

Competition and Privatization in Vietnam: Substitutes or Complements? *

Anh T.T Vu †

July 3, 2006

Abstract: *What is the relationship between privatization and competition policies in the government's policy mix?* Current studies on this issue generate opposite findings and predictions because they abstract from specific economic, political, social, and institutional contexts. This paper studies the issue in the particular context of Vietnam's economy, one prominent feature of which is the unequal treatment given to private, privatized, and public firms. Against this backdrop we analyze the welfare impact of and the relationship between competition and privatization policies. To this end, we use the Dixit-Stiglitz model of monopolistic competition, but now with asymmetric costs.

We find that the relationship between privatization and competition policies depends on the government's objective. A rent-seeking government that wants to extract rent from businesses chooses not to privatize profitable SOEs and, moreover, promotes institutional arrangements that put excessive costs on private firms. In contrast, a market-friendly government chooses to privatize all profitable SOEs completely. Finally, if the government is benevolent and cares about the well-being of consumers, a competition policy aimed at leveling the playing field between public and private firms is substitutable for the privatization program. Our model also generates endogenous demand for a competition-enhancing policy. Evidence is also provided to support our analytical predictions.

JEL classification: P21, P31

Keywords: Privatization, Competition, Complementarity, Substitutability, Vietnam

*I am grateful to James Anderson, Richard Arnott, Hideo Konishi, Richard Tresch for their valuable comments. I also thank participants at the ESNIE 2003's workshop for helpful discussions. All remaining errors are mine.

†Fulbright Economics Teaching Program, 232/6 Vo Thi Sau St., Ho Chi Minh City, Vietnam. E-mail: anhvt@fets.vnn.vn

1 Introduction

Establishing private property rights and improving economic efficiency through privatizing state-owned enterprises (SOEs) and introducing competition are the two essential steps in transforming a former centrally planned economy to a market-oriented economy. Recently, there has been a debate among economists about the relationship between these two policies and their relative importance.

On one side of the debate are the advocates of the view that privatization should only be considered as a means to broader ends, of which vibrant competition is one.¹ A prominent representative of this view is Joseph Stiglitz, who writes: “Allowing private companies to compete with a monopoly state-owned enterprise can put pressure on it to become more efficient and eventually could lead to its privatization ... *But while competition may well lead to privatization, the opposite is not true (italics added)*” (Stiglitz, 1998). This view clearly states that for transition economies, competition is more important and can be a *substitute* for privatization.

On the other side are advocates of the view that without private ownership, competition is ineffective since the competition among SOEs is meaningless in the absence of the true competitors - the private firms with a profit-maximizing motivation. Here I can do no better than quoting Brown and Earle (2001): “According to this view, competition and privatization are *complements* in their effects on enterprise performance: privatization may be enhanced by more competitive markets, *but competition cannot substitute for privatization (italics added)*.” Brown and Earle (2001) also note that this debate indeed originated from an earlier hot debate about “big-bang” vs. “gradualism”, in which the advocates of big-bang adopt the complementarity view, while the supporters of gradualism are in favor of the substitutability view.²

There has not yet been a clear-cut empirical answer to the question raised in the theoretical debate. On the one hand, some empirical studies support the big-bang complementarity view. Li and Xu (2002) study the effect of competition and privatization on the performance of firms in the telecommunication industry around the world. They find that the privatization and competition are complements in the sense that they reinforce each other in terms of output growth, labor and total factor productivity, and network expansion. Brown and Earle (2001), in their study of more than 13,000 manufacturing firms in Russia between 1992 and 1999, also find that “[P]rivatization improves firm efficiency whether or not the firm faces competition, while reducing market concentration improves firm efficiency only if the other firms in the market are private.”

On the other hand, some empirical studies confirm the theoretical predictions of the gradualism school of reform. Anderson, Lee and Murrell (2000) report in their study on competition and privatization in Mongolia that while competitive firms are nearly twice as efficient as monopolies, there is no evidence confirming a positive effect of private ownership on firm performance. In contrast, the authors find that state ownership is significantly more effective in improving firm productivity than private ownership.

Our criticism of this debate over the relationship between privatization and competition and their relative importance is that the debate should not abstract from the economic,

¹In Vietnam, “equitisation” rather than privatization has been used to refer to the transformation of a SOE to a share-holding company by one of the following methods described in section 2.1. In this paper, however, we use the word “privatization” for the sake of consistency with the literature.

²For a detailed discussion of big-bang vs. gradualism debate, see Dewatripont and Roland (1995), Murphy et al. (1992), and Vu (2002)

political, social, and institutional context. Abstracting from context is the reason for the opposite predictions and findings in both the theoretical and the empirical studies. For example, Blanchard and Kremer (1997) show that, in contrast to the conventional wisdom, the intensification of competition in product markets resulting from a liberalization may well be inefficient in the absence of an effective mechanism of contract enforcement. Similarly, privatizing state-owned assets into the “wrong hands”, without an effective mechanism of corporate governance, hard budget constraints, and an incorruptible judicial system, turns out to be detrimental to the growth of the economy (Black et al. 2000, Djankov and Murrell 2002, Stiglitz 1999, Tornell 1999). Djankov and Murrell (JEL 2002), in their survey of more than 100 empirical papers on the determinants of enterprise restructuring in transition countries, find that privatization is strongly associated with more restructuring, but at the same time that the identity of the owners of the privatized firms matters for the benefits of restructuring. In particular, in contrast to the common belief, they find that “[S]tate ownership within partially-privatized firms is surprisingly effective.” With respect to the role of competition, Djankov and Murrell find evidence that competition in product markets has a significant effect in improving the performance of the enterprises. The effects are different in Eastern Europe (EE) than in the Commonwealth of Independent States (CIS). Djankov and Murrell suggest that this difference is due to the difference in the quality and development of institutions in the two regions. In short, merely counting the number of SOEs subject to privatization and measuring market concentration do not tell us much about the effectiveness of privatization and competition policies. The methods used and the context in which these policies are implemented matter greatly.

