University of the Philippines
SCHOOL OF ECONOMICS

Discussion Paper 8601 January 1986

NOTES ON THE BASES FOR GOVERNMENT INTERVENTION THROUGH PUBLIC ENTERPRISES

by

Benjamin E. Diokno

ABSTRACT

This paper argues that the rationale for public enterprises flows from the general discussion on the justification for state intervention. Within a welfare theoretic framework, it argues that the wide range of stated motives for using the public enterprise form can in most cases be attributed to some violations of efficiency conditions. It has been shown that in the Philippines a great majority of state firms can be justified on such grounds. Still, numerous firms were established on the basis of some noneconomic grounds. The use of the latter set of justifications resulted in government intervention even in areas where competitive market works, thereby unjustifiably enlarging the scope of public sector activity.

NOTES ON THE BASES FOR GOVERNMENT INTERVENTION THROUGH PUBLIC ENTERPRISES

By Benjamin E. Diokno*

1. Introduction

The rationale for public enterprises, independent of the level of sponsoring government, flows from the general discussion on the justification for state intervention. It is argued that the wide range of stated motives can, in most cases, be attributed to some violations of efficiency conditions. Viewed this way, the emphasis then on allocative efficiency for evaluating public enterprise performance is not at all misplaced.

It should be acknowledged, however, that there are motives for the use of the public enterprise form which are not necessarily due to market failure, as for example, more equitable distribution, national security, and acquisition or consolidation of economic or political power. In fact, in some developing countries, the Philippines included, a considerable number of public enterprises have been

---

* Philippine National Bank-Diamond Jubilee Associate Professor of Economics, University of the Philippines.

established on the basis of some noneconomic motives. An unwanted consequence, however, of this broader set of justification for public enterprises is that some governments in developing countries have, in recent years, increased their presence in areas where competitive markets work, thereby broadening further the scope of public sector activity.

2. State Intervention: Some Justifications

State intervention has been justified within the context of two divergent economic ideologies: free market economy and centrally planned economy. The latter's position, simply stated, is that the free market economy cannot be expected to address the issue of equitable distribution adequately and, therefore, growth with equity can be better served by centralized planning and government ownership and control of the production process.

Implicit in the case of government intervention under a free market setting is the notion of "market failures" [1/] of the workings of a perfectly competitive market economy. The general methodology is to identify conditions where state intervention may lead to Pareto improvements. The starting point is the hypothetical situation of a perfectly competitive market economy, and one which is Pareto optimal (i.e., for a given income distribution it is not possible to make one person better off without making someone else worse off).

1/ A comprehensive treatment of the concept of market failure is provided in a number of places: Bator (1957; 1958), Coase (1960), Arrow (1970), and Burkhead and Miner (1971, Chapter IV).

2.1. Basic Theorems of Welfare Economics[2/]

Consider an Arrow-Debreu economy.[3/] There are two types of economic agents: consumers (indexed $i=1, \ldots, m$) and producers (indexed $j=1, \ldots, n$). Each consumer is characterized by (i) a consumption set X_i, and (ii) a preference relation $\succeq_i$ on X_i. Each producer j is characterized by a production set Y_j. It is assumed that there is a finite number of commodities (indexed $h=1, \ldots, \ell$) which is "completely specified physically, temporally and spatially."[4/] Associated with each commodity, say the h^{th} commodity is its price, p_h, a real number. The price system is an ℓ-dimensional vector $p=(p_1, p_2, Ph \ldots, p_\ell)$.

An economy E is characterized by (i) for each consumer: the consumption set X_i and his preference preordering $\succeq_i$, (ii) for each producer: his production set

---

2/ The objective here is not to present rigorously without proof a version of the two fundamental theorems of welfare economics but to provide a framework for justifying state intervention within a market type economy. For proofs, the reader is referred to Arrow and Hahn [1971], Debreu [1959], Malinvaud [1972], and Varian [1978]. Its usefulness is that state intervention is directly related to welfare economics.

