, 1986.
2. - Depicted in a novel by Márcio de Souza, Galvêz, O Imperador do Acre, (Rio de Janeiro: Ed. Brasília, 1977).
3. - "Aviamento" is the traditional credit system prevalent in the Amazon region since the rubber boom. It consists of supplying consumption or production goods on credit. The flow of "aviados" products was progressively charged down the line. On the other hand, the production successively lost value. On one end of the system the industrial entrepreneur or foreign banker supplied capital to commercial businessmen of the larger towns in the hinterland, who, on their turn, supplied smaller traders. The owners of production fields (rubber, Brazil nuts, pepper, jute, rice) supplied goods to the workers, who continuously got more and more in debt with their boss. The production following the inverse flow progressively lost value as it ascended the hierarchy of domination. See Miranda Neto, O Dilema da Amazônia, (Petrópolis: Ed. Vozes, 1979) pp. 108-125.
4. - Antonio Dias Leite, Política Mineral e Energética, (Rio de Janeiro: IBGE, 1974), p. 45.
5. - The inputs to make 1 ton of aluminum are combined in two stages: a) 4 tons of bauxite, 194 kilos of soda ash, 910 kilos of fuel oil and 533 kWh of electric power are combined to form two tons of alumina; b) 2 tons of alumina mixed with oil, coke, asphalt, aluminum fluoride (totalling 700 kilos), and principally 16,000 kWh, produce 1 ton of aluminum. Eduardo Celestino Rodrigues, "Unidades e Coeficientes de Conversão," Crise Energética (Rio de Janeiro: José Olympio Ed., 1975), pp. 173-186.
6. - Ibid.
7. - See Riordan Roett, "Brazil Ascendant: International Relations and Geopolitics in Late Twentieth Century," Journal of International Affairs 29 (Fall 1975):134-147.
8. - Interview with Eletronorte official, April 1986. The risks and the costs of constructing a power plant in the Amazon in the 1960s were uncounted. The technologies and the logistic for constructing such plants were only gathered in the 1970s, according to a construction company official interviewed (1985).
9. - MME, Balanco Energético Nacional, 1984.

10. - See Antonio Dias Leite, 10 anos depois, (Brasília: Eletronorte, 1984), p. 4.
11. - Cf. Mario Bhering, president of Eletrobrás, O Globo, 7 Jun 1975, p. 16.
12. - See Fernando H. Cardoso and Geraldo Müller, Amazônia: Expansão do Capitalismo. (Rio de Janeiro: Paz e Terra, 1978)
13. - Ueki was a first generation Brazilian-Japanese, a "Nissei," who reached the highest position in the Mines and Energy sector in view of his technocratic abilities, and from the fact that he had worked in close connection with Geisel in Petrobrás. He was nominated president of Petrobrás during Figueiredo's Term.
14. - Shigeaki Ueki, "O governo acelera planos para construir usinas no Tocantins," O Estado de São Paulo, 2°, p. 25.
15. - See Raw, op.cit., pp. 310 ff.
16. - See Raw, op.cit., p. 375.
17. - CVRD, Relatório Anual, various issues, and idem "Bauxite, Alumina and Aluminum," n.d.
18. - MME, Relatório Anual, 1985. The commercial importance of the mineral is irrefutable: 27 percent of all Amazon bauxite is processed in Brazil before it is exported. Ibid, idem.
19. - MME, Relatório Anual, 1982.
20. - Rio Doce Engenharia e Planejamento - RDEP, Projeto Alumina/Alumínio: Pré-Viabilidade, April 1975, p. 2/1.
21. - CVRD, Eastern Amazon -- Preliminary Development Plan, April 1981, 1:15.
22. - Idem, Bauxite, Alumina/Aluminum..., n.d.
23. - See "Mais Exportações, Menos Dólares," Gazeta Mercantil, 13 January 1986.
24. - Lúcio Flavio Pinto, Carajás, Ataque ao Coração do Brasil, (Rio de Janeiro: Marco Zero, 1982), pp. 81-82.
25. - There is a Valesul Alumínio, an association of CVRD, Billiton and Reynolds, in Rio de Janeiro, producing 87,000 tons since 1982. Now it receives 80 percent of the alumina produced

at Alunorte. Its implanting was plagued with confrontations with the private sector which viewed it as an undue state interference on an established private market.

26. - RDEP Project Alumina/Aluminum, April 1975, p. 2/2.
27. - Maria Luiza de Aguiar Marques, A Indústria do Alumínio no Brasil, Master Thesis in Economics, UFRJ (Federal University of Rio de Janeiro), Instituto de Economia Industrial, 1983.
28. - Albrás, Projeto de Alumínio, Relatório de Viabilidade, June 1976, p. 6.
29. - Jornal da Tarde, "A hidrelétrica de Tucuruí sem os riscos da Albrás," 4 August 1975, p. 1-9.
30. - Shigeaki Ueki, Folha de São Paulo, "Hidrelétrica de Tucuruí custará US\$ 1,5 bilhão," 27 August 1975, p. 2-17.
31. - Albrás: Projeto de Viabilidade, pp. 6-9; Alunorte: Projeto Alumina - Relatório de Viabilidade, August 1976, pp. 9-10.
32. - Carlos Lessa, "A Estratégia ...," op.cit.
33. - MME, Relatório Anual, 1977 and 1984.
34. - Jornal do Brasil, 5 August 1975, p. 1-8.
35. - Raw, op.cit., p. 385.
36. - Pinto, Carajás..., op.cit., p. 79.
37. - Marcos Dantas, "As Seis Irmãs e o Nosso Alumínio," Folha de São Paulo, 12 April 1981, Folhetim, p. 14.
38. - MME, Portaria 1654, 13 August 1979.
39. - Veja, "Mais Projetos," 28 May 1980, p. 100.
40. - Pinto, Carajás..., op.cit., p. 81.
41. - The two other modules went into operation in October 1985 and October 1987 while the fourth will be commissioned in October 1988. Cf. Jornal do Brasil, "Tucuruí começa operar amanhã," 22 November 1984, and Folha de São Paulo, "Um negócio que a OPEP abençoou," 24 March 1985, p. 4-44.
42. - Seplan. SEST. Sinopse da Atuação da SEST no período 1980/84. Brasília, 1985.

43. - MME, Relatório Anual, 1985, and Folha de São Paulo, "Com Tucuruí o desbravamento movido a eletricidade," 4°, p. 44, 24 March 1985.
44. - Each turbine had to have at least 250 MW in function of the production modules to be installed at Albrás. Interview with Eletronorte official. Brasília, November 1986.
45. - Interview with National Energy Commission official, April 1986.
46. - Barbara Stallings, Banking to the Third World: US Portfolio Investment in Latin America. (Berkeley: University of California Press, 1987).
47. - "A hidrelétrica do Pará vai produzir energia em 1981," Jornal do Brasil, 5 May 1975, p. 8.
48. - Interview with Eletronorte official. Brasília, September 1986.
49. - "Eletronorte: não faltará energia à Albrás-Alunorte," O Estado de São Paulo, 8 October 1976.
50. - Banque de L'Indochine et Suez, Deutch Bank, Banca Nazionale del Lavoro and the Gruppo Industria Eletromeccanica (GIE), Siemens, Alsthom-Atlantique, Voigt.
51. - "Propostas para Tucuruí continuam em estudos," O Globo, 23 May 1976, p. 25.
52. - Banque de L'Union Europeenne, Credit Commercial de France, Societé Generale, and the firms Creusot-Loire, Nerpys, Empain-Schneider, Alsthom-Atlantique, under the leadership of the first.
53. - Interview with a high Eletronorte official. Brasília, September 1986.
54. - Indústria e Produtividade, July 1976.
55. - Data gathered at Eletronorte headquarters and interview with Eletronorte officials. Brasília, April 1986.
56. - Interview with high Eletronorte official. Brasília, November 1986.
57. - Paulo Davidoff Cruz, A Dívida Externa Brasileira, op.cit.