This paper is also concerned with the issue of *substitutability* and *complementarity* between *privatization* and *competition*. But it differs from the other studies in two respects. First, we study the issue in the particular context of Vietnam’s transitional economy, one prominent feature of which is the unequal treatment given to private, privatized, and state-owned firms. Secondly, we study the issue from the perspective of a government that initiates both privatization program and competition policy, as in the case of Vietnam. Specifically, we are interested in the interaction between privatization and competition policies designed under different government objectives.

To this end, we adapt the well-known Dixit - Stiglitz model of monopolistic competition (hereafter D-S) in three ways. First, to simplify the analysis without loss of generality, we consider an economy with only one sector that produces differentiated goods.³ Second, we assume that there are initially SOEs and private firms and that the government tries to protect these SOEs from competition by raising the cost barriers applied to private firms.⁴ Third, instead of assuming common fixed and marginal costs for all firms as in D-S, we assume that public and private firms face different fixed and marginal costs. The costs differ because the socialist orientation of the Vietnamese government has led it to design different sets of law and regulations for private and public firms.

In this paper, we refer to *competition policy* as the government’s leveling of the playing field, i.e. to reduce the gap in effective costs applied to the private and public sectors. In the context of our model in which there are public and private firms (sections 3 and 4) or privatized and private firms (section 5), the extent of the cost gap between the public

³We earlier developed a two-sector model in which private firms produced a standardized consumer good in one sector and both privatized and private firms produced differentiated consumer goods in the other sector but this complication does not generate much additional insight.

⁴This assumption squares well with the fact that a private sector existed even during the time that Vietnam adopted the Neo-Stalinist model.

(or privatized) and private firms may well depend on the ownership structure of the firms (because the government cares about its profit in the SOEs and privatized firms.)

The rest of the paper is structured as follows. Section 2 considers some relevant facts about Vietnam's privatization program and competition policy. We argue in this section that the anti-competitive restrictions in Vietnam originate primarily from the government's pervasively unequal treatment of the private sector, and that the key ingredient in Vietnam's competition policy is the commitment to first reduce, and then eliminate, all unequal social and economic costs imposed on private firms.

Section 3 develops the modified D-S model of monopolistic competition. Section 4 provides a framework in which public firms compete with private firms. This section argues that if an unfair competition policy is adopted, the economy has to bear many costs, including: (i) a loss in consumer welfare; (ii) a reduction in private firms' profits in the short term and a welfare loss caused by hindering them from entering the market in the long term; (iii) inefficient SOEs that cannot compete effectively with private firms; (iv) a fiscal burden on the government because of its subsidization of the SOEs; (v) corruptible politicians; and (vi) a low-competition trap. These costs then give rise to an endogenous demand for a welfare-enhancing competition policy.

Section 5 then studies the relationship between the government's decisions about the degree of privatization and competition so as to achieve its objectives. We find that the relationship between the degree of privatization and competition depends critically on the type (or the objective) of the government. A rent-seeking government that wants to extract rent from business firms chooses not to privatize profitable SOEs and, at the same time, promotes institutional arrangements and policies that put excessive costs on the private firms. In contrast, if a government is benevolent in the sense that it cares for the well-being of consumers, a competition policy aimed at leveling the playing field between the public and private firms is substitutable for the privatization program. Section 6 concludes the paper and suggests directions for future research.

2 Some Aspects of Privatization and Competition in Vietnam

2.1 Methods of Privatization

The Vietnamese government classifies all SOEs into three groups according to their level of importance. Group 1 consists of public enterprises that are strategically important and should therefore be put under complete state ownership and control. SOEs in this group are not subject to privatization. Group 2 consists of SOEs for which the government wants to keep controlling (or golden) shares if they are privatized. Group 3 consists of all remaining SOEs, which can be privatized by one of four methods: (i) keeping the state shares intact and issuing new shares (i.e. corporatization); (ii) selling a fraction of the state shares; (iii) detaching and then privatizing parts of an SOE (mostly applied to the state general corporations); and (iv) selling off all state shares to workers and private shareholders (mostly applied to loss-making SOEs). This paper is concerned with the SOEs in the last two groups. For a more detailed description of the methods of privatization used in Vietnam, see the Appendix.

These methods of privatization reveal the interventionist nature of the government in deciding the size of the state's share and the extent of its control rights in firms. Both

decisions are made with the goal of extracting rent from monopoly power. It is clear that the government wants to hold on to the economic base of a socialist-oriented economy by maintaining the monopoly power of SOEs in many areas, and to use economic power to support its political power. Moreover, it seems that the Vietnamese government wishes to get rid of poorly-performing SOEs so that good images of the public sector are preserved and financial burdens are relieved. In contrast to Eastern European experience, a large numbers of the SOEs that have been listed for privatization in Vietnam are unprofitable firms.⁵ Also, as expressed clearly in the methods of privatization, the privatization of monopolistic (and therefore profitable) SOEs has mostly been partial.

2.2 Status of Privatized Firms Before and After Privatization

In the literature, privatization is conceptualized as a means of transferring ownership and control rights from the state to private shareholders and managers. For Vietnam, this conceptualization is correct but incomplete, since privatization obviously brings about profound changes in the institutional and operational environment of newly privatized firms. It is useful to compare institutional constraints facing (partially) privatized firms vis-a-vis those of the SOEs and (fully) private firms.