3/ See Arrow [1951] and Debreu [1959].

4/ Debreu [1959], p. 32.

Y_j, and (iii) total initial endowment w. Formally economy E: $\{(X_i), (\succ_i), (Y_j), (w)\}$. A state of the economy E is a set $\{(x_i), (y_j)\}$.

The two fundamental theorems of welfare economics are stated below:

THEOREM 1. Let E be an economy such that, for every i,

(i) X_i is convex,

and (ii) $\succ_i$ satisfies local nonsatiation.

Then if $\{(x_i^*), (y_j^*)\}$ is a competitive equilibrium relative to price system p, it must be Pareto optimal.

The following remarks are warranted. Theorem (1) does not require convexity assumption[5] on the aggregate production set Y_j and preference relation $\succ_i$. The convexity assumption of X_i, however, is necessary: it rules out consumption externalities. Intuitively, the convexity assumption for the consumption set means that the consumption bundle which determines the utility of an

---

[5] A set X is convex if $tx + (1-t)y \in X$ whenever $x, y \in X$ and $0 < t < 1$.

individual is the same as that which he purchases at given prices subject to his budget constraint. The implicit assumption, therefore, is the absence of externalities. The local nonsatiation assumption rules out 'thick' indifferences sets.[6/]

THEOREM 2. Given an economy E: $\{\langle X_i \rangle, \langle \succ_i \rangle, \langle Y_j \rangle, \langle w \rangle\}$ such that:

(i) for every i, X_i is convex,

(ii) for every $x' \in X_i$, the sets $\{x \in X_i \mid x \succ_i x'\}$ and $\{x \in X_i \mid x' \succ_i x\}$ are closed in X_i,

(iii) every upper contour set is convex,

(iv) $x_i^* \in \text{Int } X_i$,

(v) $\succ_i$ satisfies local nonsatiation,

and (vi) ΣY_j is convex

[6/] Consumer i is said to be locally nonsatiated at $\{\langle x_i^* \rangle, \langle y_j^* \rangle\}$ if for every $\delta > 0$ and $x_i \in X_i$ $\{\langle x_i^* \rangle, \langle y_j^* \rangle\}$ there is an $x_i' \in X_i$ $\{\langle x_i^* \rangle, \langle y_j^* \rangle\}$ such that $|x_i - x_i'| < \delta$ and $\{\{\langle x_i' \rangle \langle x_i^* \rangle\} \langle y_j^* \rangle\} \succ_i \{\langle x_i \rangle \langle x_i^* \rangle\}, \langle y_j^* \rangle\}$.
H. Osana, "Externalities and the Basic Theorems of Welfare Economics: A Supplementary Note," Journal of Economic Theory, 6(1973), 91-93.

If the state $\{\langle x_i^*\rangle, \langle y_j^*\rangle\}$ is Pareto optimal, then there exists a price system p different from zero such that $\{\langle x_i^*\rangle, \langle y_j^*\rangle\}$ is a competitive equilibrium relative to p.

Consider the following remarks. The first fundamental theorem asserts that under some conditions, if a competitive equilibrium exists, then it is Pareto-optimal. The second fundamental theorem states that under certain conditions, any Pareto optimal allocation can be achieved (plausibly) via a once-and-for-all redistribution through appropriate lump sum transfers and taxes. We now consider the implications of the conditions of these theorems and whether their nonfulfillment provides a case for state intervention.