58. - Camargo Corrêa built other power plants in foreign countries (Guri, Venezuela; China, etc.) in addition to roads and other civil engineering contracts. For a list of dams and highways Camargo Corrêa built in Brazil see A Indústria da Construção Pesada no Brasil (Rio de Janeiro: UFRJ - Instituto de Economia Industrial, Relatório de Pesquisa, 1979).
59. - Fortune, June 1987 and Veja, July 1987.
60. - "Ueki assina contrato da obra de Tucuruí." S. Ueki declared that Tucuruí was going to demonstrate that it was possible to tap resources from the Amazon rationally, which was proven wrong in the following years. O Estado de São Paulo, 23 January 1977.
61. - Estimate given to the author by an Eletronorte official, considering the percentages of disbursements for civil construction, equipments, transmission lines, project and supervision. Brasília, September 1986.
62. - Eletronorte, Relatório Anual, 1979-81. See also "Eletronorte revê projeto da hidrelétrica de Tucuruí," O Globo 7 October 1978, p. 22.
63. - Interview with Eletronorte official. Brasília, April 1986.
64. - "Eletrobrás tomará recursos para Tucuruí no exterior," Jornal do Brasil, 3 August 1979.
65. - Interview at Eletronorte's Financial Department. Brasília, September 1986.
66. - "Empreiteira de Tucuruí não recebe há 90 dias," Jornal do Brasil, 11 July 1982, p. 29.
67. - Eletronorte Financial Department. See also "Atraso do Governo com Camargo Corrêa não prejudica Tucuruí," Jornal do Brasil, 26 October 1981, p. 16.
68. - Officially Camargo Corrêa and Eletronorte denied the death in a note. However eyewitnesses have given repeated reports to newsmedia. See Samuel Wainer, "O Motim de Tucuruí," Folha de São Paulo, 9 April 1980, p. 2.
69. - According to Eduardo Celestino Rodrigues "Unidades e Coeficientes de Conversão" ferro-silicon smelting consumes 5,500 kWh per ton of ingot in each of primary and secondary smelting. Crise Energética (Rio de Janeiro: José Olympio Ed., 1975), pp. 173-181.

70. - Jeffrey Pressman and Aaron Wildavski, Implementation (Berkeley: University of California Press, 1973); Eugene Bardach, The Implementation Game (Cambridge, The MIT Press, 1977).
- 71.- Empresa Hidro-Brasileira Report requested by the Superintendency for the Development of the Amazon (SUDAM) in 1978. The total volume was close to 21 million cubic meters including less commercial types.
72. - In the first semester of 1984, environmentalists and scientists met at Eletronorte headquarters, in Brasília, to condemn the flooding of the forest based on evidences from similar cases. The recommendations of that seminar were kept secret. Interview with Eletronorte official, April 1986.
73. - Brokopondo was visited by Eletronorte and Brazilian Institute for Forest Development (IBDF) officials in 1976-77 to gather information. More than half of the income from the energy generated is used to maintain the turbines. Interview with IBDF official, Brasília, April 1986.
74. - See Interministerial Commission, Informações sobre a Area que ficar Submersa em Consequência da Usina Hidrelétrica de Tucuruí no Tocantins e seu Potencial Madeireiro (Brasília: n/e, 1978). This commission was instituted by Portaria 0324, 22 September 1977 to analyze alternative for Tucuruí forest.
75. - Each metric ton of decomposing biomass produces 14.59 kilos of nitrogen and 900 grams of phosphorus. I thank Prof. Leonor Assad, of the Dept. of Agronomy, for introducing me to the environmental soil management and to the chemistry of biomass decomposition.
76. - National Institute for Amazon Research (INPA) Relatório Técnico para a Eletronorte, 1984. INPA had produced a previous technical report for Eletronorte in 1979 pointing to the ecological dangers.
77. - Eletrobrás request for a US\$ 500 million loan from the World Bank was denied until Eletrobrás complied with environmental recommendations, especially for Balbina hydroelectric dam, in the Amazon Region, projected to be flooded in 1988 with a 33 million cubic meters of wood in it. Interviews with World Bank official. Washington, DC April, July and September 1987.
78. - The expression "ecological bomb" was officially coined by the then Special Secretary for Environmental Protection, Paulo Nogueira Netto, in a letter to the then director of INPA, Henrique Bergamin Filho, which became public in 1982.

79. - It only obeyed a law (Law 3824, 23 November 1960) mandating the clearing of wood from all artificial water reservoirs was enacted after repeated problems of water supply to São Paulo and Rio in prior decades. However, there were problems of enforcement of this law.
80. - According to a 1978 study the timber and lumber were estimated to be worth US\$ 350 million against an estimated total cost of US\$ 100 million. Informações Sobre a Area que ficará Submersa em Consequência da Usina Hidrelétrica de Tucuruí, no Tocantins e o seu Potential Madeireiro. Interministerial Commission (instituted by Portaria 0324, 22 September 1977) Brasília, 1978.
81. - "Falta de decisão sobre madeira pode atrasar em 2 anos Tucuruí," Jornal do Brasil, 6 May 1979, p. 37.
82. - Based on their experience, gathered in the past decades with building large-scale development projects in Brazil, they wanted to participate in international bids in Europe, Africa and Middle East. Interview with Construtora Norberto Odebrecht official. Washington, DC, 1987.
83. - "Esquema Básico para a Exploração da Madeira de Tucuruí," IBDF/Eletronorte. Brasília, June 1979.
84. - World wood sales amounted to 3 million cubic meters annually and Tucuruí's wood would make a substantial difference in prices and volumes sold worldwide. 170 different kinds of wood, most of which unknown in the world market, were shown in the Hannover Fair and in the Paris Expobis generating hundreds of orders.
85. - IBDF president, Carlos Galluf, tried to preserve Pará's entrepreneurs interests after he met them in Belém, in October 1979.
86. - Interview IBDF official, September 1985.
87. - Nodário Azevedo, president of the Brazilian Association of Wood Producers, in "Será refeita a Licitação de Tucuruí," Gazeta Mercantil 09 May 1980, p. 1.
88. - Interview with Capemi official, Brasília, May 1984. This information was confirmed by a construction company official, Washington, DC, 1987.
89. - Interview to Patricia Sabóia, "A Capemi explica resultados insatisfatórios em Tucuruí," Gazeta Mercantil 15 June 1982, p.12.

