

CHAPTER – I INTRODUCTION

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INTRODUCTION

1.00 PROLOGUE

Whereas, the global economic and financial system is drifting towards **OLIGOPOLY IN OLYGARCHY** accompanied by the process of liberalization, globalization and privatization all over the world, India being an emerging economy has no alternative but to strategically converge and dovetail in the crevice of total process of international phenomena of change and reforms. The era of pre-1980s was dominated by centrally planned and command economies. Karl Marx had reasoned that socialism would replace capitalism first in the most industrialized capitalist countries. Indeed, the first part of the 20th Century was a period of considerable social ferment, notably in Europe. However, the revolutionary socialism took hold in more agrarian states, where economic development and the advancement of industry were concerns as vital as equitable distribution. The achievement of the planned system were considerable and it includes, increased output, industrialization, the provision of basic education, healthcare, housing and job to entire populations and a seeming imperviousness to the great depression of the 1930s. Moreover, incomes were also relatively equally distributed, and an extensive if inefficient, welfare state ensured every one access to basic goods and services. But the system was far less stable than it seemed for the intrinsic inefficiency of planning was overwhelming. Planners could not get enough information to substitute for that supplied by prices in a market economy.

Planning therefore, largely becomes a personalised bargaining process. This proved bad for the industry, worst for the agriculture. Moreover, the suppression of the individual incentives required in their place an intrusive set of controls. This basis of ideological commitment and a dedicated vanguard party resulted into fragmentally deregulated into cults of personality and abuses of position by “*nomen klatura elites*” This centrally planned economies have had posted high growth in 1950s (average annual growth rate of 10%), and then started decelerating from 7% to 2% in 1980s for the Soviet economy. This trend occurred despite high investment rates, the returns to

capital formation began a steady and repaid descent in mid 1950s. A similar stagnation infected Eastern Europe and other centrally planned economies including India and China. Besides, the deceleration in economic indicators, social indicators also began to worsen as well, confirming the trouble state of the system¹. The determination of national advantage lead to pessimism about the prospects of centrally planned economies. They lacked many of the most important elements of the *DIAMOND*². There are few mechanisms for creating specialized factors. Restriction on buyer choice remove sophisticated demand pressure. The lack of competition eliminates most interchanged with related and supported industries. Lack of motivation and the restricted flow of information blunt upgrading. Most importantly, effective domestic rivalry, much less to talk about global rivalry was absent. Therefore, the national advantage will almost exclusively be remained factor-driven. Therefore, wholesale economic restructuring was desideratum to support advancement and the Government must recognize that the “*Diamond is a system*”, which makes policies in many areas interdependent including privatization, as it is *not a zero sum game*.

The impetus to reform the centrally planned economy was different for the respective economies, may it be to recover from 40 years of war (Vietnam and Mongolia) or augmenting the living standards and welfare of citizens, *inter alia* by ameliorating efficiency and effectiveness. As a sequel to sub-optimal performance of these economies, most of these economies have rejected all or much of central planning and have embarked on a passage – “*a transition*” – towards decentralized market mechanism underpinned by wide spread private ownership. The transition was accompanied by reforms in the name of globalization, liberalization, privatization etc. christened as “*strategy for reforms*”

- Globalisation is the process by which activity or undertaking becomes world wide in scope. As a sequel to globalisation, it has, *inter alia*, influenced world wide the sovereignty at bay. Globalisation is a threat to weak or capriciously governed states, but it also opens the way for effective, discipline states to foster development and economic well being and it sharpens the need for effective international co-operation in the pursuit of global collective action³.

- Likewise, liberalisation refers, except where stated otherwise, to economic liberalisation · the loosening or elimination of Government restrictions on domestic transactions, prices and markets, on external transactions and the free exchange of domestic currency for foreign and vice versa {convertibility}, or a free entry of firms into domestic markets⁴.
- Privatisation is used in its strict sense that of divestiture by the state enterprises, land, or other assets, and not in the broader sense of any action that moves an enterprise or an economy in the direction of private ownership or that tends to make the behaviour of state enterprises more like that of private enterprises.

1.01 GENESIS OF PRIVATIZATION

Eventhough, privatization strategy came into vogue and became popular during 1980s, it has its genesis in much early school of thoughts on the public policy and it can be found in the writings of *Adam Smith*, as early as 1762. He declared in the *Wealth of Nations* that

**“No two characters seem more incongruous than
Those of the trader and the sovereign”⁵.**

World wide, privatization made no significant appearance in political and economic literature before 1979 and the word “**privatize**” appeared in the Webster New Collegiate Dictionary for the first time in 1983.

Further, the early Dutch East Indies trading company (DEITC) and the British South Africa Company (BSAC) were under private hands until they were nationalised as part of their Government interest in global imperialism. The revival of free market and the theoretical foundations for such as public policy came into being with the emergence of the “New Right” school of thought, which took its origin with Frederic Von Hayek’s seminal book, *The Road to Serfdom* (1944). Thereafter, several economists have argued their own version of free market since 1960s (such as Milton Friedman, James Buchanan, Gordon Tullock, etc.).

The 20th Century has seen the advent of three distinct economic philosophies.

- (a) Classical doctrine of free and unfettered trade – starting with Walrasian ‘General Equilibrium’ theory and expounded in terms of the ‘*Pareto optimum*’, which has today crystallized into the concept of ‘*Minimum Government*’, the concept propounded most effectively by Mr. Frederic Von Hayek, accompanied by *Milton’s* monetarist approach to bring about ‘*Zero Inflation*’, no matter what consequences are?
- (b) Modified - Keynesian-Cum-Kaleckian approach of state intervention with a view to maintaining full employment, even while keeping in place many of the institutions of capitalist society ;
- (c) Karl Marx concept of socialistic society The form was given by Lenin after October 1917 revolution in Russia ,

Before discussing further, the debut of privatization has also its seeds in the prescient words of the fountainhead of development, **Alfred Marshall**.

**“Knowledge is our most powerful engine
of productionOrganisation aids knowledge”⁶.**

The howling importance of the captioned quote is self-evident by making distinction between public and private property in knowledge and organisation is of great and growing importance.

- (d) However, the new right school prevailed over Western Economies basically in two groups :

- Neo – Liberals (for greater role of state).
- Neo – Conservatism (for minimum role of state)

Despite of divergent thoughts on free market by many economist, basically there are three notions which remain crucial to the thinkers in Neo – Liberals i.e. believing in non-egalitarianism.

- Freedom / Liberty.
- A limited / minimal state
- A free market.

Neo – Conservatism emphasizes on authority, tradition, stability, order and morality. To be explicit, the ‘New Right’ concept of Brendan Martin (described as an independent consultant specializing in privatization and public sector reforms worldwide) to bring out the theoretical edifice of Neo – Conservative – economic policies which have again ascendancy in industrially developed countries since the 1980s. His philosophy seems to have inspired and motivated both the “*Drumbeat of Privatization*” Mrs. Margaret Thatcher and Mr. Ronald Reagan, to winds in his quest for a new international economic order under the hegemony of U.S. Though, IMF and World Bank Mr. Reagan assiduously pursue these policies for developing countries as well, in financing the balance of payment disequilibria and of the capital needs of development. It seems that Mrs Margaret Thatcher was much inspired by *the dictum of “Mininum State”* which motivated her zeal for privatization. Thus, the sputter of command economy gave birth to privatization.