2.2. Violations of Efficiency Conditions

The assumptions necessary to assure a competitive Pareto-optimal allocation are not likely to be satisfied in the real world. The convexity assumptions of the consumption and production sets are violated by consumption and production externalities.[2/] In these cases, state action is called for in the form of either a Pigovian-tax-subsidy

---

[2/] For examples, see Bator [1958], Meade [1952], and Scitovsky [1954]. An excellent discussion of the concept of externalities is given in Boadway [1979, pp. 91-123].

mechanism or some form of regulatory control to force economic agents to internalize the external benefits or costs. Two separate lines of arguments seem to blur the justification for government intervention, though both have serious limitations. The first is the use of bargaining process among the economic agents involved--e.g., polluters and pollutees-- to achieve a more or less efficient outcome. This view was pioneered by Coase [1960]. As Coase argued: in a world of perfect competition, perfect information, and zero transactions costs, partners to externalities have incentives to agree to produce the optimal output i.e. to internalize what would seem to be external costs and benefits through mutual adjustments thereby avoiding the need for regulatory measures. While this proposition has some merits in a small-number setting, it cannot be generalized to the large number case.

The second line of argument is due to Arrow [1970]. He argued that externality is a special case of the non-existence of markets. Theoretically, as Arrow clearly pointed out, a market for externalities can be created:

> ...by suitable and indeed not unnatural reinterpretation of the commodity space, externalities can be regarded as ordinary commodities, and all the formal theory of competitive equilibrium is valid, including its optimality [1970, p. 74].

Two problems associated with such reinterpretation easily arise. One, for some externalities, exclusion may be technically impossible, or otherwise, prohibitively costly. For other types of externalities where exclusion may be possible, the market for such externalities is likely to be imperfectly competitive. In the extreme case, each commodity has precisely one buyer and one seller. [8] In both cases, some form of government action may be justified.

The convexity assumption of the aggregate--or economy wide--production set is violated by increasing returns to scale. For certain industries, increasing returns to scale are sufficiently large to lead to a noncompetitive market condition. The potential existence of monopoly, or at least,

---

[8] Arrow [1970, pp. 74-75] cites the classic lighthouse example: "....the standard lighthouse example is best analyzed as a problem of small numbers rather than of the difficulty of exclusion, though both elements are present. To simplify matters, I will abstract from uncertainty so that the lighthouse keeper knows exactly when each ship will need its services, and also abstract from indivisibility (since the light is either on or off). Assume further that only one ship will be within range of the lighthouse need at any moment. Then exclusion is perfectly possible; the lighthouse need only shut off its light when a nonpaying ship is coming into range. But there would be only one buyer and one seller and no competitive forces to drive the two into a competitive equilibrium.

heavy concentration in a few firms, and their associated allocative inefficiency, may justify some form of government intervention--either government control (as in France and the United Kingdom) or regulation (as in the United States).

There are three implicit assumptions arising from the stated premise that the state $(\langle x_i \rangle, \langle y_j \rangle)$ of the economy E is a competitive equilibrium: (i) the existence of a full set of markets for all commodities, (ii) attainment of full equilibrium, i.e. all resources are fully utilized, and (iii) perfect information. These assumptions are, of course, not totally independent.

In real life, the existence of a full set of markets--for all commodities for all relevant dates in the future and for all risks--is not satisfied. This problem is especially severe for LDCs and is manifested in a number of ways: fragmented state of the capital market,[9/] absence of competitive future markets, imperfections of investor's foresight due to the long lifetime of capital equipment, and so forth.

9/ For an excellent discussion on the "extraordinary distortions commonly found in the domestic capital markets of developing countries', see McKinnon [1973].

The fundamental theorems require that full equilibrium should have been attained, that is, all resources are fully utilized. Yet it is not uncommon to observe underutilization of resources in any given economy--whether developed or developing, capitalist or socialist. Labor unemployment in most countries of the world is well documented. Similarly, capital underutilization has been shown as commonplace in many LDCs.[10/] The observed underutilization of resources, for reasons as diverse as the absence of universal markets, imperfect information, and 'errors' in government policies, provide justification for government action. It is firmly embedded in conventional wisdom that the state has a role in minimizing unemployment and increasing capital utilization.