Among the three groups of firms, the SOEs are best treated. Privatized firms are better treated than private firms. In principle privatized firms are entitled to receive some favorable treatment (compared with fully private firms) according to Vietnam's Law on Encouraging Domestic Investment. This law allows privatized firms to exempt up to 50% of their profit from taxation in the first several years after being privatized. The privatized firms are also permitted to borrow money at the state commercial banks and other state credit institutions at the same rates and terms as the SOEs. In fact, however, as soon as a SOE has been privatized, it is subject to differentiated treatment (compared with the SOEs) from the state's commercial banks, credit and financial institutions, and other state organizations (Huy V. Nguyen 2002, p.8; Cuong T. Tran 2002, p.7).^{6 7} The reasons for the discrimination of privatized firms vis-a-vis the SOEs are changes, brought about by privatization, in legal status (from an SOE governed by the Law on State Enterprises to a private enterprise governed by the Law on [Private] Enterprises), economic status (from "the leading role" which is backed by the state to "a component" of the national economy⁸), and in social status (from belonging to "the nation" to belonging to "private hands").⁹ This discrimination is the source of many distortions both within the firm and in the management of the economy.

In summary, there is a wide gap between the *de jure* and *de facto* status of private, privatized, and public firms. In other words, there is a correspondence between a firm's status and the treatment it receives, resulting in differences in the economic and social costs of doing business for private, privatized, and state-owned firms.

⁵It is estimated that among all SOEs, one third are unprofitable, one third are just break-even, and the remaining one third are profitable, presumably thanks to their monopoly power and other favorable conditions.

⁶Huy V. Nguyen is a specialized member in the Central Steering Committee for Equitization.

⁷Cuong T. Tran is the head of the Enterprise Department of the Central Institute for Economic Management (Ministry of Planning and Investment).

⁸Vietnam's Constitution (1992)

⁹According to a report done by the Mekong Project Development Facility (MPDF 1999), the private firms in Vietnam have a pretty negative image in the eyes of the public, commercial banks, trading partners, and potential employees.

2.3 Ownership Structure in Production

In many Eastern European (EE) and Commonwealth of the Independent States (CIS) countries, privatization is a means of establishing private property rights. In Vietnam, the situation is somewhat different since a viable private sector existed even before the implementation of the privatization program. As such, privatization should also be viewed as a means to transform the ownership structure of the economy and the corporate governance of firms, and thereby help foster competition and improve economic efficiency.

The overall structure of ownership in Vietnam has not been substantially changed by the privatization, however. By the end of 2004, the government had privatized about 2,224 SOEs, i.e. about 40% of the total number of SOEs, whose capital amounted to about 8.2% of the total capital of all SOEs. It is projected that the privatization will be completed by 2008. By that time only about 1,200 SOEs will be owned by the state, and most of them are members of state general corporations (SGCs) and the so-called state economic groups (SEGs). Our estimation, however, shows that even if the target is met by 2008, the ownership structure will not be changed significantly if the state general corporations (SGCs), the “white elephants” in Vietnam’s economy, are left intact. As of February 2005, SGCs alone accounted for about 80% of the total capital, and about 60% of the total fixed assets of all SOEs. This fact, together with the fact that the state’s retained share tends to be high in large and strategically important privatized firms, implies that if there is no significant change in the private sector, then by 2008 state ownership will still be the dominant form of ownership in the economy.

The fact that the state maintains large shares in privatized firms complicates corporate governance and the government’s regulations. The *dual role* of the state as the owner in SOEs and privatized firms and as the only regulator makes the possibility of regulatory capture more serious (Stiglitz 1998. See also Hellman and Schankerman 2000, and Hellman and Kaufmann 2001). In short, the SOEs and privatized firms may attempt to use their state ownership as a means of influencing the regulations that directly affect their profits. The state, in caring about its share of the profit of SOEs and privatized firms, may design distorted regulations that favor the firms in which its share is significant.

2.4 Vietnam’s Competition Policy

2.4.1 The Importance of Competition to Privatized Firms in Vietnam

There is a belief widely shared among economists that privatization improves the performance of SOEs by creating better governance structures and incentive mechanisms. In Vietnam, there are reasons to doubt that privatization alone creates the right incentives for the managers of privatized firms. First, for many privatized firms the new board of managers is essentially the same as the one before privatization.¹⁰ Second, there is no change in management style in many privatized firms, especially those whose state share is large. Third, the privatized firms commonly lack strategic investors since most of the shares are either sold to insiders or retained by the state, and the role of strategic investors is not emphasized during the process of privatization (Cuong T. Tran 2002, pp.2-3). Fourth, since the stock market is underdeveloped, there is almost no take-over threat. Fifth, as

¹⁰A new survey of 261 newly privatized firms in the South in 2002 reveals that in more than 80% of the firms there was no change in management posts, both during and after the privatization (Hao G. Nguyen 2002).

in other economies in transition, the enforcement of regulations is very weak in Vietnam. All these reasons make a strong case for promoting competition so that product market competition can, to some extent, substitute for the lack of capital market discipline (Simon et. al. 1999), the lack of incentive to innovative of the SOEs, the weak monitoring of shareholders and creditors, and the weak enforcement of regulations. In addition, if competition is brought about by lowering entry barriers, new firms will be able to enter the market so that the substantial “dead capital” held by the people can be mobilized (de Soto 2000).

Competition is beneficial to consumers as well. With competition, there is pressure on firms to improve product quality and introduce new products into the market. Consumers who have preferences for quality and variety will greatly benefit from their freedom to choose among more products and at more reasonable prices.

2.4.2 Vietnam’s Competition Law

The first competition law of Vietnam came into effect on July 1, 2005. The law has chapters on prevention of anti-competitive practices, abuse of market dominance, merger, consolidation and acquisition, and unfair competition. Nevertheless, it fails to address the main sources of anti-competitive restrictions in Vietnam, which are the monopoly of the SGCs and SEGs, the dominance of large SOEs, and the unequal treatment of the private sector by state-owned banking and financial organizations. In this paper, therefore, we refer to competition policy as the decision of the government to eliminate this unequal treatment by reducing the gap in the effective costs. It seems that Vietnamese lawyers have recognized this inadequacy. For example, the Director of the Law Department of the Ministry of Trade writes: “It can be said that monopolistic enterprises are merely established by administrative decisions, not by free and equitable competition. Therefore, it is critical for Vietnam to control and limit state monopolistic enterprises.”