1.02 DEFINITIONS OF PRIVATIZATION

Broadly, Privatization means rolling back the Government’s role in the economy. To be more explicit and implicit, it is necessary at this juncture to define the privatization in its nature, character and contexts several scholars have defined it as under

- (a) Privatization is defined as “the transfer of a function, activities, or organisation from the public to the private sector, ranging from the sale of an equity to management contracts or leasing agreements with private firms. Privatization may also involve a degree of market deregulation. The main objectives of privatization is to foster and promote economic efficiency and to augment the extent to which the national economy can truly become a part of world economy”⁷
- (b) “Privatization is used in its strict sense, that of divestiture by the state of enterprises, land, or other assets and not in the broader sense of any action that moves an enterprise or an economy in the direction of private ownership or that tends to make the behavior of state enterprises more like that of private entity”⁸
- (c) “Any program of action which facilitates the transfer of substantive ownership or control to private sector”⁹

- (d) “Privatization is the reverse of nationalization”. In brief, nationalization is the taking of private property by the state and in privatization it is imparting of the reverse¹⁰

From the above mentioned definitions, it is clear that privatization basically seeks to abate the role of the state place in a nation’s economic life and to expand the role played by market -directed competition. However, it is herculean task to rebalance these roles efficiently, effectively, fairly and permanently. Privatization is efficient, economic and effective, when the cost of transferring control are minimized. Ghosh (1997)¹¹ characterizes deal-induced

political frictions as ‘demoralization costs’. Transfer costs includes just the cost of making and executing privatization deals but also the costs of any unpleasant responses that inefficiency and inequities in the deals might subsequently generate in the political arena. Demoralization costs will be zero only if the taxpayers are perfectly apathetic, or if the deals doing made are efficient and fair.

1.03 **APPROACHES TO PRIVATIZATION**¹²

Keeping in view the above mentioned discussions, definitions and explanations for the term privatization, and based on various approaches in terms of scale, scope, events, time & the degree to which they mean the pattern of privatization, it is known and christened by different names all over the globe, as under

SCHMOOZ OF PRIVATIZATION

❖ Denationalization	in	<i>United Kingdom</i>
❖ People-isotion	in	<i>Srilanka</i>
❖ Disinvestment	in	<i>India and Pakistan</i>
❖ Transformation	in	<i>Thailand.</i>
❖ Prioritization	in	<i>Australia</i>
❖ Assets--sale program	in	<i>New Zealand.</i>
❖ Disincorporation	in	<i>Mexico.</i>
❖ Corporatization	in	<i>Japan</i>
❖ Ming- ying	in	<i>China</i>

Privatization in terms of its objectives, degree, diversity, scale, etc. can be attempted through various approaches as under

- (a) **TRUE PRIVATIZATION**
- (b) **PROXY / COLD PRIVATIZATION**
- (c) **GREEN FIELD PRIVATIZATION**
- (d) **FORMAL PRIVATIZATION**
- (e) **INFORMAL / OPPORTUNISTIC PRIVATIZATION.**

(a) **TRUE PRIVATIZATION**

The first approach of true privatization includes transactions of transfer of ownership from public anonymous bureaucrats and politicians to private (known individuals) hands through either sale of assets or of equity shares contracting out some of the activities of Public Sector Undertakings (PSUs) to private parties and closure of PSUs

(b) **PROXY / COLD PRIVATIZATION**

The second approach of privatization known as Proxy / Cold Privatization involved either a memorandum of understanding (MOU) signed between the Government and the management of PSUs, wherein the management is made free from the Government controls but it is expected to perform as per the agreed understandings or an erstwhile departmental run PSUs is corporatized.

(c) **GREEN FIELD PRIVATIZATION :**

This third approach involves the transactions of an erstwhile reserved industry / sector is declared open for the private sector, where the regulations like licencing, entry conditions, monopoly status and other barriers to entry and exit etc. are existed

(d) **FORMAL PRIVATIZATION .**

This fourth approach of formal privatization refers to the explicit sale of privately transferable ownership interest in a public (i.e community owned) enterprise to individual or corporate shareholders and in principle it promises to increase the productivity of public enterprise by improving control structures and internal incentives.

(e) INFORMAL / OPPORTUNISTIC PRIVATIZATION¹³ .

The fifth and last approach of Informal Privatization occurred in a publicly owned enterprise wherever any of the firm's *de facto* stake-holders manage to expand their ownership rights at the expense of tax-payers. *De facto* stake-holders in a typical PSU includes managers, workers, suppliers, customers, interest groups and officials of specialised city, country and provincial governments.

This type of privatization has three characteristics viz. (i) the Privatization process start sooner and operate at a higher speed than formal privatization can, (ii) it entailed lower contracting costs than *de novo* stock offerings. It is simple to execute and hard to stop, (iii) the longer and more fully a public enterprise undergoes opportunistic privatization, the fewer social benefit are left for a formal stock holder privatization to capture for tax-payers. The metaphor of a pre-sale clarifies that opportunistic privatization is not just a problem of developing or transitional economies but also in the developed countries like USA. Since, almost by definition a transitional or developing economy faces high cost of defining and enforcing private contract rights, in practice privatization officials have not been personally compensated for incurring these costs. The aftermath of it is that formal privatization has invariably failed to keep pace with *de facto* and *de jure* reforms of opportunistic privatization. Tax-payers get the bill for bailing out unprofitable public enterprises while, inside stake holders appropriate most of the tax-payer's fair share of the networth of valuable firms

1.04 RATIONALE FOR PRIVATIZATION - THE HOLY GRAIL

For the effective privatization strategy, in every nation the basic question every citizens ask is 'why privatization'? After examining the global experiences of privatization since 1979 through 2000, the answer lies into several factors governed by theories, not mutually exclusive of privatization. They are as under:

- * Efficiency in
 - Production (i.e. price = marginal cost)
 - Property Rights / Incentives
 - Contestability
 - Human / Knowledge Capital

- * Increase in Growth → Cash Flow
- * Technology / Innovation / Options / Opportunities.
- * Enhanced Welfare of citizens / delightment to customers.
- * Fiscal Dimension → Resource Mobilization/Fiscal – Support
→ Poor Performance of PSUs
→ Focus
- * Increase Market Capitalisation and enhancing true economic value of the public sector undertaking
- * Retaining and enhancing sustainable competitive advantage of PSUs in strategy for Nation Development.
- * To encourage wider and deeper public participation in the ownership of PSUs
- * To promote greater accountability

Ceteris paribus, under PSUs there is a dichotomy between the owner (the president of the state) and the management (floating bureaucrats and politicians). The property right theory argues that the non-owner management have poor incentives to perform as compare to the owner management To cite an illustration, in an interview to Business Today (October 1996) Mr. Russy Mody – Chairman, Air India and Indian Airlines, had this to say .