The results of the competitive analysis are invalid if information is imperfect and prohibitively costly to acquire. The existence of a market equilibrium assumes that all economic agents have perfect information of the price system p, and, in addition, for producers to have perfect

---

10 For a list of recent studies on the level of capital utilization in many developing countries, and a comprehensive review of the literature on the subject, see Winston [1976].

information on the available technology. On the other hand, with costly information, the assumption of a full set of markets is inconsistent with market equilibrium. 11/

Quite apart from the nonfulfillment of these assumptions, state intervention may be called for because even if the economy were perfectly competitive, the resulting Pareto optimal allocation that emerges may not be what society wants. There will be a different Pareto-optimal allocation depending on the initial resource distribution. A 'first-best' Pareto optimum can be achieved if the government can suitably redistribute the initial endowments using neutral--i.e., distortion-free--fiscal devices, say in the form of lump sum taxes and subsidies.

2.3. Qualifying the Bases for State Intervention

The mere hint of the existence of market failure should not be immediately taken as a justification for state intervention. Take a specific case: quite often resources are not fully utilized. However, while the observed underutilization of resources may rightfully be due to the

---

11/ See, for example, Grossman and Stiglitz[1976].

absence of universal markets and imperfect information, it may also be due to 'errors' in government policies. For example, the observed capital underutilization may be due to past policies of minimum wage legislation, and investment incentives to preferred industries. As such, the appropriate policy may well be less state intervention, i.e., trade liberalization, elimination of minimum wage laws, and dismantling of investment incentives.

Moreover, state intervention may bring with it its own distortions. The Government is not an omniscient entity; it makes its decisions on the basis of imperfect information and, much like any other economic agent, makes them subject to myriads of constraints. The intended result of its policy action may cause unintended results: the rate of return regulation which is intended to regulate monopoly power may result in welfare loss if as a result factor prices are distorted; a subsidized credit policy designed to encourage certain industries may also result in the adoption of more capital intensive techniques. Unintended distortions may also result to the extent that the preferences of the ruling class may differ markedly from those of the individual citizens.

3. Reasons for Public Enterprise Activity

The economic rationale for public enterprises flows from the justification for state intervention on the basis of market failure. 12/ Given in Table 1 is a list of violations of the assumptions necessary for a Pareto-optimal allocation and illustrative real world cases of public enterprises.

If the justifications for public enterprises are viewed on the basis of some violations of efficiency conditions, the wide range of stated reasons for public enterprise undertakings will become less chaotic. Consider, for example, two attempts to provide an ordered classification for the motives of state intervention via public enterprises.

12/ We recognize that the general framework for justifying state intervention does not necessarily provide a case for public production of goods and services by the state since other policy tools are available such as industrial licensing, price controls, and rate of return regulation. The issue as to which tool of policy intervention is 'best' in terms of any given circumstance is beyond the scope of this paper. We assume that the LDC governments will continue to use public enterprises as a tool for state intervention, and that given the current state of the practice, it is worthwhile just being able to identify possible areas of improvement. For some general discussion of the costs and benefits of any type of public intervention, see Jones and Mason (1980); for a benefit-cost analysis of rate of return regulation, see Callen, Mathewson, and Mohring (1976).

TABLE 1

VIOLATIONS OF EFFICIENCY CONDITIONS, ILLUSTRATIVE PUBLIC ENTERPRISE CASES, AND STATED MOTIVES FOR INTERVENTION

Assumption	Violations	Public Enterprise Cases	Stated Motives [1]
Convex Consumption Set	Consumption Externality	Water Supply Severage Telephone systems	Internalize externalities
		Cigarette manufacturing Liquor, distillery	Offset externalities
Convex Production Set	Increasing returns to scale	Public utilities such as electric power supply, telecommunications	Control monopolies
	Capital Indivisibility	Railways, airlines, ports	Control commanding heights
Existence of full set of markets	Absence of market due to risk and uncertainty	Mining and oil exploration	Provide entrepreneurial support/ substitution
Full employment of resources	Labor unemployment	Labor intensive enterprises (e.g. iron work, fish processing)	Increase employment Raise output Train skilled managers and technicians
	Excess Capacity	Distressed industries	Utilize resource efficiently Prevent business failure Promote primary exports
Perfect Information	Imperfect Information Risk and Uncertainty	Pioneering industries such as steel, hydro-electric/aluminum smelting, fertilizer	Provide entrepreneurial support/ substitution Set 'modernization' example Enhance national prestige

[1] See Cholst [1979], Table 2.1, p. 8 and Jones [1975], Table 9-1, p. 145.