2.5 The New Enterprise Law and the Private Sector Development

Vietnam embarked on the transition from a centrally planned economy to a socialist market economy in 1986. As the term *socialist market economy* implies, the Vietnamese government has been trying to develop a market economy while maintaining the socialist ideology, characterized by the leadership of the Communist Party and the dominance of the state sector in the economy. It is, therefore, not surprising that the private sector has not received equal treatment relative to the state sector, even though it accounts for equal share in GDP and higher share in both industrial output and job creation.

Recently, there have been efforts to improve the legal and institutional environment in the private sector, of which the most notable and successful was the introduction of the new Law on [Private] Enterprise (LOE) passed in 1999.¹¹ Between January 2000 and December 2005, approximately 160,000 new businesses had registered compared with 45,000 firms in the previous nine years (1991-1999). It was estimated that these 160,000 new businesses created about 4 million new jobs and contributed US\$16 billion in registered capital. It is also estimated that on average it costs a private firm around US\$ 4,500-6,500 to create a

¹¹The first law on private enterprise was enacted in 1990 and titled the “Law on Private Enterprise” as opposed to the “Law on State Enterprise”, which is still in use to govern the state-owned enterprises.

new job, whereas it costs a SOE at least US\$ 13,500-18,000, i.e. three times as much.¹²

Successes of the LOE 1999 can be attributed to its breakthrough in opening up Vietnam's centrally planned economy to the energetic private sector. More specifically, the LOE improves the business environment in at least three respects. First, it has changed the licensing system and thereby greatly reduced the cost of obtaining a licence (or the entry cost.) Before 2000, private businesses, had to apply, on average, to 34 different agencies to obtain a licence. The procedure on average took 99 days and cost US\$330. After the enactment of the LOE, it takes businesses only two weeks (or even less) and costs them about US\$13 to obtain a business licence. Second, the LOE allows a much wider and flexible scope of business activities. In the past, activities of private firms were restricted to operations for which they were granted license. If firms wanted to change or add a new business activity, they had to go through the entire process again. The new LOE, in contrast, allows businesses to operate in all industries except those restricted by law. Moreover, a new license is not required for changing or adding new activities. And third, the LOE removes the minimum capital requirements, except for some special industries (e.g., insurance and banking.)

Despite the above-mentioned successes brought about by the LOE 1999 (and perhaps also the new unified enterprise law), there are still many obstacles on the way to a complete level playing field for all economic sectors. The public sector continues to enjoy many privileges. The private sector is still subject to discrimination and biased treatment. Economically, problems relating to land access, credit and training remain unsolved. Politically, the proper role of the private sector in the economy continue to generate heated debates. Socially, society at large still maintains somewhat negative attitudes towards the private sector.

3 Public and Private Firms in a Monopolistic Competition Framework

In this section we adapt the well-known Dixit-Stiglitz model of monopolistic competition (hereafter D-S) to capture the differential treatment given to public and private enterprises by the Vietnamese government's.¹³

3.1 Consumer Problem

The utility of the representative consumer is represented by the function:

$$U(x_1, x_2, \dots, x_n) = \sum_{i=1}^n x_i^\rho \quad (1)$$

where x_i is the consumption of the i^{th} variety, n is the number of available varieties (or the number of active producers,) and $0 < \rho < 1$ is a constant representing the intensity of consumer preferences for varieties. It can be shown that $\sigma \equiv \frac{1}{1-\rho}$ is the constant elasticity of substitution between any two varieties.¹⁴ In this paper, the market competitiveness is

¹² *Vietnam Investment Review*, No. 643, February 2, 2004.

¹³Note that privatization (and therefore privatized firms) will not be introduced until section 5. Also, we are only concerned with the SOEs subject to privatization (i.e., in Groups 2 and 3).

¹⁴ $0 < \rho < 1$ implies that $\sigma > 1$

measured by n .

Income of the representative consumer, denoted by Y , comes from endowment, which is given to the consumer in the beginning of every period.¹⁵ The problem of the representative consumer is:

$$\max_{x_i} U = \sum_{i=1}^n x_i^\rho \quad s.t. \quad \sum_{i=1}^n p_i x_i = Y$$

where p_i is the market price of the i^{th} variety.

The marginal rate of substitution between any two varieties is equal to their price ratio, i.e. $\frac{x_i^{\rho-1}}{x_j^{\rho-1}} = \frac{p_i}{p_j}$, or

$$x_i = x_j \left(\frac{p_i}{p_j} \right)^{\frac{1}{\rho-1}} = x_j \left(\frac{p_i}{p_j} \right)^{-\sigma} \quad (2)$$

We assume that initially there are only two sectors in the economy: public and private. The public sector consists of m identical SOEs and the private sector consists of $(n - m)$ identical private firms. The number of public firms m is exogenously given, whereas the total number of active firms n is determined endogenously (see section 3.4). Public firms are indexed 1 and private firms are indexed 2. Equation (2) then reads:

$$x_1 = x_2 \left(\frac{p_1}{p_2} \right)^{-\sigma} \quad (3)$$

Substituting (3) into the consumer's budget constraint and solving for x_1 and x_2 :

$$\begin{aligned} x_1 &= \frac{p_1^{-\sigma} Y}{m p_1^{1-\sigma} + (n-m) p_2^{1-\sigma}} = \frac{p_1^{-\sigma} Y}{P} \\ x_2 &= \frac{p_2^{-\sigma} Y}{m p_1^{1-\sigma} + (n-m) p_2^{1-\sigma}} = \frac{p_2^{-\sigma} Y}{P} \end{aligned} \quad (4)$$

where $P \equiv m p_1^{1-\sigma} + (n-m) p_2^{1-\sigma}$.