“I see a history of mismanagement. Rather a situation where there is no accountability, no punishments, no rewards, no participation, no performance, ... The problem is not one of inferior quality of personnel What is different is the work ethos, and that has to do with several factors The first is that of ownership . ”

Unlike the above, the contestability theory, advanced by Professor W.J. Baumol in 1982, argues that the production efficiency is more under competition than under monopoly In particular, monopoly leads to “*dead weight loss*” to the society.

Besides the above, the human capital rationale for privatization suggests that in the public sector recruitments are based more on political acceptance than on skills, while quite the opposite is the case in the private sector. If so, PSUs have less efficient and excess personnel than the private sector enterprises.

The innovation theory is advanced on the ground of providing greater choice and opportunities for private enterprises so as to encourage private investment and thereby foster economic growth. In U.K. one of the key objectives of privatization was to create capital assets for middle class households, thus creating a large constituency for privatization. Many critics have argued that the public sector has become so large that the Government is unable to manage them economically, efficiently and effectively. Therefore, a focus strategy on selected enterprises / sectors is desirable. Though there is no solid proof that the performance is subject to ownership, yet many people argue for privatization on this count, in addition to the relative poor performance of PSUs.

The last but not the least reason for privatization is the need for resource mobilization by the Government, *inter alia*, to honour its other commitments / priorities including infrastructure investments, debt servicing, poverty alleviation, rural development, etc. and also to reduce fiscal deficit. Therefore, different reasons were ascribed by different Governments for their selection of privatization strategy, as a means to national development.

1.05 STRATEGY FOR PRIVATIZATION

Since, the major determinants of decision for privatization strategy, *inter alia*, are total sponsorship by political leadership, economic efficiency of PSUs and above all creating sustainable environment for welfare of the citizens, the decision as to privatize or not and the extent and scope of privatization is depicted herein below in the Matrix known as Privatization Policy Directional Matrix (PPDM)¹⁴

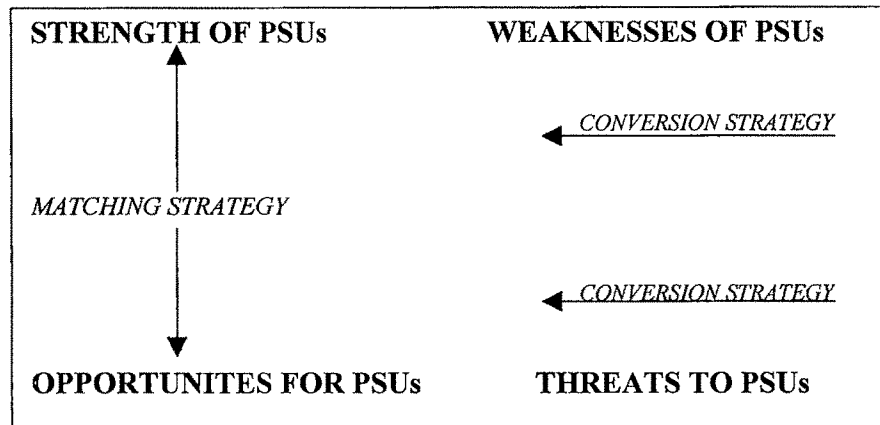
High Political Commitment (Big Bang) (HPC)	<ul style="list-style-type: none"> * No Unbundling * Divestiture Only 	<ul style="list-style-type: none"> * Full Privatization * Unbundling * Demerger
Low Political Commitment (LPC)	<ul style="list-style-type: none"> * Deregulation of PSUs * New Entry of Private Sector * Contracting Out * Management/Lease Contracting 	<ul style="list-style-type: none"> * Gradual Privatization * Deregulation * Demonopolisation * Divestiture
	Low Economic Efficiency (LEE)	High Economic Efficiency (HEE)

PRIVATIZATION POLICY DIRECTIONAL MATRIX (PPDM)

Keeping in view the major two determinants of privatization strategy, *Ceteris Paribus*, the following general rule for the decision can be applied for the privatization.

CONDITIONALITIES	DECISION
❖ If there is HPC + HEE →	Full Privatization
❖ If there is HPC + LEE →	Divestiture
❖ If there is HEE + LPC →	Gradual Privatization
❖ If there is LEE + LPC →	Partial Privatization

After deciding, whether to go for the privatization strategy or not for the national development, the next step is to examine and to appraise the strengths, weaknesses, opportunities and threats (SWOT) of each PSUs in detail. Thereafter it is necessary to decide the guiding strategy for each PSUs as under:



GUIDING STRATEGY FOR PRIVATIZATION ¹⁵

(a) Matching Strategy

To match the strength of PSUs, with environmental opportunities and options available, *inter alia* to yield the strategic sovereign investor a superior long term returns from the proceeds of disinvestment.

(b) Conversion Strategy

Before opting for disinvestment, if the PSUs have weaknesses or any environmental threats, the disinvestment candidate must pursue conversion strategy, *inter alia*, to convert weaknesses into strength and threats into valuable opportunities by restructuring, reengineering and benchmarking techniques.

Keeping in view the Privatization Policy Directional Matrix and in view of the above mentioned guiding strategy, the privatization candidate is identified for the disinvestment purpose.

1.06 GROWTH OF PRIVATIZATION ALL OVER THE WORLD

It is needless to mention that more and more countries all over the globe have and are involved in the process of privatization since 1979. This is evident from the fact that out of total 148 Countries covered by the World Bank, 88 Countries have mobilized non-tax revenues as a new means of financing the activities of national development.¹⁶ The Table . 1.01 exhibits the total proceeds realised from privatization strategy by each country till 1998.

Table : 1.01 exhibits the Country-wise realisations from strategy of privatization. Likewise, Table : 1.02 exhibits the total privatization revenue by sectors in emerging markets all over the world. Table : 1 03 exhibits the amount of Forex raised from the strategy of privatization in the emerging market. Table : 1.04 exhibits the means of financing of privatization through Portfolio Investment and Foreign Direct Investment.

TABLE : 1.01

PROCEEDS FROM PRIVATIZATION – COUNTRYWISE (\$ in Millions)

<i>SR. NO.</i>	<i>NAME OF THE COUNTRY</i>	<i>GNP (\$)</i>	<i>PRIVATIZATION PROCEEDS (\$)</i>	<i>% OF GNP</i>
1	Albania	2700	28.50	1.06
2	Algeria	46400	9.30	0.02
3	Angola	4600	6.20	0 13
4	Argentina	290300	28431 50	9.79
5	Armenia	1700	212.10	12 48
6	Azerbaijan	3800	15.80	0.42
7	Bangladesh	22300	59.60	0.27
8	Belarus	259000	10.80	0 00
9	Benin	2300	39.00	1 70
10	Bolivia	8000	894.10	11 18
11	Brazil	767600	66727.90	8.69
12	Bulgaria	10100	1446.70	14.32
13	Burkina Faso	2600	6.30	0.24
14	Burundi	900	4.20	0.47
15	Cameroon	8700	113.10	1 30
16	Chile	73900	1085.20	1 47
17	China	923600	17467.00	1 89
18	Colombia	39000	5979.50	15.33
19	Costa Rica	69000	50.80	0 07
20	Cote d' Ivorie	46000	570.10	1 24
21	Croatia	80000	468.30	0.59
22	Cuba	101000	706.00	0 70
23	Czech Republic	133000	4458.10	3 35
24	Ecuador	44000	169.30	0.38
25	Egypt, Arab Rep.	62000	2048.90	3.30
26	El. Salvador	292000	902 10	0.31
27	Eritrea	38000	2.00	0.01
28	Estonia	34000	510.30	1.50
29	Ethiopia	61000	172.00	0 28
30	Ghana	81000	885.40	1 09
31	Guatemala	100000	1250.00	1 25