90. - This controversial Resolution no. 129 was announced by Concex (Conselho Nacional de Comércio Exterior) on 13 January 1981, only a few months after contract had been signed. However, Benedito Moreira, director of Concex, stated that "the authorization to export is here, but it is the wood which is missing!" "Madeireiros recusam substituir ou ajudar a CAPEMI em Tucuruí," Folha de São Paulo, 09 September 1982, p. 23.
91. - Decree-Law 1813, 24 November 1980 instituted the Greater Carajás Program.
92. - Laércio Silva, "Capemi pode deixar Tucuruí: Cals convoca a empresa para discutir atraso." Correio Braziliense, 23 may 1982 , p. 18.
93. - Desmatec from Pernambuco, Dimba from Pará, and Makna from Rio de Janeiro, of which only the Pará firm was effectively working. "A Capemi Explica....," op.cit.
94. - Structura S.A., Relatório, March 1982.
95. - Minutes from meetings with SNI, National Security Council, Capemi, IBDF, Ministry of Agriculture, Eletronorte officials in December 1981, February and June 1982. Interview with Ministry of Agriculture official. Brasília, November, 1984.
96. - Any Bourrier, Paris Correspondent O Globo, 14 June 1982, p. 11.
97. - "Capemi explica....," op.cit.
98. - Alexandre von Baumgarten, a staunch anti-Communist connected to hard-line military, acquired the magazine O Cruzeiro in the late 1970s, and tried to resurrect the old magazine offering space to ideological, political or even commercial interests of the so-called "community of information." That relationship soured not after long and Baumgarten, feeling physically threatened, allegedly wrote a "Dossier Baumgarten" in which he described involvement with General Newton Cruz, Chief of The Central SNI Agency (Brasilia), second man below General Octavio Medeiros. They were supposed to get state and private enterprises advertizing to maintain the magazine afloat but could not do it in view of political liberalization. In February 1981 the solution found was to sell the magazine to AMA an editing house whose owner was Antonio Mourão Abissâmara, former IBDF public relations officer between 1979 and September 1980, indicated by his brother-in-law General Newton Cruz. Since September 1980, O Cruzeiro was controlled by Capemi already under contract with IBDF. According to the dossier, SNI influenced the

decision in favor of Capemi and Antonio M. Abissâmara was responsible for telling original bidders that the project was going to be done by Capemi. Alexandre von Baumgarten disappeared, and a body, later confirmed to his, was found with three gun shot perforations. Baumgarten left eleven copies of his dossier in secure hands that would divulge it in case he was assassinated or disappeared. Cf. "Escândalos em cadeia: nem tudo é tiroteio sucessório. Nem tudo é coincidência," Isto É, 9 February 1983, pp. 14-20.

99. - "[Roberto] Amaral conhecia as irregularidades e não parou o projeto," Folha de São Paulo, 2 March 1983. Roberto Amaral was the Commercial Director of IBDF who forced the cancellation of the first bid and the awarding to Capemi in the second bid even if Capemi Agropecuária do not comply to the edict, nor did have experience. He was transferred from IBDF to the ministry of Agriculture where a position of Coordinator for Biomass Affairs was especially created for him. His position lasted until Capemi went bankrupt. - "Capemi faz mudanças e acha que vai se sair bem em Tucuruí," Folha de São Paulo, 26 September 1982, p. 39.

100. - "Falência pode ser apressada por uma ação," Folha de São Paulo 3 March 1983, p. 12.

101. - See the definition of sistema in Endnotes, Chapter IV. As for Medeiros being Figueiredo's choice see p. 173 ff.

102. - Capemi owed circa US\$ 139 million in debts to foreign and domestic banks, international and domestic equipment suppliers, and to firms and persons who rendered services. Interview with Ministry of Agriculture official, Brasília 1984, analysis of documents on Capemi activities.

103. - Interview with Construtora N. Odebrecht official. Washington, DC 1987.

104. - "Madeira de Tucuruí obriga Governo a decisão política," O Globo, 21 March 1983, p.12.

105. - IBDF, Tucuruí - Relatório da Diretoria Técnica, 12 pg, Brasília, March 1983. IBDF president, Mauro Reis, stated "Tucuruí não tem solução," a few weeks later. See "IBDF não tem solução para Tucuruí," Jornal de Brasília, 6 April 1983, p. 7.

106. - According to Prof. Jorge Furet, University of Brasília's Dept. of Ecology, "...in order for Tucuruí to absorb that quantity of wood it would need 2.3 kilos of oxygen per cubic meter of water. The usual quantity is 10 milligrams or 230 times less than it would be necessary in this case... Filling the lake up without clearing the vegetation is against all rules pointed

out in the literature." See also "Técnicos acham que haverá desastre ecológico," Jornal de Brasília, 6 April 1983, p. 7.

107. - Parliamentary Investigating Commission found that the US\$ 2,500 per hectare charged by the consortium of large construction companies (Queiroz Galvão, Construtora de Estradas e Estruturas - CEE S.A., Cowan) for extracting and digging the wood was a cost almost five times higher than the US\$ 555 per hectare local madeireiros would have charged. Excerpts from CPI da Capemi, Deputy Airton Soares (PT-SP).

108. - Official letter from Col. Raul G. Llano, president of Eletronorte to Ivany Henrique da Silva, Agropecuária Capemi director, in 20 July 1982.

109. - IBDF, Levantamento, March 1983. Not even the Parliamentary Investigating Commission was able to elucidate how much was actually extracted, how much was actually spent in direct activities, or how much was sidetracked.

110. - Col. Raul Llano had died in December 1982 of heart failure.

111. - See Guillermo O'Donnell and Philipp Schmitter, "Negotiating (and Renegotiating) Pacts," in Transitions from Authoritarian Rule. Tentative Conclusions about Uncertain Democracies. (Baltimore: The Johns Hopkins Univ. Press, 1986), pp. 37-47.

112. - Eletronorte, INPA and CNPq allegedly knew IBDF/Capemi used defoliants since 1981, with the knowledge and tacit agreement of the SNI and of the office of Secretary General of National Security Council. Minutes from meetings, December 1981 and June 1982. See also statement by Henrique Bergamin, "Ameaça Ecológica em Tucuruí ainda sem Solução," Jornal de Brasília, 10 April 1983, p. 10.

113. - Ibid, idem. .

114. - According to Sebastião Pinheiro, a SEMA engineer, who was hired to clean up operation. "Denunciadas mortes causadas por agrotóxicos em Tucuruí," Folha de São Paulo 6 April 1984, p. 23.

115. - João Batista de Melo Bastos, Secretary of Agriculture of the State of Pará, "Quadro de desolação é dramático," Folha de São Paulo, 10 July 1984, p. 22. See also "Tucuruí e o tremendo impacto ecológico," Jornal de Brasília, 4 March 1984, p. 6.

116. - Dioxin, the substance released, is so poisonous that only 7 parts to the trillion are lethal and even less is enough to

kill fish and small animals. According to IBDF and Eletronorte officials they believed most barrels had been found. This is not the opinion of Sebastião Pinheiro, soil engineer of SEMA, who stated that Dow Chemical supplied the toxic chemical knowing they were forbidden in Brazil. Agriculture Minister Stabile also knew about it since he had been a member of the Board of Directors of Dow Química, the Brazilian subsidiary. Agromax, a firm under Eletronorte contract, imported and used the chemicals with the agreement of INPA, SEMA and CNPq. Cf. Interviews IBDF and Eletronorte officials; Washington Novaes, "O homem não é louco," Editorial Folha de São Paulo, 3 July 1984; "Tucuruí: as explicações da Eletronorte," Jornal da Tarde, 16 June 1984, p. 10; and "Uma Trilha de Veneno na Amazônia: Veja a Prova," Jornal da Tarde, 6 June 1985, p. 11.

117. - Operação Curupira, what in Tupian folklore means a protector of Nature who hits tree trunks signaling animals of imminent dangers or hunters. Curupira hates fauna hunters and has his feet backward in disguise.

118. - Members of the State House Parliamentary Investigating Commission on Natural Resources were not convinced by the explanations of Eletronorte Coordinator of the Presidency, Armando Araújo, about the consequences from closing Tucuruí on the environment and on the region's population. Interview with Armando Araújo, Brasília, April 1986.

119. - "Governo do Pará entra na Justiça," Folha de São Paulo, 10 August 1984, p. 14.