3.2 Producers' Problem

Our focus in this section is on the behavior of producers. As in D-S, we assume that there are economies of scale at the level of variety. This assumption, together with the assumptions about the preferences of the consumer for variety and free entry and exit of firms, implies that each variety is produced by only one firm. In other words, the number of varieties equals the number of active producers. We also assume that SOEs (private firms) incur some fixed cost a_1 (a_2) and a common marginal cost c_1 (c_2). Each firm solves:

$$\max_{p_i} (p_i - c_i) x_i - a_i = (p_i - c_i) \frac{p_i^{-\sigma} Y}{P} - a_i$$

¹⁵For simplicity, we do not consider the labor market because it complicates the analysis without adding much insights. See Aghion and Blanchard (1994) for an excellent analysis of labor market and the reallocation of labor from the public sector to the private sector in transition economies.

where $i \in \{1, 2\}$. If we assume that n is large and there is no strategic interaction among firms (i.e., the aggregate price index P is taken as given by all firms), then each firm maximizes its profit by equating marginal revenue with marginal cost:

$$p_i \left(1 - \frac{1}{\sigma}\right) = c_i \quad (5)$$

Note also that in our model, the elasticity of demand for each good equals the elasticity of substitution σ between any two varieties.

3.3 The Role of the Government

To simplify the analysis, the role of the government in this paper is restricted to only two activities: (i) designing an institutional framework and its corresponding enforcement mechanism; and (ii) managing the SOEs (in section 4) or representing the public ownership in privatized firms (in section 5). There is no taxation and the only source of the government revenue is the profit of public firms (or the profit share in privatized firms). This revenue is used for designing, implementing, and enforcing laws and regulation and subsidizing SOEs. The remaining (if any) is kept by the politician and does not affect consumer welfare.

The government has a certain degree of discretion over the design of institutional arrangements so as to achieve its objective. It is assumed that both the marginal costs (c_1, c_2) and fixed entry costs (a_1, a_2) of public and private firms are subject to government's manipulation. In sections 3 and 4, the institutional framework is assumed to be given. The active role of the government in designing institutions (e.g., competition law) to serve its goals will be considered in section 5.

3.4 Market Equilibrium

Equilibrium is characterized by three conditions: (1) all firms maximize their profit; (2) the representative consumer maximizes her utility; and (3) due to free entry and exit, the marginal firm just breaks even. Conditions (1) and (2) have been considered in the previous sections. This section is devoted to the third condition.

Now we introduce a modification from the standard D-S model. We assume that public and private firms are asymmetric with respect to both marginal and fixed costs.

Note that, in equilibrium, the price and quantity are the same for all firms within each sector. The break-even condition of the marginal firm n , which is a private firm, can be written as:

$$(p_2 - c_2)x_2 = a_2 \quad (6)$$

where c_2 is the marginal cost and a_2 is the fixed cost of the marginal private firm.

Substituting p_1 and p_2 from equation (5) into equation (4) gives:

$$\begin{aligned} x_1 &= \frac{\sigma - 1}{\sigma} \frac{c_1^{-\sigma} Y}{mp_1^{1-\sigma} + (n - m)p_2^{1-\sigma}} \\ x_2 &= \frac{\sigma - 1}{\sigma} \frac{c_2^{-\sigma} Y}{mp_1^{1-\sigma} + (n - m)p_2^{1-\sigma}} \end{aligned} \quad (7)$$

Using equation (5), (6), and (7), it can be shown that the number of active producers in equilibrium is:

$$n = \frac{Y}{\sigma a_2} + m(1 - c^{1-\sigma}) \quad (8)$$

where $c \equiv \frac{c_1}{c_2}$ is the marginal cost ratio that reflects the asymmetry in marginal costs between the SOEs and private firms.

Substituting n from equation (8) back to (7) gives:

$$\begin{aligned} x_1 &= \frac{(\sigma - 1)a_2c_1^{-\sigma}}{c_2^{1-\sigma}} \\ x_2 &= \frac{(\sigma - 1)a_2}{c_2} \end{aligned} \tag{9}$$

Note that x_1 and x_2 depend only on the substitution elasticity and the cost structure of firms and do not depend on n .

Substituting x_1 , x_2 , and n back to equation (1) gives:

$$U = \frac{(\sigma - 1)^{\frac{\sigma-1}{\sigma}} Y}{\sigma a_2^{\frac{1}{\sigma}} c_2^{\frac{\sigma-1}{\sigma}}} \tag{10}$$

Since all private firms are symmetric, their profits are all the same and equal zero, i.e. $\pi_2 = 0$. The profit of the SOEs (π_1), however, can be positive or negative, depending on the initial cost asymmetries in the economy. It is easy to show that:

$$\pi_1 = (p_1 - c_1)x_1 - a_1 = c^{1-\sigma}a_2 - a_1 \tag{11}$$

The profit of the SOEs (and, therefore, government's revenue) and the utility of the representative consumer are both functions of the cost asymmetries in the economy. It is therefore possible, and presumably desirable, for the government to manipulate c_1 , c_2 , a_1 , a_2 so as to achieve whatever goal it might pursue. The government can manipulate the relative costs applied to the SOEs and private firms by crafting appropriate institutions (North, 1990) or simply by imposing differential fees on public and private firms.