SR. NO.	NAME OF THE COUNTRY	GNP (\$)	PRIVATIZATION PROCEEDS (\$)	% OF GNP
32	Guinea	29000	45.00	0.16
33	Guinea – Bissau	41000	0.50	0.00
34	Honduras	55000	74.10	0.13
35	Hungary	45700	12634.80	27.65
36	India	427400	7125.30	1.67
37	Indonesia	130600	5284.90	4.05
38	Jamaica	4500	385.50	8.57
39	Jordan	5300	63.80	1.20
40	Kazakhstan	20900	6375.90	30.51
41	Kenya	10200	256.70	2.52
42	Kyrgyz – Rep	1800	139.70	7.76
43	Lao PDR	1600	32.00	2.00
44	Latvia	5900	490.90	8.32
45	Lithuania	9400	1482.30	15.77
46	Macedonia FYR	2600	621.30	23.90
47	Malawi	2200	13.90	0.63
48	Malaysia	81300	10029.60	12.34
49	Mali	2600	21.90	0.84
50	Mauritania	1000	1.10	0.11
51	Mexico	368100	28302.00	7.69
52	Moldavia	1700	1.60	0.09
53	Morocco	34400	1938.90	5.64
54	Mozambique	3500	138.20	3.95
55	Nepal	4900	15.10	0.31
56	Nicaragua	1800	130.30	7.24
57	Nigeria	36400	730.20	2.01
58	Oman	-	60.10	-
59	Pakistan	61500	1992.30	3.24
60	Panama	8300	1125.60	13.56
61	Papua New Guinea	-	223.60	-
62	Paraguay	4100	42.00	1.02
63	Peru	60500	7848.40	12.97
64	Philippines	78900	3730.00	4.73
65	Poland	151300	8281.60	5.47
66	Romania	30600	1772.70	5.79
67	Russian Fed.	331800	1910.60	0.58
68	Senegal	4700	341.70	7.27
69	Sierra Leone	4700	1.60	0.03
70	Slovak Rep.	19700	1979.40	10.05
71	Slovenia	19400	521.10	2.69
72	South Africa	136900	2729.20	1.99
73	Sri Lanka	15200	803.90	5.29
74	Tanzania	7200	251.60	3.49
75	Thailand	131900	1642.00	1.24
76	Togo	1500	38.10	2.54

SR. NO.	NAME OF THE COUNTRY	GNP (\$)	PRIVATIZATION PROCEEDS (\$)	% OF GNP
77	Trinidad & Tobago	5800	276.20	4.76
78	Tunisia	19200	514.60	2.68
79	Turkey	200500	4616.40	2.30
80	Uganda	6600	166.30	2.52
81	Ukraine	49200	31.50	0.06
82	Uruguay	20000	17.00	0.09
83	Uzbekistan	22900	212.00	0.93
84	Venezuela, RB	82100	6026.50	7.34
85	Vietnam	26500	7.60	0.03
86	Yugoslavia (FR)	-	921.70	0.00
87	Zambia	3200	826.00	25.81
88	Zimbabwe	7200	197.30	2.74
TOTAL		6448700	260174.2	4.03

Source : Processed from, the World Bank, World Development Indicators - World Bank 2000, Para No 58, State Owned Enterprises, pp. 288-290.

Note : Privatization proceeds data are cumulative total for the period ended 1998

From the above it is *inter alia* observed that

- (a) Out of total 148 Countries all over the world 88 Countries, i.e. 59.45% had adopted privatization strategy to augment the resources for financing Government treasury
- (b) The toper is Brazil who had raised the largest privatization proceeds of \$66727.9, against the miniscule realisations of 0.5 million by Guinea Bissau.
- (c) The simple average percentage of privatization proceeds to GNP was 4.03% as depicted here in above.

TABLE : 1.02

PRIVATIZATION REVENUE BY SECTOR, 1990-96

(\$ In Millions)

SECTOR	1990	1991	1992	1993	1994	1995	1996	TOTAL
Infrastructure	9704	6863	9715	5360	9399	9240	15201	65481

SECTOR	1990	1991	1992	1993	1994	1995	1996	TOTAL
Industry	1402	5558	7188	7491	6091	5787	3546	37063
Agriculture & Mining	1367	3608	3394	6215	4068	4336	2787	25776
Financial Services	47	7793	5263	3411	1065	1933	2671	22182
Other Services	138	420	621	1184	1088	606	1108	5165
TOTAL	12658	24242	26181	23661	21712	21901	25313	155667

Source · Adopted from Ira w. Liberman and Kirkness Christopher D Privatization and Emerging Equity Market, 1998, The World Bank and Flemmings, pp 13.

Observations · (i) The sovereign government has raised 42.06% of privatization revenue from infrastructure and 23.80% from industrial sector as the highest and 3.31% from other services and 14.25% from financial service the least. Thus, hard sectors of economies were used for disinvestment, *inter alia*, to augment non-tax revenue.

(ii) CAGR of 12.25% had been achieved during the period 1990 to 1996.

TABLE : 1.03

FOREIGN EXCHANGE RAISED THROUGH PRIVATIZATION IN EMERGING MARKET, 1990-96

(\$ in Millions)

REGION	1990	1991	1992	1993	1994	1995	1996	TOTAL
LATIN AMERICA AND THE CARIBBAN	6358	7384	4037	3765	5058	2206	6302	35111
EUROPE AND CENTRAL ASIA	586	1892	3069	2932	1588	4778	1880	16726
EAST ASIA AND THE PACIFIC	1	102	1556	4156	4036	2026	1990	13865
SUB SAHARAN AFRICA	38	5	66	566	453	275	299	1702
SOUTH ASIA	11	4	44	16	997	38	528	1638
MIDDLE EAST AND NORTH AFRICA	0	3	19	183	246	16	126	594
TOTAL	6994	9390	8791	11619	12378	9338	11125	69636

Source . Adopted from Ira w. Liberman and Kirkness Christopher D. Privatization and Emerging Equity Market, 1998, The World Bank and Flemmings, p.14.

Observations (i) Latin America and the Caribbean raised the largest Forex (50 40%) through privatization and the least (0.85%) by Middle East & North Africa.
(ii) CAGR of 8.05% in Forex realisations had been achieved since 1990 through 1996.