120. - "Uma ação popular na Justiça para paralisar Tucuruí," Estado de São Paulo, 29 June 1984.

121. - Official Eletronorte numbers, though they could be more.

122. - See "Tucuruí: a Babilônia brasileira," O Estado de São Paulo, 11 September 1980, p. 26.

123. - Ciro Dias Reis, Tucuruí, Relatório da Gazeta Mercantil, 22 November 1984, p. 4.

124. - O Globo, 1 July 1984. Eletronorte officials confirmed the fact. Interview September 1986.

125. - Randau Marques, "Tucuruí: Pode estar começando uma grande tragédia," Jornal da Tarde 23 June 1984, p. 6.

126. - Laércio Silva, "IBDF se omite no fiasco da Capemi," Jornal de Brasília, 7 July 1984, p. 7.

127. - Armando Araújo, "Eletronorte acha que Capemi esconde veneno," Jornal do Brasil, 29 July 1984, p. 16.
128. - "Ação Popular não impedirá o fechamento do Tocantins," Folha de São Paulo 10 August 1984, p. 14. One of the technical opinions was Pedro Haltemann's, the Tucuruí Coordinator for the supervisory consortium Engevix-Themag: "You don't play around with the Tocantins River." Interview Technical Division, Eletronorte. Brasília, November 1986.
129. - "Luz Fecha a Barragem e é demitido," Jornal do Brasil 7 September 1984, p. 13. Apparently his dismissal was requested by Delfim Netto because he "overspent" SEST budget. That hardly could be reason for dismissal at a time of an unrealistic budgetary projection of inflation of 97 percent with a 250 percent real.
130. - Abnor Gondim, "Fechamento de Tucuruí já provoca acidentes," Correio Braziliense, 9 September 1984, p. 10
131. - "Uma Trilha de Veneno na Amazônia. Veja a Prova." Jornal da Tarde, 6 June 1985, p. 11.
132. - Lúcio Flavio Pinto, "A desolação toma conta de Tucuruí," Estado de São Paulo, 29 November 1986, p. 67.

CHAPTER VII

CONCLUSIONS: THE DYNAMICS OF POLICY-MAKING AND SOME DEMOCRATIC PERSPECTIVES

This study concludes with a comparison of the patterns of power and policy-making observed in the two major development projects executed during the authoritarian military regime. The principal objective of this comparative analysis are: 1) to determine to what extent the basic patterns involved in policy-making were similar or different in each project; 2) the extent to which the same leaders, groups and institutions participated in each project; and 3) the extent to which the same class and class fractional interests benefited from the two projects implemented.

It is important to recognize that this comparison is not exhaustive. Although other state sectors were also analyzed in Chapter IV -- industrial, mining and other infrastructure projects -- our focus was on the two most unique development projects undertaken by the authoritarian regime. Other type of decisions could also be fruitfully studied (social policy, or other redistributive, regulatory or distributive policies). Second, we have not considered -- except in passim -- the similarities between the hydro-power policy-making between the military regime and the civilian regime which preceded it. There are many apparent similarities despite the differences in the size of hydro-power projects undertaken three or four decades ago

and Itaipu or Tucuruí. Large construction companies have largely influenced hydro-power policy both then and now. But emphasis on generation, as pointed out by Tendler¹ has vastly expanded to include the interests of equipment producers, transmission and distribution equipment manufacturers and assembly contractors. While continuity merits further examining in view of regime changes, the disparity shown in these two case-studies have surpassed any apparent continuity. Third, the scope of this study was limited to the 1964-85 period. With the return to competitive party politics, unnoticeably as of 1974-76 but more vividly after the 1979 party reform, it is quite conceivable that the role of many elites, groups and institutions within the policy-making process in the Nova República (1985+) period have undergone substantial changes.

Despite its limitations, this comparison of the Itaipu and Tucuruí projects is capable of providing useful insights into several important aspects of the policy-making process in Brazil. In the first place, because both projects had distributive implications, they were highly publicized and controversial projects that mobilized major social forces within their sector. Consequently, both provide excellent opportunities for observing patterns of political participation and interest representation within the military regime. Second, the expenditure of huge resources for Itaipu and Tucuruí precluded appropriation in other electrical sector projects and in other social expenditures.

Furthermore, both projects involved more than one decision and spanned more than one presidential term; their final outcomes are therefore revealing indicators of the overall balance of class and the power of class fractions power within the state and the dominant class during the authoritarian military period. Finally, the fact that the decisions were of different scope and nature permits an examination of the factors that led to an autonomous or to a heteronomous decision-making within the Brazilian political system.

A. Patterns of Policy-Making

In Brazil, development policy has changed less abruptly in Brazil than other cases in Latin America such as Peru in 1968 (and again in 1980), Argentina in 1976 (and again in 1983), and in Chile 1973 (and again ?). Major development policies have been initiated by the Executive branch. Individual congressmen may have been particularly interested in one or another project affecting their constituencies but their influence has been imperceptible. Congressional oversight and inquiry was done in the Nuclear Program, Tucuruí and CVRD cases but Congress did not have the power to recommend any policy changes. In the Itaipu case, the role of Congress was basically to rubber-stamp the Treaty of Itaipu, essentially handled by the central military government and diplomatic ranks in the Brazilian side. In the

Tucuruí case, the failure of the Inquiry Commissions proposals to stop the flooding of the reservoir with tons of biomass inside, and the incapacity to enforce the recommendations to the Nuclear Program, confirm that only the Executive was an effective policy initiator.

In Itaipu case, all different international treaties and final decision were the product of Executive predominance. Ata das Cataratas of 1966 was the final result of an Executive and diplomatic approximation that began in 1950s, when President Juscelino and Generalissimo Stroessner inaugurated the Friendship Bridge. The 1973 Itaipu Treaty was the ultimate output of a process set in motion by General Costa e Silva shortly after he was empowered in 1967. It spanned the repressive Costa e Silva and Médici governments, and was entirely drafted under the instructions of the National Security Council and Itamaraty. Likewise, Acuerdo de las Alturas of 1979 resulted from a negotiation process involving the private and the public sector of Brazil, Argentina and Paraguay. A similar pattern is also detected in the case of Tucuruí, in its initial phase. The 1973 proposal of Mines and Energy Minister Dias Leite, was drafted following the directives of the National Security and Development Doctrine and its National Integration Plan for the Amazon. The 1974-76 decision-making process was elaborated under the close supervision of General-President Geisel and Mines and Energy Minister Ueki.

A presidential decision to undertake development projects was not, at least in the cases analyzed in this study, solely the outgrowth of specific demands or direct pressures brought to bear on the system by the potential beneficiaries development projects. Among Brazil-Paraguay frontier peasants, rural workers, Indians from the Amazon and most of the working class engaged in these development projects, levels of organization and mobilization were so low that the dominated classes were essentially incapable of articulating their policy preferences or pressuring the political system directly. Illustrating this point, despite scattered outbreaks of violence in the construction sites of Itaipu and Tucuruí, no decision or implementation directive can be traced to specific demands expressed by organizations representing such groups. Moreover, no policy has been modified as a result of demands posed by working class organizations in these two cases. The highly organized economic interest association, multinational corporations and international banks, in contrast, frequently made direct requests for favorable policies. The executive was unquestionably influenced by these demands, but in neither the Itaipu nor the Tucuruí Project can the specific content of the policy initiative put forward by the state be attributed solely to pressures from the private sector.