For Korea, Jones [1975] used the following scheme: (i) basic motives which include monopoly, collective intermediates, merit goods; (ii) developmental motives which include entrepreneurial support, entrepreneurial substitution, managerial substitution, and transitional; and (iii) power and control motives.

Gillis [1981], on the other hand, classified the rationales for the creation of public enterprises into: (i) primarily economic motives, (ii) primarily sociopolitical motives, and (iii) mixed motives. The primarily economic reasons include savings mobilization, employment, and capital lumpiness, natural monopoly and risk. The primarily sociopolitical reasons include the commanding heights, decolonization, and social goals (e.g. income redistribution, correction of imbalances in regional growth, and reduction of employment). The mixed reasons include anticoncentration (government's desire to reduce the concentration of economic powers in the hands of a few individuals) and donor preference (major foreign aid donors have preferred to channel funds through state-operated enterprises).

It could be argued based on the above discussion, that the reasons for undertaking public enterprises are predominantly economic i.e., that most public enterprise undertakings can be justified on the basis of some violations of efficiency conditions. However, whether in practice the operation of public enterprises is initiated on these grounds is an empirical question. Nevertheless, it could be argued that once the enterprise has been established as a public enterprise, even for noneconomic reasons --e.g., commanding heights, decolonization, etc. --long-range considerations dictate that they should be operated efficiently. An enterprise which is consistently operating at a loss cannot be expected to fulfill some other goals (e.g., revenue generation, reduction of unemployment, promoting regional growth, and so forth).

3. The Philippine Case

The legal basis for the establishment of public enterprises in the Philippines is stated in the Constitution:

> The State may, in the interest of national welfare or defense, establish and operate industries and means of transportation and communication, and, upon payment of just compensation, transfer to public ownership utilities and other private enterprises to be operated by the government.13/

It seems that the framers of the 1973 Philippine Constitution have in mind a limited role of government through public enterprises. Yet, there has been a dramatic increase in the number of public enterprises during the last decade: from a total of 65, consisting of 47 parent corporations and 18 subsidiaries in 1970, the number of public enterprises increased to 303 corporations consisting of 93 parent corporations, 153 subsidiaries and 57 acquired assets (Table 2).14/

13/ Article XIV, Section 6, 1973 Constitution of the Philippines.

14/ The list, of course, overstate the number of public enterprises since not all government corporations listed by the Presidential Commission on Reorganization can be considered public enterprises, strictly speaking. A recent attempt to define the term 'public enterprise' within the Philippine context was done by Manasan (1984).

Table 2

NUMBER OF GOVERNMENT-OWNED OR CONTROLLED CORPORATIONS

As of December 31, 1984

Year	Parent	Subsidiaries	Acquired Assets	Total
1970	47	18	n.a.	65
1975	71	49	n.a.	120
1981	92	120	n.a.	212
1984	93	153	57	303

Source: Presidential Commission on Reorganization.

From a closer examination of the list of public enterprises in the Philippines, the following conclusions emerge. First, the Philippine government has engaged in activities beyond the traditional areas of public utilities and those undertaken to control strategic behavior. In more recent years the Philippine government has entered into such fields as manufacturing, banking and finance, transportation and communication, real estate and housing and other services. The latter includes hostelry and other tourism related activities.

Second, a great majority of state firms can be justified on the basis of some violations of efficiency conditions (Table 3). Quite a number of these enterprises, however, were initiated on other grounds. For example, most distressed firms, a sizeable chunk of which can be observed in the manufacturing sector, were designed initially to generate revenues. 15/ There are undoubtedly not a few firms which were initiated to consolidate economic and political power, and these firms come from a wide range of activities trading (e.g., NASUTRA and Philippine Coconut Authority), manufacturing, banking and finance, and real estate.