TABLE : 1.04

**PORTFOLIO INVESTMENT AND FOREIGN DIRECT INVESTMENT
IN PRIVATIZATION, 1990-96**

(\$ In Million)

<i>TYPE</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>TOTAL</i>
Portfolio Investment	106	3873	2752	5190	5965	2959	5627	26472
Foreign Direct Investment	6888	5517	6039	6429	6414	6380	5498	43164
<i>TOTAL</i>	<i>6994</i>	<i>9390</i>	<i>8791</i>	<i>11619</i>	<i>12378</i>	<i>9338</i>	<i>11125</i>	<i>69636</i>

Source : Adopted from Ira w. Liberman and Kirkness Christopher D. Privatization and Emerging Equity Market, 1998, The World Bank and Flemmings.

Observations · In 1990, 98 48% of FDI was used for privatization as against 49 40% in 1996. However, the means of FDI has decelerated its popularity and the means of portfolio investment had increased from 15.15% in 1990 to 50 55% in 1996.

1.07 PROBLEMS IN PRIVATIZATION

Privatization all over the globe is not spergeriatric. Since 1979, the process of privatization has been effected in various ways, all over the globe It has generally been resulted into improved profitability, product quality and new source of resource mobilization for the sovereign power, etc However, in view of the idiosyncratic and

esoteric characteristics of each national economy, industry and the candidate for privatization, the process of privatization was and is not so smooth, facile and unpain-taking. This is self evident from the diddles of privatization in general and in particular, the following significant issues

- (i) Choice of PSUs for privatization.
- (ii) Strategic Valuation / Pricing of Assets / Equities, including methods and techniques of privatization
- (iii) Mode / Preference of Selling / Disinvestment.
- (iv) Timing and Extent of Disinvestment
- (v) Opposition from internal stake holders and lack of strategic co-ordination to achieve 'political fit'.

1.08 RATIONALE OF THE STUDY

PROBLEM OF VALUATION AND PRICING OF EQUITIES

Amongst the various issues and problems discussed in nutshell in the previous paras the most pivotal and paramount problem existed all over the world, in the holistic process of privatization is –

“The problem of determination of ological and optimal strategic valuation of PSUs / true economic intrinsic value of assets/ equities of PSUs.”

The above mentioned problem gathered much momentum and attention of every citizens, *inter alia*, due to the fact that it has direct, proximate and live nexus and pecuniary effects on the pockets of tax-payers and above all its effects on welfare of the citizens / tax-payers To be more specific and explicit, in the total process of privatization / disinvestment, by whatever name it is christened, in its holistic approach, valuation and pricing of assets / equities plays a dominant, paramount, sensitive and indispensable role, not only at the time of disinvestment but also in the ensuing future, as it has direct effect on the process of sustainable wealth creation and value addition of nations and consequently on the welfare of citizens. These

observations are self evident and self-explanatory from the lessons of experience of nations who have had followed the privatization strategy so far and in view of the followings :

- (a) At this juncture it is desideratum to quote the economic idea of the eminent economist, Adam Smith (the Wealth of Nation, 1776)¹⁷ for valuation and pricing of assets / equities

**“THE REAL PRICE OF EVERYTHING IS THE TOIL AND
TROUBLE OF ACQUIRING IT”**

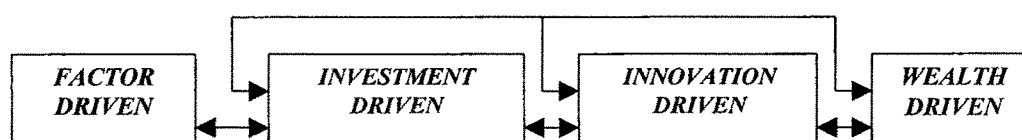
It is needless to state that PSUs were formed and funded by the scarce and sparse hard earned money of citizens and taxpayers of the nation. Therefore, it is the duty of privatization officials to ensure that not only the corpus and accrued returns on the investments are maintained and realised in the crewise of disinvestment process, but also to ensure that the same must be retained in the economy for the welfare and wealth creation of citizens on sustainable basis.

Ceteris Paribus, under-pricing as compared to optimal economic pricing of equity results into less realisation of valuable investments to sovereign state as a seller or a divestor and consequent loss to economies resulting into higher taxation and non – taxation charges / levies on the citizens. Alternatively, over-pricing of equities as compared to optimal economic pricing, results into loss to valued investors, thereby, *inter alia*, shaking trust and confidence of investors reposed in the total process of disinvestment both at present and for the future. Therefore, it is desideratum in the crewise of total process of sustainable disinvestment to determine objective, ological and optimal and true and fair economic prices of equities so that the strategy of disinvestment is smoothly implemented and the desired outcome is realised.

The holistic process of valuation is difficult in best of circumstances but doubly so in developing countries where global and macro economic changes are taking place, where assets / equities have not been traded before and where information is asymmetric and the price discovery process is inefficient and weak, comparable are a few and the market is thin, narrow and shallow with in-built inefficiencies

- (b) In the disinvestment process, both pre-disinvestment and post-disinvestment, the authorities and officials are bureaucratic, inexperienced and are less deontically motivated, *inter alia*, due to fixed rate public service contracts and cash flow information system that did not hold them accountable for measuring and minimizing the combined opportunity cost of rescue, inventory finance and insolvency resolution
- (c) The risk to tax-payers from the disinvestment process do not flow unimpeded from the greed of private stake holders and the informational difficulty of valuing a target enterprise. It is the role and job of privatization officials to intermediate and overcome stake holders initiated and informational risk. That this job is done badly almost everywhere in the world is evidence of a break down in public service reporting and contracting protocols. For winner firms pressing problems is to stop opportunistic privatization from appropriating the Government's stakes sans fair compensation. For loser firms, the pressing problems are to size and finance the losses that sooner or later local or national taxpayers are going to be made to swallow. But in both the circumstances the long run problem for privatization officials is one and the same *viz* to defend and to protect taxpayer's fair stake in PSUs.
- (d) Citizens in general and tax-payers in particular, are now demanding accountability and pay officials for collecting and disclosing the information that the tax-payers need to efficiently enforce the duties of loyalty, competence and care that every high official owes them. Therefore, the official first responsibility must be to extract the information they need to 'value' the Government's initial capital position in each PSU and to track its evolution through time.
- (e) Metaphorically, privatization officials are selling "the family heirlooms of the states". They have duty to allow credible outsiders to assess whether they are liquidating and reinvesting this wealth on reasonable terms. The officials can only bond promise of privatization by exposing in timely fashion. The salient economic facts of each privatizing transaction to reliable outside communities of experts. To discharge their duties towards citizens efficiently and effectively, among other processes of privatization strategy, objective, logical determination of value and pricing of PSUs is of paramount importance and is *sine qua non*, *inter alia*, to enhance net cash flow for the sovereign investor and to reduce risks in the form of constraining opportunities for abusing tax-payers and sophisticated foreign investors.

- (f) Privatization *per se* not only ameliorates cost, service, and quality but also promotes internationalization and innovation, inter alia, to competitively develop the national economy. This is self evident from discussions made by Michel E. Porter¹⁸ on the determinants of National Competitive Advantage (NCA) – the National Diamond's in the process of National Economic Development.