Rather than a direct response to carefully articulated group demands, the decision of a General-President to commit his

administration to any particular type of project should be seen as a result of a more complex and ambiguous set of indirect pressures. On the one hand, the executive was charged with primary institutional responsibility for planning and promoting economic growth; that is, for establishing and sustaining the conditions required for capitalist accumulation. On the other hand, the executive also was vested with primary responsibility for striving for legitimacy and preserving the stability of the state and of the entire military authoritarian system.

These general pressures were, of course, filtered through personalities and ideological biases of individual presidents and the immediate managerial-political elite. They were also conditioned by the specific historical context within which each General-President ruled. Different presidents could and did, therefore, react differently to similar set of pressures. General-President Costa e Silva, for example, pushed ahead with the insulation of the policy-making process and the expansion of the state enterprise system while General-President Geisel was forced to stop unchecked growth of estatização due to mounting financial crisis and growing discontent from business sectors. Nevertheless, all the development projects examined in this study appear to have sprung from a presidential conviction that some form of state action was necessary to stimulate economic growth and preserve legitimacy and security of the state.

A pattern of state intervention and presidential influence can be traced to the 1940s, with Getúlio Vargas-led National Steel Company (CSN) and Rio Doce Valley Company (CVRD), followed in the 1950s by regional hydro-power projects and the creation of Petrobrás; President Juscelino Kubistchek inaugurated the internationalization of the Brazilian economy with the Target Plan, but his grandiose project was the construction of Brasília, the new inland capital. João Goulart's presidency deteriorated into a "paralysis of decision."² General-President Castello Branco was committed to institutional reform and to exclude working class demands on the state. General-President Costa e Silva hard-line stance was committed to a Emerging Power project in which the Angra I Nuclear Power Plant, the Transamazon Highway, and the Rio-Niterói Bridge were grandiose projects pursued while dissidents and opposition were violently repressed. General-President Médici furthered political support to the Brasil-Grandeza ideals with Itaipu Project and Steel Plan, while Finance Minister Delfim Netto masterminded the engagement of international and local capitalist and financial interests. General-President Ernesto Geisel initially wanted to push ahead with the Grandeza project, but the oil crisis and its consequences on the balance of payments were an effective deterrent to the grandiose development projects -- Tucuruí, Açominas, Ferrovia do Aço, Nuclear Program, Petroleum/Petrochemical Program, Albrás/Alunorte Industrial

Complex. Nevertheless, they were implemented under tremendous financial and political duress. General-President João Figueiredo could muster enough resources to initiate his own grandiose project -- Greater Carajás. However, during his term, PMDB and PDT (then opposition parties) won State Executive elections and strongly influenced the demise of the military authoritarian regime. In addition, the 1979-1985 years were influenced by the twin second oil and debt crises which forced a deep recession in the Brazilian economy, for the first time during the military rule. The relationship between economic growth and the legitimacy of authoritarian regime was shattered.

In the case of Itaipu, diplomatic treaties with Paraguay were conceived as mechanisms for simultaneously placating Paraguayan interests -- thus obtaining their agreement on the use of a common good --, and to satisfy Brazilian military security concerns with respect to Argentina. The establishment of the Binational Entity was designed to gain the support of Paraguayan public officials and to gain the confidence and political support of the construction and capital goods interest groups.³ In the case of Tucuruí, the principal motivation was put forward by the Second National Development Plan's "second import-substitution industrialization" and the ideology of developing the Amazon on grounds of National Integration. In both projects, concern for providing electric power for the industrializing regions of Brazil and concern for

continued economic activity were expressed, but the major considerations were, without question, political rather economic.

Perhaps the best way to conceptualize the policy-initiating role of the executive and of state enterprises within the military regime is in terms of "relative autonomy." The executive was neither wholly free from active pressures from the dominant classes, nor simply an instrument directly manipulated by members of the ruling class. The general limits of the state's autonomy in any policy area were contingent upon the structural constraints and instrumental pressures characteristic of the particular period focused. The specific limits were always a product of bargaining, compromise, co-optation, leadership, and coalition-building (within the military regime). The executive could and frequently did press against or "test" the constraints and pressures that restricted his freedom of action.

Once a president had made the original decision to sponsor a particular project, the second stage in the policy-making process was the drafting of a formal or informal agreement between the ministry/state enterprise responsible with the private sector. During the drafting process, which generally lasted several years in the two case studied, it was not uncommon for the minister and his subordinates to carry out extensive "consultations" with the major interest groups that would be most directly affected by the decision. In 1963-64, for example,

Eletrobrás President (and a hydro-power consultant) Octavio Marcondes Ferraz tested the Paraguayan government by stating that the best solution to tap the huge hydro-power potential in the Paraná River was to deviate the river into Brazilian territory and then build an entirely Brazilian power plant. Marcondes Ferraz was "sounding out" diplomatic problems with Paraguay before the Brazilian government finally decided to pursue the twin military and diplomatic course to convince Stroessner and his staff of building Itaipu. Prior consultations were by no means obligatory, however, as evidenced by Minister Ueki's failure to discuss his Tucuruí proposal with anyone outside the Ministry of Mines and Energy and the state enterprises under its area of influence, Eletronorte and CVRD. Likewise, for Geisel's failure to discuss the Nuclear Program outside the military ministries, National Security Council and diplomatic circles.

After the final version of major development projects had been decided, the third stage of policy-making began with the formal establishment of the institutions responsible, Itaipu Binacional and Eletronorte. Once the projects reached the state enterprise, they were inevitably subjected to close critical scrutiny by both bureaucratic técnicos and concerned private sector groups -- a stage of policy-making process.

Closed meetings of construction companies and capital goods manufacturers with state enterprise officials provided the principal arena for this review process. Over a period of months

or years, the objections of the major interest groups leaders were taken again to the insulated ministerial or state enterprise's boardrooms. This was repeatedly the case with Itaipu final line-up of construction companies (UNICON and CONEMPA), of equipment manufacturers and assembly (ITAMON). Direct negotiations among contractors, industrialists, bankers with Itaipu officials, the ministers and the president both in Brazil and Paraguay sought modification or elimination of objectionable provisions, such as was the case with the "cycle question," and the "heights question" with Argentina. These direct negotiations constituted a step in the policy-making process: a process best described as circular in which decisions were taken during the implementation phase.

In the case of Tucuruí, negotiations between Minister Dias Leite and the Japanese LMSA, and later between Minister Ueki and NAAC has similarly assumed the form of closed consultation and negotiations. Although a more aggressive press offered society some view of what was happening inside the decision-making process, particularly with the political visibility represented by the appointment of A.C. Magalhães, a clientelistic politician, to the presidency of Eletrobrás. Political liberalization did not automatically transform demands into public policy. General-President Figueiredo and his Mines and Energy Minister Cals reinforced insulation on the Tucuruí-Capemi imbroglio.

Military regime presidents attempted to mobilize mass support behind their development project. Emilio Médici was particularly inclined to use PR (public relations) techniques to boast the achievements of his government, while newspaper and television news of resistance against his policies were censored. Ernesto Geisel austere figure was not apt to marketing techniques, so he marshalled support for his grandiose development project through offers of ministerial and state enterprise appointments and other types of patronage to some dissident faction within their authoritarian-developmental coalition. The appointment of Severo Gomes as Ministry of Industry and Commerce in 1974 was a calculated attempt to utilize patronage to co-opt the nationalist Paulista industrialist for the government's Second National Development Plan. On the other hand, the appointment of José Costa Cavalcanti to the presidency of Eletrobrás in 1980 was prompted by the Figueiredo administration's desire to consolidate support and to guarantee the execution of hydro-power projects making continued use of Eletrobrás borrowing capacity.