4 Competition Policy and Its Impacts

Our model captures an important feature of the Vietnamese business environment, i.e. the SOEs and private firms have very different costs of doing business. This difference in costs comes about partly because the government designs different sets of law and regulations for private and public firms.¹⁶ We start our analysis of the impact of competition policy by making three key assumptions, all of which are well supported empirically. First, to reflect the relatively productive inefficiency of the SOEs compared to private firms, we assume that initially $c_1 > c_2$. Second, we assume that $a_1 < a_2$. This difference in the fixed cost reflects the biased treatment against the private sector in Vietnam as discussed in the introduction. And third, the government can, at least to some extent, manipulate the cost structures faced by both public and private firms. In the following, *competition policy* is referred to as the government's decision to level the playing field of both sectors, i.e. to reduce the gap in the effective costs facing private and public firms (i.e., narrow the gaps between a_1 and a_2 and between c_1 and c_2 .)

As noted by Blanchard and Giavazzi (2001), many regulatory barriers to entry are in the the form of legal and administrative restrictions on entry rather than monetary costs.

¹⁶In Vietnam, there are two separate sets of law: Private Enterprise Law and Public Enterprise Law.

It follows that a_1 and a_2 can be interpreted as shadow costs. One way to think about the fixed-cost gap ($a_2 - a_1$) is that it is a pure waste due to government regulation or differential treatment of the private sector. For example, private firms have to devote more time to fulfill bureaucratic requirements, or they have to pay higher fees and to bribe tax collectors and official inspectors. The gap in the marginal cost ($c_1 - c_2$) comes from two main sources: the difference in the X-efficiency between public and private firms and the government's biased treatment against private firms. For example, private firms are subject to higher interest rates when they borrow from the state commercial banks, or they have to pay higher prices for certain inputs provided by the SOEs.¹⁷

4.1 Welfare Effect of Competition Policy

This section studies how competition policy affects the utility of the representative consumer and the profit of producers. From equation (8): $n = \frac{Y}{\sigma a_2} + m(1 - c^{1-\sigma})$, it follows that $\frac{\partial n}{\partial a_2} < 0$. It can also be verified from equation (10) that $\frac{\partial U}{\partial a_2} < 0$. Market competitiveness in equilibrium, measured by the number of active firms (n), also depends on the asymmetry in marginal costs (i.e., $\frac{\partial n}{\partial c} > 0$.) It is easy to show that a lower value of c_2 gives rise to a higher level of consumer utility in equilibrium (i.e., $\frac{\partial U}{\partial c_2} < 0$.)

Lemma 1 $\frac{\partial n}{\partial a_2} < 0$, $\frac{\partial n}{\partial c_2} < 0$, $\frac{\partial U}{\partial a_2} < 0$, and $\frac{\partial U}{\partial c_2} < 0$.

Now let us consider the effect of competition policy on the profit of active producers. In long-run equilibrium, all private firms receive no profit ($\pi_2 = 0$.) It is straightforward to verify that $\frac{\partial \pi_2}{\partial a_2} < 0$, and $\frac{\partial \pi_2}{\partial c_2} < 0$. In the long run a higher a_2 keeps private firms from entering the market, and a higher c_2 forces some private firms to exit.

As for public firms, their profit is given by $\pi_1 = c^{1-\sigma} a_2 - a_1$ (equation (11)). Government revenue is the sum of all SOEs' profit and is given by: $m\pi_1 = m(c^{1-\sigma} a_2 - a_1)$. That is, the profit of public firms (and, therefore, government revenue) depends entirely on the cost structures of the economy. From equation (11):

Lemma 2

$$\frac{\partial \pi_1}{\partial c_1} < 0, \quad \frac{\partial \pi_1}{\partial a_1} < 0, \quad \frac{\partial \pi_1}{\partial c_2} > 0, \quad \frac{\partial \pi_1}{\partial a_2} > 0; \quad (12)$$

that is, public firms benefit both from a reduction in their own costs and from an increase in the costs of private firms.

4.2 Selection Effect of Competition Policy

We already see that lower values of a_2 and c_2 lead to higher n , or equivalently, more private firms in equilibrium. This section considers the effect of competition policy on market shares of public and private firms in equilibrium. Market share is measured in

¹⁷We assume that the revenue received from imposing higher input prices and interest rates on private firms does not affect the consumer welfare directly.

terms of quantity rather than expenditures. Let us first consider the effect of competition policy on the market share of public firms.

From equation (9), $x_1 = \frac{(\sigma - 1)a_2c_1^{-\sigma}}{c_2^{1-\sigma}}$ and $x_2 = \frac{(\sigma - 1)a_2}{c_2}$. Thus, the market share of any one public firm is given by:

$$s_1 = \frac{x_1}{mx_1 + (n - m)x_2} = \frac{c^{-\sigma}}{mc^{-\sigma} + (n - m)} = \frac{1}{m + (n - m)c^\sigma} \quad (13)$$

Given c_1 and c_2 , a decrease in the fixed cost of entry a_2 results in an increase in n , and therefore a decrease in the market share of each public firm (i.e., $\frac{\partial s_1}{\partial a_2} > 0$.) Moreover, given a_2 , it can be shown that $\frac{\partial s_1}{\partial c_2} > 0$; that is, a decrease in c_2 will also lead to a reduction in market share of each public firm.

Now consider the effect of competition policy on the market share of all public firms, which is given by:

$$ms_1 = \frac{m}{m + (n - m)c^\sigma}$$

It can be verified that $\frac{\partial(ms_1)}{\partial n} < 0$, or equivalently, $\frac{\partial(ms_1)}{\partial a_2} > 0$; and that $\frac{\partial(ms_1)}{\partial c_2} > 0$. That is to say, a more competitive environment (i.e., lower a_2 and c_2) decreases the market share of the public sector. We refer to this consequence of competitive policy as the *selection effect*.

Lemma 3 $\frac{\partial s_1}{\partial a_2} > 0$, $\frac{\partial s_1}{\partial c_2} > 0$, $\frac{\partial(ms_1)}{\partial a_2} > 0$, and $\frac{\partial(ms_1)}{\partial c_2} > 0$.