PROCESSES OF NATIONAL COMPETITIVE DEVELOPMENT

The process of privatization in general and valuation / pricing for disinvestment in particular are crux in the wealth driven National Competitive Advantage of nations. Therefore, the strategy of disinvestment in the total process of privatization in general and in particular problem of determining objective, true and fair valuation of assets / equities of PSUs require special, immediate and intelligent studies for the welfare of all the economies who have had adopted and are being adopting the path way of privatization through disinvestment.

In the light of this, the study on “**PRICING OF A SHARE OF PUBLIC SECTOR UNDERTAKING FOR DISINVESTMENT IN INDIA**” is undertaken

- (g) The researcher believes that the management of formulation and implementation part of strategy of disinvestment in the holistic process of privatization and the complex issue of determination of valuation and pricing for disinvestment needs special attention and innovative and intelligent thinking in view of the following .
- No specific, direct and proximate study of literature is available on the subject as to how to determine valuation / pricing of Assets / Equities for the purpose of disinvestment of PSUs. To be more explicit and pointed, new methods of valuation / pricing of a share such as Shareholder Value Added¹⁹, normally known as SVA / EVA have been tested as against orthodox / traditional methods of valuation in the process of disinvestment.
 - Hitherto, based on examination of experiences of disinvestment, the lessons of privatization had so far all over the globe, it has been found that no logical

comparative study based on scientific and strategic valuation techniques vis-à-vis disinvestment offer price, have been carried out, examined, analyzed and reported, much less to talk about losses and gains from disinvestment. Allegations of under pricing and/or over pricing were based either on non-scientific and non-strategic analysis or on hunches or on the basis of bull market run on stock exchanges, but not based on objective, scientific and transparent analysis.

- Determination of optimal valuation / pricing of assets / equities under reference, have pervading and long lasting effect on the sustainable welfare measures and wealth creation process of citizens, institutions and nations. Therefore, an optimal realisation of total returns from the strategy of disinvestment is *sine qua non* for the purpose stated hereinabove.
- The study under reference is not only helpful to sovereign state as a seller but undoubtedly also helpful to private sector investors as the acquirer in the total process of disinvestment. This is self evident and buttressed from the survey made by Cooper and Lybrand (Autumn 1994) and above all the reality that in market, the delighted investor, his expectation and his method of investment appraisal matters much more than the seller.
- The study is much more helpful and useful in the ensuing future not only to Indian economy but also to all the economies in the world which have had adopted and are being adopting the strategy of disinvestment in particular in the total process of privatization, *inter alia*, to achieve state reforms in view of the following
 - (i) Objective assessment and dispassionate determination of valuation / prices of assets / equity on well accepted and practised methods of pricing help convince and motivate all the stake holder of privatization including citizens, tax-payers etc. that the maximum – minimum range of realizations could have been feasible based on transparent, objective and ological determination of prices in the global scenario. Besides, Hard Assets and Soft Assets of PSUs require to be identified and be marketed ologically, *inter alia*, to realise the best cashflow to the divestor
 - (ii) Since, disinvestment process is two way traffic, the price determination study under reference, objectively, motivates both the acquirer and the divestor, *inter*

alia, to strike a deal on a reasonable risk – return basis, as it is not *a zero sum game* for any one in the long run.

- (iii) On the supply side of the privatization, the study is more meaningful and purposive to all the supplyside stake-holders including the sovereign Government in their pre-privatization restructuring process, as to how the expectation of the acquirer can be dovetailed in pre-disinvestment stage. Moreover, the study help introspect the internal stake-holders of the supply side as to how the esoteric and idiosyncratic characters, SWOT analysis, etc. of each PSUs can be changed as per expectation of the acquirer, so that better value can be added and realisable wealth can be created and thus determine the range of values, the PSU possesses alongwith opportunities for privatization. Above all, the privatization agency defend and prove on facts objectively to opposition in Government the diddles of disinvestment that what minimum to maximum can be possible to realise for the state from disinvestment.
- (iv) On the demand side of the privatization process, the study will be more meaningful and useful to International advisors / consultants / practitioners to the project of privatization all over the globe in general and in particular as to how various models of valuations help negotiating the deal, in due delegience process determination of optimal pricing – range and eventually striking a deal resulting into win – win situation and helping both the acquirer and divestor candidates.
- (v) Since, in the process of globalization of privatization, the incident of cross-border ‘drifting of wealth’ can not be ruled out, which will adversely affects not only the sovereign divestor but also its citizens, it is *sine quo non* and desideratum to ologically determine the value and price of disinvestment candidate.

1.09 OBJECTIVES OF THE STUDY

Since the process of valuation and pricing of assets / equities shares for disinvestment (for the seller) and for the investment for the acquirer is sensitive, sub-optimally motivated by opportunistic privatization and since, it requires professional competance, technical acuman and pragmatic motivation, among others, the main objectives of the study are as under

- (a) To determine objectively and ologically, the true and fair and optimal economic values and prices based on the network of methods of valuation, which are duly recognised and practised all over the world by all the stake-holders of disinvestment process. Accordingly, prices of a share of public sector undertaking disinvested in India have been computed based on different methods of valuation which are duly accepted in the global commercial world for the purpose of divestment and acquisition.
- (b) Since the different models of valuation determines the different value of shares and the various determinents of share prices are affecting the prices so determined, the supply – side privatization candidates can prepare and dovetail their marketing strategy at pre-disinvestment stage itself so that better value can be added and realisable tangible wealth can be created for future disinvestment Based on the above discussed computations, attempts have been made to objectively determine whether there was under-valuation/over-valuation of disinvestment prices of shares of PSUs, fixed by the sovereign divestor as compared to prices determined based on network of methods of valuation/prices and market prices, as well
- (c) Keeping in view the study made under reference, it is possible to covince all the stake-holders, objectively, ologically, relatively, comparably, economically, transparantly and strategically that the maximum gain or minimum loss from disinvestment that can be realised / occured from the process, based on different valuation methods

1.10 LITERATURE SURVEY

With a view to examine and analyse the problem of pricing of a share of public sector undertaking for disinvestment in India, survey of literature on privatization in general and in particular, ological valuation and pricing of assets / equities of PSUs have been carried out. Though, no long history of privatization strategy is available, as in 1979 *Mrs Margaret Thatcher* and in 1981 *Mr Ronald Reagan* popularised a world wide trend in privatization. Thus, effectively 21 years old history of privatization has much less literature on the subject of valuation and pricing for disinvestment than the over all strategy of privatization as under

- **Vuylsteke Charls**²⁰ reviewed the privatization methods and implementation and also studied how privatization of state – owned – enterprises (SOEs) has been accomplished by drawing upon a broad sample of experiences of 67 countries. It only describes and illustrates methods which have been tried out and some of the available options, for privatization and not the network of methods of pricing for disinvestment.
- **Nankani Helen B.**²¹ carried out studies as to techniques of privatization by analysing countries case studies of 7 countries with a significant record of experiences, viz. Canada, Chile, Italy, Malaysia, Spain, Sri Lanka and Togo. This study supplements the study made by Charles Vuylsteke. In this study also several methods of pricing for disinvestment have not been studied.
- **Candy Rebecca**²² Sekse and Palmer carried out a study of privatizations of planned, on going and completed privatization transactions in 83 countries, *inter alia* indicating the methods of privatization used. The study presented data collected for the purpose of examining the record of experience with varying techniques of privatization.