While the executive was the principal initiator of development project and was able to exert considerable leverage within the bargaining process, important limitations were placed on presidential autonomy in policy-making by both economic interests associations and international interests, particularly during the implementation phase. Aluminum producers stalled

Geisel initiatives until market conditions were adequate and Figueiredo government agreed to the modifications sought by the Japanese partner with regard to cost of energy. In the Itaipu case, while decision-making process has been essentially insulated and Brazilian interests largely prevailed in the implementation phase. Paraguay and Argentina resisted and were able to modify initial policy with respect to cycles and the height of the Paraná River dams downstream from Itaipu.

Opposition party and dissident organizations also were able to restrict executive autonomy. Indeed, most of the public debate over the Itaipu and Tucuruí projects was conducted through newspaper reports. Opposing factions used newspapers as their primary vehicle for mobilizing opposition against the government's financial deals and bad management of the environmental questions at both projects. In effect the press played a crucial role in transmitting opposition policy preference to the executive during the harshest years of the exclusionary-military regime and thereby helped to shape the political environment within which political liberalization took place. That, however, was not sufficient to modify policy.

The influence of the major interest associations within the state and state enterprises was a function of economic resources, the technical information, and the strategic services they controlled. The growing planning and regulatory capacities of the Brazilian state made the decision on state hydroelectric

power and other development project relatively independent from private cooperation. But the country's economic development was highly dependent on continued private sector investment. This investment, however, decreased considerably after 1977-78, and particularly during the 1981-83 recession. Industrialist complained that the government's economic policies were inhibiting capital investment and wrongly attacked estatização. Financial capital thus carried a great deal of importance in state policy-making realm.

To express their objections or their support for development projects major interest groups had a number of channels open to them. Most had trained staff capable of drafting technical studies and position papers to support their policy preferences in direct consultations with the state enterprise técnicos. Brazilian técnicos and politicians were often capable of shifting from one executive positions in a state enterprise to another and to shift to the private sector periodically. These patterns of recruitment and career mobility between the private sector and ministerial advisory board-state enterprise, and from political position to the administration has been systematically studied⁴ demonstrating different forms of elite circulation in Brazilian state industrial enterprises and private sector in recent years.

It is important to note that the influence of the major economic interest associations in policy-making appears to have

grown steadily during the military regime. While in the 1950s the same industrial leaders influenced several different policies, in the 1970s and 1980s that influence was exerted by heterogeneous economic interest associations. Indeed, whenever mass organization such as the Ecclesiastical Base Communities, the labor union confederation Sole Worker's Central (CUT, Central Unica de Trabalhadores) or other large labor unions began to assert some degree of autonomy within the political system, they were quickly brought back under control of the executive techniques of repression, division or co-optation. The raids against São Bernardo Metal Workers Union in 1980 by the Figueiredo administration illustrates the basic mechanisms utilized to demobilize the peasantry and exclude them from active participation in politics during the political liberalization years.

The determining factor in the fourth stage of policy-making is the extent to which the executive was successful in generating consensus on his projects within the state enterprises and interest groups during the consultation phase. The executive did initiate development projects during the military regime relatively free from direct interest group pressure or from political Congressional opposition, but no development project could gain approval in the business community unless it was a product of consensus among the dominant economic forces within the military-bureaucratic-private sector coalition. In the final

analysis, the executive was forced to make major concessions to the interest groups before any progress in implementation could be achieved. In the case of Itaipu, no effective consensus between Brazil, Paraguay and Argentina ever developed in the consultation stage and thus Itaipu project was approved in 1973, partly as an outcome of the Peronist victory in the Argentine presidential elections. In the case of Tucuruí, Japanese retreated from their willingness to invest in Tucuruí and in infrastructure for the aluminum plants in the region forcing the Brazilian to pick up responsibility for the project. They nullified most of the potential effects of the "Law of Participation." Figueiredo's efforts to speed up the Project through the establishment of Greater Carajás Program equally conceded on subsidized cost of energy to aluminum manufacturers.

A final point to be made regarding basic patterns of policy-making during the military regime is that even when the developments projects passed the four stages, there were still considerable problems to implement them. In both cases the difficulties were related to resources being tied up to loans and equipment supplied. Another type of problem was related to the lack of political responsibility to execute them. Contractors knowingly spent project resources for other activities not related to Tucuruí's deforestation project leaving a messy environmental problem behind. The enormous Brazilian foreign debt is partly owed to irresponsible implementation of

development project even if the country's expansion of the capitalist economy required higher levels of investment.

B. Energy Sector Leadership and Ruling Class Unity

To determine whether or not a "ruling class" exists, pluralist like Dahl⁵ argue that it is necessary to demonstrate empirically that the same leaders that make policy in one issue area also make policy in other areas and that the same alliance wins consistently in all issue areas. From the case of Brazil's development project presented in the preceding chapters, it is evident that significantly different sets of leaders were involved in setting policy in each sector and that no single coalition won consistently over time, except the large empreiteira Camargo Corrêa.

Some degree of overlap was observed among top executive officers. Prominent figures such as Costa e Silva, Médici, Geisel, Figueiredo, Golbery, Costa Cavalcanti, Velloso, Dias Leite, Ueki, Magalhães, Cals appeared as influential in both development projects in at least some stages of the policy-making process. But even in these cases, which are largely attributable to the fact that all were important leaders with wide ranging policy responsibilities, their relative influence fluctuated dramatically over time.

In the electrical energy sector, Costa Cavalcanti appears to be a key figure, capable of providing political gathering political support for the Itaipu development project and overlapping to the Tucuruí project. His tenure in office as Minister of Mines and Energy (1967-1970) and Minister of Interior (1970-1974) allowed him to preside Itaipu Binacional. Geisel tenure as Minister-Chief of the Military House of the Presidency and as president of Petrobrás -- added to the fact that his brother was Médici's Minister of the Army --, was politically capable of conducting him to the presidential term. His chief political advisor Golbery do Couto e Silva had masterminded the creation of SNI and was a strategist of abertura. Although not directly involved in the decision and implementation of the two major development project Golbery was a key figure in the political aspect of both projects. His trip to Asunción in 1965 was crucial to the final resolution of the Ata das Cataratas. In 1981 his resignation as chief political advisor to Figueiredo had the political effect of putting the hard-line on the defensive after the Riocentro incident, what facilitated the denouncement of the Capemi case.

Other key figures and factions involved in the policy-making of the electrical energy sector were Mines and Energy Minister Dias Leite, who had also been president of CVRD, and Minister Ueki, who had previously been Petrobrás's Financial Director under Geisel. Dias Leite approval for Tucuruí was

related to his strong support for mineral development of the Eastern Amazon and its linkages with electric power. Some overlap was seen in the case of Eletrobrás president A.C. Magalhães and director of Coordination, Cesar Cals. Magalhães left Eletrobrás to be Governor of the State of Bahia, where by 1979 was being implanted an important Petrochemical Pole in which the State government had high stakes. Cesar Cals was elected indirectly to the Senate by his native State of Ceará, and subsequently appointed by Figueiredo to be the new Minister of Mines and Energy. Although key figures changed positions some continuity of personnel is observed from one stage of decision making to the next. Key figures in state enterprises of the electrical sector who had been historically linked to hydro-power projects were still in action during the last decade.

Outside government and state enterprises, some overlap between policy-makers was observed. Congressional figures and party leaders had little interests in the policy-making of the project, except in cases where some political gain could be extracted by denouncing one or another aspect, particular the environment-political-administrative Capemi imbroglio. Integration and participation of other ministries, given their functional specialization, was problematic. The Ministry of Agriculture participated in the Tucuruí project but their views were hardly adopted.