15/ The list of firms classified as distressed is understated since it does not include some 57 acquired assets, defined as firms which the government has taken on as financially distressed but which the government intends to revert to the private sector at a later time.

Table 3

CLASSIFICATION OF PHILIPPINE PUBLIC ENTERPRISES
BY SECTOR AND RATIONALE: 1982

SECTORS	MARKET FAILURE DUE TO					OTHER MOTIVES		
	Risk and Uncertainty	Capital Indivisibility	Increasing Returns to Scale	Consumption Externality	Excess Capacity a/	Income Redistribution	Generate Revenue	Control Strategic Behavior
Agriculture	6 (19.4) b/	-	-	-	-	-	6 (9.8)	-
Mining	-	11 (73.3)	-	-	-	-	-	-
Manufacturing	3 (9.7)	2 (13.3)	-	-	22 (40.0)	1 (14.3)	12 (19.6)	1 (14.3)
Electricity, Gas and Water	1 (3.2)		3 (37.5)	2 (11.1)	-	-	-	-
Construction	-	1 (6.7)	-	1 (5.6)	1 (14.3)	1 (14.3)	2 (3.3)	-
Transportation, Communication, Storage	1 (3.2)	1 (6.7)	5 (62.5)	1 (5.6)	6	-	9 (14.7)	6 (85.7)
Finance	13 (41.9)	-	-	4 (22.2)	5 (9.1)	1 (14.3)	6 (9.8)	-
Trade	4 (12.9)	-	-	-	4 (7.3)	3 (42.8)	6 (9.8)	-
Real Estate/ Housing	-	-	-	2 (11.1)	8 (14.5)	1 (14.3)	5 (8.2)	-
Other Services	3 (9.7)	-	-	8 (44.4)	9 (16.4)		15 (24.6)	-
TOTAL	31	15	8	18	55	7	61	7
Relative c/ Importance	15.3	7.4	4.0	8.9	27.2	3.5	30.2	3.5
Rank Ordering	3	5	6	4	2	7-8	1	7-8

Source of Basic Data: Table 1 in Manasan (1984).

NOTES: (a) The stated motive is to save distressed industries. This list does not include acquired assets, defined as private firms which the government has taken on as financially distressed but which the government intends to revert to the private sector at a later time.

(b) Figure in parenthesis is the percentage share of the sector to the total number of enterprises classified within a given rationale or motive.

(c) Total number of enterprises classified within a given rational as a per cent of total public enterprises in 1982. The latter figure is 202.

Third, approximately one-third of the public enterprises in 1982 were designed to generate revenues either to increase domestic savings or to finance essential public services. While a consolidated financial analysis of these public firms is unavailable, fragmentary evidences suggest that the fiscal burden of public enterprises during the years 1975 to 1984 had been enormous. If the budgetary contribution to public enterprises in the form of current transfers, equity and net lending were netted out of total government expenditures, a rosier fiscal picture would have emerged. During the period under review, a budget surplus equal to more than 1.5 per cent of GNP rather than a budget deficit equal to 2.3 per cent of GNP would have resulted.[16/]

16/ See, for example, Amatong [1985] and Manasan and Buenaventura [1985].

4. Concluding Remarks

I have started by stating that the rationale for public enterprises flows from the general discussion on the justification for state intervention. Within a welfare theoretic framework, I argued that the wide range of stated motives for using the public enterprise form can, in most cases, be attributed to some violations of efficiency conditions. This should not be taken, however, as in any way necessarily implying that there are motives for the use of public enterprises other than those due to market failures and that in practice public enterprises are initiated on the basis of economic efficiency.

It has been shown that in the Philippines a great majority of state firms can be justified on allocative efficiency grounds. In practice, however, a sizeable number were established on the basis of some noneconomic motives. The use of the latter set of justifications for public enterprises has resulted in the unwanted consequence that the Philippine government has ventured even in areas where competitive markets work, unjustifiably enlarging the scope of public sector activity.