In all above mentioned three studies, the authors have made broad analysis of techniques of privatization. However, the objective analysis and comparison as to determining the prices of share as per various method of valuations and consequently determine under valuation / pricing or over valuation / pricing of shares so far disinvested are missing. Moreover, all the three studies have not analysed and compared the various methods of valuation / pricing practised all over the world and the resultant under / over / optimal valuation / pricing of assets / equities. This was so because the purpose of studies might be different. However, this is *sine qua non* in view of the fact that in a market oriented economy, gains and losses to Government and in turn, to citizens and private investors matter a lot. Further, what are the methods used, adopted and practised by the acquirer is more important than the divestor, *inter alia*, due to the fact that the process of disinvestment is two way traffic and in this traffic buyer always dominates the seller.

- **Kikeri Sunita, John Nellis, Marry Shirley**²³, carried out study known as, “Privatization The lessons of experience”, under the directions of Nancy Birdsall and Lawrence H. Summer for the world bank. Among others the study also analysed the issue related to pricing and valuation, *inter alia*, highlighting the need, importance, complexity, expectations, etc and concluded that valuation of SOEs for sale is not a science. They published the data on premium / discount on the selected SOEs share prices (1979-87), for France : world bank, for Jamaica : Leeds (1987) for the Philippines : world bank data, for the United Kingdom : Vickers and Yarrow (1988). The premium or discount to disinvested offer price of a share were computed by comparing the said price with first day closing price on the stock exchanges. This study does not compare the premium / discount on subsequent market price of post first day listing price. Moreover, the study also did not carry out analysis and relative comparison of micropricing of disinvestments based on various methods of valuations, as this matters for the both viz. acquirer and for the divestor.
- **Prybyla Jan S.**²⁴ concluded that “ *More important there is often little relationship among book value of the assets, the value of enterprise as a going concern and its sale price*”. In this study also, no objective analysis based on different methods of valuations / pricing were carried out and compared. Only book value recorded on the balance sheet was compared with selling price.
- **Dewenter and Malatesta**,²⁵ carried out analysis and comparison of initial share offers in privatization of SOEs vis-à-vis market price with varying time interval of a day, a month and a quarter. They concluded that
 - (a) The evidence indicate that Government officials in the UK under price IPOs significantly more than their private counter parts. In Canada and Malatesta however, the opposite is true. There do not appear to be a general tendency for privatization to be under priced to a greater degree than private company IPOs.
 - (b) Initial returns are significantly higher in relatively primitive capital markets and for privatised companies in regulated industries.

However, the above study also has not carried out the objective and meaningful analysis of

- ◆ Various methods of valuations and pricing at pre-disinvestment stage and post disinvestment stage,
 - ◆ Indian PSUs disinvested and its pricing, etc.
- **Cooper and Lybrand**²⁶ study surveyed 199 companies drawn from the latest companies in Belgium, France, Germany, Italy, Spain, Sweden, Switzerland, The U.K. and The U.S.A. and had concluded that eight methods of valuation were normally used by the acquirer and the divestor, ranking the first as NPV, followed by other methods such as Price Earning Multiple Method, Market Value of Assets, Shareholder Value Added, Internal Rate of Return, NAV, Market Capitalisation and Market to Book Ratio.

Since, no direct and proximate literature on pricing methodology for disinvestment and acquisition of PSUs are available, the well accepted and practiced method of valuation as summarised by Cooper and Lybrand have been taken into account in view of the fact that disinvestment is '*two way traffic*' involving the transaction of acquisition and divestment.

- **Welch and Fr'emond**²⁷ carried out study evincing the need and necessity of case by case approach which allow the Government to resolve the policy issues. (of regulation, labour concerns and selling firms for their fair market value). This approach is also recommended by privatization practisinors, as against mass privatization. Among others, the study also describes theoratically the methods of valuation, *inter alia*, concluding that whatever method of sale is used, no valuation method is infalliable. However, the study does not impart any quantitative computations of different methods of valuations described therein. The study has also not carried out any objective and quantitative analysis and comparison of various methods of valuations, *inter alia* to derive a conclusion that no valuation method is infalliable. In the entire study the element of 'how' to compute values based on different models and its comparision with disinvestment prices is absent, so that,

optimal / over / under valuation of assets / equities can be quantified. The study also does not describe one of the most widely used method of share valuation viz Shareholder Value Added (SVA), Market Value of All Assets (MVAA), etc. all over the globe.

- ***Centre for Monitoring Indian Economy (CMIE - 1993)***²⁸ for the first time carried out comparative study of first round of disinvestment (1991-92) vis-à-vis reserve prices fixed for disinvestment and concluded that there were whopping under realisation of proceeds of disinvestment in 1991-92. In this study also the quantum of under valuation of disinvested shares were compared with reserve prices fixed for the disinvestment and the offer price. No comparison, for determining under valuation of shares as done by World Bank or by Kathryn L. Dewenter and Paul H. Malatesta have been made, much less to talk about computation and comparison of prices of shares of PSUs disinvested based on Network of Pricing Methods and disinvested price for the period, under reference
- ***Mishra, Nandagopal and Mohammad (1993)***²⁹ carried out the study based on five techniques of valuations of shares found from the literature on valuation of shares for disinvestment decision. The five methods used are Net Tangible Asset Method (NTAV), Market Value Method (MV), Price Earning Capacity Value Method (PECV), Fair Value Method (FV) and Fair Value plus Interest Method (FI) The study computed actual and realisable value of shares divested in the first round of disinvestment in India and indicated that shares were under sold as a result of hasty decision. However, this study has not considered the latest techniques of valuation of shares viz Discounted Cash Flow Method (DCF), Replacement Value of Assets and SVA, etc., which are widely used by the both viz the acquirer and the divestor Besides, the study has also not considered the effect of soft assets not, reflected on the balance sheet.
- ***Capital Market, India***,³⁰ carried out study by way of performance of PSUs (disinvested) on the Indian bourses by taking market price as on 20.6.96 and inter alia, concluded that the earlier disinvestments were done at lower values. As demand rose, this PSUs stocks found their natural level and are being discounted adequately

by the market. This study lacks the total objectivity and existence of scientific element in view of the fact that no justifications were placed for taking market capitalisation as on 20.6.96, especially when the disinvestment were carried out in 11 different period rounds, covered for the purpose. Moreover, no analysis and comparison based on different methods of valuation have been carried out and only market value on a particular date has been compared.

- ***Reports of Disinvestment Commission***³¹ have also not come out with recommendation on pricing methods.
- ***Roy***,³² has also examined the underpricing of Initial Public Offerings (IPO) in India (not for PSUs), a study of the behaviour of market participants, *inter alia* by applying the “impresario theory” to both the issuer and investors in New Issue Market (NIM). The study, concluded that behaviour of investors in NIM is anything else but efficient. The study used Return Base Technique to identify the nature of under (over) pricing by comparing the market price with the issue price. However, comparison of various methods of pricing *inter se* alongwith its variance analysis is missing.