The same type of specialization was characteristic of the private sector leadership. Empreiteiros (construction companies) had their interest representation dealing directly with technical and financial sectors of state enterprise. Equipment and other capital goods manufacturers dealt separately with both Itaipu Binacional and Eletronorte. Example of other projects were recalled on when negotiating terms and schedules. But some overlap existed: Camargo Corrêa was probably the main beneficiary of both projects. This firm was personally called to participate in the Itaipu project by Generalissimo Stroessner. Eletronorte awarded Camargo Corrêa the first bidding, and its president personally participated in extending the bidding process to the construction of the dam. Although no formal alliance existed between construction companies and equipment manufacturers and assemblers, collusion among different companies and subcontractors formally existed and coordinated policy and political alliances.

As spokesmen for the industrialist, FIESP (FIESP, Federação das Indústrias do Estado de São Paulo) leaders such as Claudio Bardella, Paulo Villares and Luís Eulálio Bueno Vidigal were at least tangentially involved in both development projects. Their involvement as industrialists and as spokesmen for the Brazilian entrepreneurs rallying for democratization and embracing opposition views was crucial for the continued allocation of resources to both projects, in particular Itaipu,

as demonstrated in Chapter V. But in no moment were they the principal force behind the policies finally adopted and on several occasions they played almost no role at all.

Low subject mobilization is a recurrent characteristic of the Brazilian political system for the unsubstantial participation of citizens in input-output bargaining. Citizens demands continued to follow a corporatist/patrimonial scheme -- a particular demand creation without consideration of lower classes demands.

Some observers of Brazilian political system have termed this pattern of interest representation and leadership as a form of exclusionary elitist model or more cautiously authoritarian-modernization elitism.⁶ But it does not preclude the occupation of power positions by competitive universal impersonal rule, political appointment or election. Competitive universal impersonal rules are the least used to staff decision-making position within state enterprises and state agencies, with the exception of Justice, Treasury and Diplomacy careers. Political appointment results from pressuring and small "bureaucratic rings" elites,⁷ while all interest and groups race in elections. But despite fluidity in leaders, limited pluralism best represent Brazilian political system for at least two important reasons. First, the low competition and the fact that bargaining, negotiation and compromise took place among top governmental, military and civilian officials and private sector

leaders. The representatives and organizations of the dominated classes were effectively excluded from the process in both development project or granted only token participation. Whenever working class mobilization threatened the stability of the regime, it was systematically repressed. Second, there was some competition among major interest groups active in each sector. International and national construction and capital goods interests acted in an unified and cohesive fashion within both projects to kill or modify objectionable points or aspects. International capital goods manufacturers competed to supply Brazilian Nuclear Program but they coalesced to supply equipment to Itaipu and Tucuruí projects.

Obviously some important bargaining and negotiation took place among the political representatives of the different classes and class fractions represented within the bloc-in-power during the military regime and different class alliances were dominant in different sectors at different times. But this type of conflict certainly should not be equated with pluralism, only a limited set of policy options were permitted into the political arena.

The pluralists focus too narrowly on who participates and which leaders and groups succeed at a particular moment of the policy process. Two or more actors with even slightly different policy choices are enough for them to find pluralistic competition. Pluralist do not care that these actors might

represent only minor variations of the same basic class interests. From a Marxist point of view, however, it matters a great deal. Political conflict that takes place only among dominant class fractions is not pluralism but rather a particular form of ruling class domination.

C. The Electric Power Projects and the Ruling Class

All development projects produced clearly identifiable sets of winners and losers over the course of the military regime. In the case of the Itaipu project, the principal beneficiaries were the Brazilian and Paraguayan construction, Brazilian and international industrial and financial fractions of the bourgeoisie who had sought since the start of the military regime to accelerate the expansion of capitalism in Brazil. Despite extensive subcontracting to small construction companies and industries both in Brazil and Paraguay there were significant pressures because of the grandiosity of the project. In the final analysis they too benefited substantially from the ultimate outcome of the policy adopted. In the first place, the international industrial and financial interests demanded and obtained major concessions from the Brazilian government on the crucial questions of loans, energy costs to aluminum plants and generation and transmission systems to both projects that significantly reduced their potential redistributive effects. In

the second place, Brazilian and Paraguayan construction companies and industrial concerns were given generous credit incentives to carry out the modernization of their plants and equipment; such incentives had been one of their principal demands through the debate over the Itaipu project. Finally, as a result of the capitalist development achieved in industry and construction after 1964, both in Brazil and Paraguay, industrialist and empreiteiros (owners of construction companies) emerged from the military regime far more prosperous and politically influential than they had been when military regime began.

The principal losers of the Itaipu project were land poor peasants and landless agricultural workers whose dreams for access to land were effectively crushed. Most of them were displaced by the flooding of their fertile land both in Brazil and Paraguay, and they were obliged to migrate to new frontiers in the Southwestern Amazon region.

The working class must also be considered losers vis-à-vis the enormous gains of the construction companies and industrial contractors. While the towns around the construction site for middle-managers and specialized workers provided for all needs of construction workers, low-skilled workers did not have the privileges granted to specialized and higher ranks workers. Moreover, the massive influx of new migrants into the cities nearby inevitably resulted in the state's failure to provide effective urban services, provoked considerable overcrowding,

created high levels of under and unemployment, originated intense competition for the available jobs, kept wages for Itaipu and Tucuruí workers low and inhibited unionization efforts among large numbers of workers. In the Itaipu case having Brazilian and Paraguayan workers made it more difficult to unionize.

In both cases, the principal winners were clearly the construction companies, the Brazilian and international capital goods generation and transmission equipment industry, and the international financial community, for they were able to press the sale the goods and services which helped them weather worldwide recession of the mid-1970s -- at least to some extent. The principal losers were the displaced agricultural workers and native Indians as well as the workers who were denied access to housing and improved urban services existent in the new villages built near the construction sites.

Three basic set of factors were involved in influencing these outcomes. The first had to do with the class perspective or "bias" that characterized the key policy-making personnel in the executive branch and state enterprises. The second had to do with the capacity of different classes and class fraction to organize and pressure the state for favorable policy decisions. The third had to do with the structural constraints imposed on the state by the particular articulation of capitalist and precapitalist modes of production characteristic of Brazil and Paraguay during the military regime period. The relative

importance of each of these factors varied from one project to another, and within each project from one stage to another; but all three were involved in some way at each stage of the projects.

Of major importance in determining the outcome of either project was the common commitment to the goal of capitalist development shared by all military presidents, their principal advisors, the government party leaders and state enterprise managers and obviously the private sector. Reflecting this commitment, these two projects put forward during the military regime consciously sought to increase the supply of energy to the maturing industrial Southeast and to the industrialization of the Eastern Amazon acting as provider of an essential industrial input to sustain economic growth.

This ideological "bias" among top development policy-makers within the military regime was not the consequence of direct manipulation or persuasion on the part of a united ruling class. Indeed, given the highly complex historical development of the Brazilian social formation, the private entrepreneurial elite was not a monolithic class, capable of issuing coherent orders; rather it was a fragmented class divided into several different fractions or segments each of which had different and occasionally conflicting interests. Nevertheless, the general interests of the bourgeoisie in creating and sustaining the conditions for capitalist growth were the hegemonic interests

within Brazil. The objectives, targets, posture, and perspectives of top policy-makers were extensively shaped or at least greatly inspired on the dominant ideology. Thus, what most top policy-makers considered an "appropriate" or "reasonable" course of state action, or non-action, in the energy sector was normally very much in tune with the general interests of the capitalist class. In effect, the entrepreneurial elite's basic concern for capitalist growth had become part of the "national interest." To work toward the achievement of these interests was also to serve the interests of the nation as a whole. As a result of this class "bias" within the state system, state energy policies consistently favored capitalist class interests over the interests of all other classes within the social formation.