BIBLIOGRAPHY

Arrow, K. J. [1951]. "An Extension of the Basic Theorems of Classical Welfare Economics," in Reading in Mathematical Economics, P. Newman, Baltimore: Johns Hopkins Press.

Arrow, K. J. [1970]. "The Organization of Economic Activity: Issues Pertinent to the Choice of Market vs. Non-Market Allocation," Public Expenditures and Policy Analysis, ed. J. Margolis and R. Haverman, Chicago: Rand McNally, Second editio

Arrow, K. and Hahn F., [1971]. General Competitive Analysis San Francisco: Holden-Day.

Bator, F. M. [1957]. "The Simple Analytics of Welfare Maximization," American Economic Review, 47:22-59.

Bator, F. M. [1958]. "The Anatomy of Market Failure," Quarterly Journal of Economics, 72: 351-79.

Boadway, R. [1979]. Public Sector Economics. Cambridge, Mass.: Winthrop Publishers, Inc.

Briones, L. [1985]. "The Role of Government Owned or Cotrolled Corporations in Development". Paper presented at the 22nd Annual Meeting of the Philippine Economic Society, Manila, December 7, 1985.

Burkhead, J. and Miner J, [1971]. Public Expenditures, Chicago Aldine Publishing Co.

Callen, J., Mathewson, G. F., and Mohring, H., [1976], "The Benefits and Costs of Rate of Return Regulation," American Economic Review, 66: 290-97.

Choksi, A. M. [1981]. "State Intervention in the Industrialization of Developing Countries: Selected Issues," World Bank Staff Working Paper No. 341, Washington, D.C.

Coase, R. H. [1960]. "The Problems of Social Cost," Journal of Law and Economics, 3: 1-144.

Debreu, G. [1959]. Theory of Value, New York: Wiley.

Gillis, M. [1981]. "The Role of State Enterprises in Economic Development", Social Research, 47: 248-289.

Grossman, S. J. and Stiglitz, J. E. [1976]. "Information and Competitive Price Systems", American Economic Review, Papers and Proceedings, 66:246-253.

Jones, L. P. [1975]. Public Enterprise and Economic Development : The Korean Case. Seoul: Korea Development Institute.

Jones, L. P., and Mason, E. [1980]. "The Role of Economic Factors in Determining the Size and Structure of the Public Enterprise Sector in Mixed Economy LDCs," Paper presented at Second BAPEG Conference on Public Enterprise in Mixed Economy LDCs, Cambridge, Mass.

Malinvaud, E. [1972]. Lectures on Microeconomic Theory. Amsterdam: North Holland.

Manasan, R. [1984], "Public Enterprise in the Philippines in 1982: A Definitional and Taxonomical Exercise", Staff Paper Series No. 84-02, Philippine Institute for Development Studies.

Manasan, R. and Buenaventura, C. [1985]. "A Macroeconomic Overview of Public Enterprises in the Philippines, 1975-1984". Paper presented at the 22nd Annual Meeting of the Philippine Economic Society, Manila, December 7, 1985.

McKinnon, R. I. [1973]. Money and Capital in Economic Development, Washington, D. C.: Brookings Institution.

Meade, J. E. [1952]. "External Economies and Diseconomics in a Competitive Situation", Economic Journal, 62: 54-67.

Osana, H. [1973]. "Externalities and the Basic Theorems of Welfare Economics: A Supplementary Note," Journal of Economic Theory, 6: 91-93.

Varian, H. [1978]. Microeconomic Analysis. New York: W. Norton & Co. Inc.

Scitovsky, T. [1954]. "Two Concepts of External Economies", Journal of Political Economy, 67: 143-151.

Winston, G. C. [1976]. "The Theory of Capital Utilization and Idleness," Journal of Economic Literature, 14: 1301-1320.