1.11 RESEARCH METHODOLOGY

(A) SELECTION OF DATA

Based on the literature survey on the subject, till date and available statistical reports published by the Government of India for Indian PSUs, and to eschew limitation of sample selection, instead of taking sample of PSUs in which disinvestment of shares have been made upto 31.3.98 and are reported in the annual reports of public sector enterprises volume – I to III, for the purpose of the present study, all the 39 PSUs of Central Government are considered. Basic data are taken from 12 Annual Reports on Public Enterprises Survey. The Annual Reports aforesaid, covers all the Central Government Public Sector Undertakings, excluding departmentally run public undertakings and banking institutions. The data is also taken and updated from the Annual Reports of each PSUs covered for the study. The data on Annual Reports of Public Sector Enterprises have been placed and published upto 31.3.98 and

accordingly, the same are considered and taken into account for computing the share prices applying various methods of valuation. In addition to the above, data exhibited in 12 reports of Disinvestment Commission have also been considered for the purpose of the study. For computing the various elements of pricing formulas such as inflation rate, stock market index, risk free return, Tobins Q ratio etc the data published by Reserve Bank of India, in their monthly bulletin viz RBI Bulletin, since 1951-52 through 1998-99 have been used and taken into consideration. In addition to the above, The Chartered Financial Analyst, Capital Market, The Stock Exchange(Mumbai) official directory and average equity share price quotations published by Taxman have been valuable sources of data for the purpose of computation, under reference.

(B) METHODOLOGY

Based on the data selected as above and by analyzing the financial and non-financial data for all the 39 Central Government Owned PSUs undertakings, the economic value of an Equity Share of each PSUs have been computed and compared, based on various Pricing Methods selected on the basis of methods of valuations adopted and practiced by the both viz the acquirer and the divestor, all over the globe. The base is taken from the survey carried out by Cooper and Lybrand,³³ for the purpose of acquisitions and divestments. Accordingly on the following methods of valuations, disinvestment year-wise, share prices of each PSUs, have been computed and compared.

- (i) Net Tangible Asset Value Method (NAV)
- (ii) Profit Earning Capacity Value Method (PECV),
- (iii) Fair Price Value Method (FV), based on CCI formula.
- (iv) Net Present Value Method (NPV)
- (v) Shareholder Value Added Method (SVA)
- (vi) Price Earning Multiple Method (PEM).
- (vii). Market Value of All Asset Method (MVAA).

Besides, the above the comparison is also made by computing and collating the following ratio/returns. They are,

- (viii) Un-Adjusted Returns (UAR) and Market Adjusted Returns (MKAR), both on short term basis of 1st day, 15th day and 30th day returns and long term year-wise returns for each disinvestment year following through 1997-98
- (ix) Average value of Modified Tobin's Q Ratio.

(C) STATISTICAL TECHNIQUES

(i) PARAMETRIC APPROACH - ANOVA

With a view to objectively and analytically examine the results of different values of equity share computed based on various Pricing Methods, selected as above, for the purpose of drawing conclusions as to

- ❖ Validity of the null hypothesis i.e means of derived economic prices of selected methods of pricing are equal or not. To test the validity of null hypothesis, whether any statistical significant evidence existed.
- ❖ Averages of derived economic Prices, alongwith descriptive statistics of derived economic prices are computed and collated.
- ❖ Comparison of methods of pricing *inter-se* and with year-wise disinvestment prices. ANOVA for single way variance analysis has been used and accordingly, the conclusions were drawn

(ii) DESCRIPTIVE STATISTICS

Besides, the ANOVA techniques, with a view to measure the strategic and economic significance of disinvestment prices vis-à-vis derived economic values by employing Selected Network of Pricing Method, descriptive statistics in the form of mean, median, standard deviation, kurtosis, skewness, range – a minimum and a maximum, are also calculated and collated. For the purpose of computing the Return based analysis, the Un-Adjusted Returns (UAR) and Market Adjusted Returns (MKAR) are calculated by using the logarithm of disinvested price and logarithm of market price and market index respectively.

(iii) **GROWTH RATES**

With a view to eschew and to overcome the limitations of simple arithmetic averages and internal rate of returns, the technique of geometric mean rate of return measure for determination of growth rates of risk free returns (R_f) and Returns from market (R_m) for purpose of Capital Asset Pricing Model (CAPM), in order to derive the cost of equity capital is used.

1.12 SILHOUETTE OF RESEARCH STUDY

The research study has been divided into seven chapters. Besides, discussing the introduction, rationale, objectives, research methodology, etc. of the study in the first chapter, in the second chapter, an overview of Global Disinvestments with 21 techniques of disinvestment alongwith detailed discussions on seven methods are being made. Experiences of selected countries are also being discussed in the second chapter. In the third chapter chronology of disinvestment in India since inception (1991-92) till 1999-2000 alongwith vital statistics are being discussed. Besides, computation of average annual disinvested price, rounds of disinvestment, methods of sale and statistics of targets and achievements of disinvestment in a decade are being discussed and analyzed.

In the fourth chapter, theory of Network of all the major pricing methods of valuation and pricing of an equity share, normally used for disinvestment alongwith valuation of intangibles and soft capital are being discussed. Strengths, Weaknesses and Caveats to be cared of each method of pricing are being discussed. The global survey of pricing methods for acquisitions and divestments is also analyzed in addition to Indian counter parts. After ological analysis of several methods of valuation, the Selected Network of Pricing Methods (SNPM) for disinvestment is devised for the purpose of this study. The SNPM is christened as a 'PHENAKISTOSCOPE'.

In the fifth chapter, Section-I, disinvested PSUs--wise important derived economic data are being exhibited in tabular form. In the Section-II, the ological and objective fundamental and economic comparison of derived mean value of Selected Network of

Pricing Methods with Mean Value of Disinvestment Price are being conducted and commented upon. *Inter se* comparison of methods of pricing, under reference are also being conducted. For testing Strategic, Economic and Statistical existence of evidence/s of fundamental mis-pricing, the parametric approach of statistics – ANOVA, Descriptive Statistics, Sensitivity Analysis, etc are being conducted

In the Section-I of the sixth chapter, PSUs-wise detailed computation of derivation of Market value of All Assets, including the Hard Assets and the Soft Assets and the derivation of Modified Tobin's Q ratio are being carried out and are presented in the tabular form. While in the fifth chapter fundamental comparison of mis-pricing is carried out, in the sixth chapter market comparison of mis-pricing, both on short term as well as long term period basis are being carried out and commented upon, *inter alia* by computing Un-Adjusted Returns and Market Adjusted Returns of disinvestment price alongwith Descriptive Statistics thereof

In the last chapter, in addition to chapter-wise summary findings, conclusion of research findings are being discussed. Plausible and Practical suggestion for amelioration are also being furnished. At the end exhaustive bibliography with Annexures are exhibited

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