Of course, this general consensus on the goals of capitalist development among key policy-making personnel did not mean that there was complete unanimity among them on how best to achieve this goal. There was an important split within the ruling class between the proponents of the self-reliant and the internationalized associated-dependent development strategies. These differences did not call into question the basic goal of accelerating capitalist development, but they did generate important conflicts within policy-making circles over the precise content and pace of state-led development project. The final outcome of these conflict over strategies of development was largely determined by the differential capacity

of the various classes and class fractions within the social formation to organize politically and pressure the state for policies that favored their specific interests. But not even the 1987-88 Constituent Assembly was able to find a conclusive solution to the strategy.

With regard electrical energy policy, the consumers, the displaced peasantry, and workers demonstrated very little capacity to exert concerted pressure within the policy-making process. As of 1974, labor unions were a specter of what they had been before or of what they would become in the 1980s. The peasants were unorganized and consequently incapable of preventing the provisions on land expropriation and relocation. Moreover, the low level of organization of the construction workers did not enable them to press for effective implementation of some redistributive aspects of the two projects. In the late 1970s, the industrial workers unions of São Bernardo and São Paulo surfaced as an independent political force. But the rapid radicalization of the movement brought unions into direct conflict with the Figueiredo government and the dominant classes. As a result, these leaders were systematically excluded from policy-making circles during the crucial debates on general economic policy in the 1981-83 recession years. That independent unions could be so excluded, despite relatively high levels of mobilization achieved during the 1977-1980 period, revealed the fundamental weakness of all peasant and industrial organizations

and movements vis-à-vis the dominant classes during the military regime.

In contrast to the groups mentioned above, the economically dominant groups were well organized and capable of achieving and sustaining high levels of mobilization. As a result, their capacity to pressure the state for favorable policy outputs was considerable. It is important to understand, however, that the specific interests of the various fractions of the bourgeoisie were affected in different ways and to varying degrees by the development projects. Under these circumstances, some elements of the capitalist class were much more motivated to intervene actively in the policy-making process than were others.

The heavy civil construction, industrial and financial fractions, for example, participated in all stages of the energy policy-making through interest representation such as National Confederation of Industries (CNI), FIESP, and civil construction associations. But the role they played was decidedly a secondary one with respect to bureaucratic elites. This limited influence in the energy policy-making process is largely attributable to the fact that their primary interest -- promoting the conditions for capitalist development -- was adequately addressed within policy-making arenas at all stages of the process -- decision-making by the executive, discussions on the bureaucracy and key private sectors interlocutors.

As both the project-case reconstruction and the reputational findings presented earlier in this study indicated, the most active and influential groups of the entrepreneurial class involved in the electric power policy during the military regime was the heavy civil construction fraction, represented by some large Brazilian empreiteiras. Industrial and financial groups, both Brazilian and international, were evidently active and made efforts to influence decision-making in the two projects. But their interest was a corollary of the developmentalist ideology pervasive in the Brazilian state during the 1964-1985 period. To accelerate the pace of development, Brazilian internal savings were not sufficient, therefore the Brazilian state did have to borrow heavily, as demonstrated in the state enterprise's sources of investment funds, what coincided with a period of financial surplus in the international banking system.

In summary, the fate of the two development projects over the course of the military regime was determined by the concatenation of both instrumental and structural factors. The objectives and targets of the top policy-makers in the executive and in the state enterprises, direct pressures on the state mobilized by concerned interest groups and their political allies, and the structural constraints inherent within the capitalist mode were all involved in defining the nature and impact of state policy in the energy sector. No perspective that

relies solely on either instrumental or structural causation, instead of the two juxtaposed, can provide an adequate explanation for the outcome of the two development projects.

Both projects are generating electric power to the respective regions which they serve. Both projects have had implementation problems and were financially burdensome to the state and society.

D. The Military Regime and the Democratization Process

The success of the military regime in maintaining political stability over the 1964-1985 period is attributable to a complex set of economic, political and ideological factors. But among these, it is the remarkable strength of development strategies that must be assigned fundamental importance, notwithstanding the perverse effects on non-privileged groups in Brazilian society. The first military governments initiated a model of development based upon the implementation of large economic projects. The last two military governments proceeded the strategy despite the challenge posed by sequential Opposition parties victories on the 1974, 1978, 1982, elections which culminated with Tancredo Neves-led victory which transformed the military regime to a transitional democratic rule.

The very structure of the military tended to undermine the traditional loyalties upon which the stability of the regime

rested. By de-emphasizing party competition and encouraging discretionary policies and state-sponsored projects, the military regime reduced the significance politics to simply authoritarian administration. The absence of major socio-economic changes, widespread corruption, cronyism and nepotism, electoral manipulation, and continuing privileged access to elites bred cynicism and discontent, particularly among the growing urban poor in the largest cities. By 1982, the government party PDS only elected governors in marginal Northeastern and Northern States (with the exception of Santa Catarina in the South), and the majority of the votes were identified with the Center-Left political parties (PMDB, PDT, PT). Although the voters were not radical or revolutionary, they pointed in the direction change. They were plebiscitary in nature. Democratic elections have consistently shown a character of "referendum" on governmental policies. Sixteen MDB Senators elected in the majoritarian 1974 elections were the first to capitalize on this discontent voters, followed by the 1/3 Senators directly elected in 1978. Consistently major Southern states -- the most industrial and where patrimonialist practices were relatively weaker -- have elected Opposition Congressmen.

Indeed, the elections occurred during the transition José Sarney regime have confirmed the plebiscitary character of recent Brazilian democratic elections. The point is that the urban masses, the majority of the voting population, have become

disillusioned with a model of development which has undoubtedly produced economic growth and industrial infrastructure, but has failed to provide social development for the majority of Brazilians.

Brazil is presently reaping the harvest of over twenty years of vast economic growth with lack of social reforms. It is by no means impossible that the present political parties will manage to weather the political crisis of legitimacy and transpose the transition period into a democratic rule. It is by no means certain the military will remain docile; the recuperative capacities of the military should never be underestimated. It is clear, however, that the Brazilian political system has reached a critical juncture in its historical development. The ruling class must choose, indeed is currently being forced to choose between social change and repression, between "inclusive" and "exclusive" forms of social and political control. The reforms embodied in the 1988 Constitution need not to be revolutionary, but they will have to be more than cosmetic. If such reforms are not forthcoming Brazil will enter in a period of rising praetorianism combined with populist and leftist electoral challenges whose outcome is indeterminate.

Endnotes

1. - Judith Tendler, op.cit.
2. - Wanderley Guilherme dos Santos, op.cit.
3. - Antonio Barros de Castro, A Economia Brasileira em ..., op.cit.
4. - A recent study by Ben Ross Schneider, "Politics Within the State: Elite Bureaucrats and Industrial Policy in Authoritarian Brazil," (PhD dissertation University of California, Berkeley, 1987).
5. - Robert Dahl, "A Critique of the Ruling Elite Model," American Political Science Review 52 (1958): 463-469.
6. - Luciano Martins, op.cit. Simon Schartzman, As Bases do Autoritarismo Brasileiro. (Brasília: Editora da UnB, 1982).
7. - Fernando Henrique Cardoso, Autoritarismo e Democratização, op.cit.

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