4.3 Output Effect of Competition Policy

Let Q be the total output produced by both public and private sectors. It can be shown that:

$$Q = mx_1 + (n - m)x_2 = \frac{\sigma - 1}{\sigma} \frac{n - m(1 - c^{-\sigma})}{n - m(1 - c^{1-\sigma})} \frac{Y}{c_2}. \quad (14)$$

Now consider the effect of a competition-enhancing policy on Q . We know that:

$$\begin{aligned} x_1 &= \frac{(\sigma - 1)a_2c_1^{-\sigma}}{c_2^{1-\sigma}} \\ x_2 &= \frac{(\sigma - 1)a_2}{c_2} \\ n &= \frac{Y}{\sigma a_2} + m(1 - c^{1-\sigma}) \end{aligned}$$

A decrease in a_2 therefore has two effects. It increases the number of firms in equilibrium, but it decreases both x_1 and x_2 . It is straightforward to show that the combined effect of a decrease in a_2 is an increase in the total quantity Q .¹⁸

As for c_2 , there are also two opposing effects associated with a reduction of c_2 . A lower value of c_2 increases n and x_2 , but it decreases x_1 . The overall effect is unclear and depends on the value of Y , which is given exogenously.

¹⁸Our model abstracts from the labor market, but if we assume that a higher output is associated with a lower unemployment rate, then this result implies that a competition-enhancing policy that reduces the entry barrier will contribute to job creation.

Lemma 4 $\frac{\partial Q}{\partial a_2} < 0$.

4.4 Cost-Reduction Effect of Competitive Policy

There has been a consensus that public firms often lack the incentives to improve their efficiency when they are shielded from market discipline. In this section, we show that private firms have stronger incentives to invest in technological innovation in order to cut costs. We also show that the presence of innovative private firms will press SOEs to improve their efficiency if they do not want to be driven out of the market.

Suppose that firm i can reduce its marginal cost from c_i to $(c_i - e_i)$ by incurring an effort cost $\frac{\delta}{2}e_i^2$, where e_i is the effort level of firm i and $i \in \{1, 2\}$. Consider the situation in which a private firm chooses \hat{p}_2 and \hat{e}_2 to maximize its profit.¹⁹ Again, assume that n is large and there is no strategic interaction among firms. These assumptions imply that the deviating firm take n and the prices of all other firms as given.²⁰ In other words, $P \equiv mp_1^{1-\sigma} + (n-m-1)p_2^{1-\sigma} + \hat{p}_2^{1-\sigma}$ is taken as given. The firm's maximization problem is:

$$\max_{\hat{p}_2, \hat{e}_2} (\hat{p}_2 - c_2 + \hat{e}_2)x_2(\hat{p}_2) - a_2 - \frac{\delta}{2}\hat{e}_2^2$$

or

$$\max_{\hat{p}_2, \hat{e}_2} (\hat{p}_2 - c_2 + \hat{e}_2) \frac{\hat{p}_2^\sigma Y}{P} - a_2 - \frac{\delta}{2}\hat{e}_2^2$$

First-order conditions give:

$$\begin{cases} \hat{p}_2 & : \hat{p}_2 \left(1 - \frac{1}{\sigma}\right) = c_2 - \hat{e}_2 \\ \hat{e}_2 & : \frac{\hat{p}_2^\sigma Y}{P} = \delta \hat{e}_2 \end{cases} \quad (15)$$

These two conditions imply:

$$(c_2 - \hat{e}_2)^{-\sigma} = \frac{\delta P}{\left(\frac{\sigma}{\sigma-1}\right)^\sigma Y} \hat{e}_2 \quad (16)$$

The solution to the above equation is illustrated in Figure 1. However, the LHS curve and the RHS line intersect at two points. To decide the value of \hat{e}_2 that maximizes $\hat{\pi}_2$, we need the second-order condition.

The second-order condition with respect to \hat{e}_2 reads:

$$\frac{\partial (c_2 - \hat{e}_2)^{-\sigma}}{\partial \hat{e}_2} - \frac{\delta P}{\left(\frac{\sigma}{\sigma-1}\right)^\sigma Y} < 0,$$

meaning that at \hat{e}_2^* the slope of the LHS curve must be lower than the slope of the RHS line.

¹⁹I am grateful to Richard Arnott for his advising me to go into this direction. This is also the approach adopted by Aghion and Schankerman (forthcoming, 2004).

²⁰We do not have to worry about the change in n since in equilibrium, both p_i and x_i are independent of n .

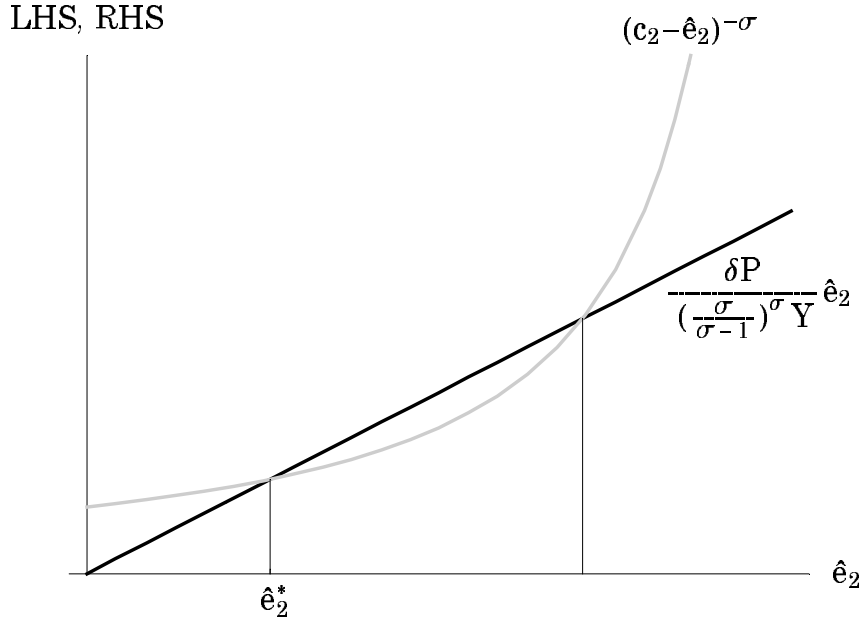


Figure 1: The optimal level of effort \hat{e}_2^*

Now assume that a public firm can also exert an effort level \hat{e}_1 in order to reduce the marginal cost to $(c_1 - \hat{e}_1)$. It is straightforward to show that \hat{e}_1^* is the solution of the following equation:

$$(c_1 - \hat{e}_1)^{-\sigma} = \frac{\delta P}{\left(\frac{\sigma}{\sigma - 1}\right)^\sigma Y} \hat{e}_1 \quad (17)$$

\hat{e}_1^* and \hat{e}_2^* are illustrated in Figure 2. Clearly, $\hat{e}_1^* < \hat{e}_2^*$.²¹ The intuition of this result is simple. Since the profit gains from cost reduction are proportional to market share, a public firm with lower market share has less incentive to exert effort to reduce cost.

$\hat{e}_1^* < \hat{e}_2^*$ implies a higher cost ratio $\hat{c} \equiv \frac{\hat{e}_1^*}{\hat{e}_2^*}$. This in turn implies that both profit and market share of public firms are decreased (see equations 11 and 13.)

Lemma 5

$$\frac{\partial e_i^*}{\partial c_i} < 0 \Rightarrow e_2^* > e_1^* \quad (18)$$

Another way to see the effect of the cost-cutting effort made by private firms on public firms is to find the effort level that needs to be made by public firms to maintain their profit. This effort level \tilde{e}_1 is such that:

$$\frac{c_1(\tilde{e}_1)^{1-\sigma}}{c_2(\hat{e}_2^*)^{1-\sigma}} a_2 - a_1 = \frac{c_1^{1-\sigma}}{c_2^{1-\sigma}} a_2 - a_1,$$

or equivalently:

$$\frac{c_1 - \tilde{e}_1}{c_2 - \hat{e}_2^*} = \frac{c_1}{c_2} \iff \frac{\tilde{e}_1}{\hat{e}_2^*} = \frac{c_1}{c_2} \quad (19)$$

²¹This result is interpreted by Aghion and Schankerman (2004) as reflecting the market share effect. In Boon (2004) terminologies, public firms adopt a defensive (or downsizing) strategy whereas private firms follow an enterprising strategy.

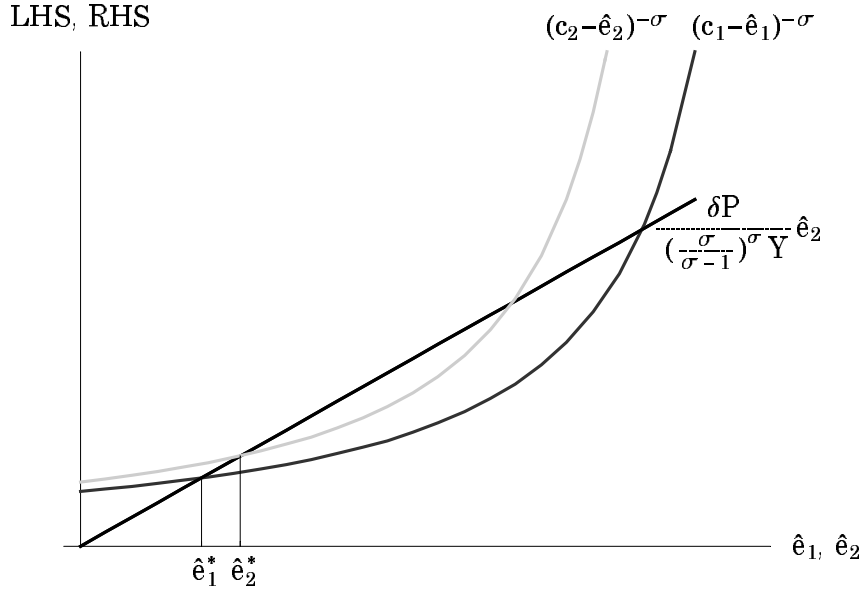


Figure 2: The optimal level of effort \hat{e}_1^* and \hat{e}_2^*

If we maintain the assumption that public firms are less efficient than private firms (i.e., $c_1 > c_2$), then equation (19) implies that to maintain the same level of profit, public firms have to exert a higher level of effort than private firms. We refer to this effect as the *innovation pressure effect*.

4.5 Subsidization of the SOEs

As in the previous section, assume that private firms exert effort level e_2 to reduce cost from c_2 to $(c_2 - e_2)$. As has been shown, both profit and market share of public firms are decreased as the result of a higher effort level made by private firms. Obviously, without the help from outside, competition will potentially drive public firms out of the market. Facing this challenge, public firms seek help (e.g., subsidy) from the government – their traditional protector. Note that public firms’ request for subsidies squares well with the government’s political goal of maintaining a large and vibrant public sector. Public firms can also mitigate the challenge of competition by bribing the politician so that he creates new laws and regulations that impose higher costs on private firms. In this section, we will consider the effects of competition policy on the amount of subsidy given to public firms by the government. The bribing issue will be considered in the next section.

By expending an effort level \hat{e}_i^* firm i reduces its marginal cost to $(c_i - \hat{e}_i^*)$. But since $\hat{e}_2^* > \hat{e}_1^*$, private firms gain more market share and drive down both the market share and the profit of public firms. If the government wants to maintain a significant public sector for political reasons, it then has to subsidize public firms (the so-called “soft-budget constraints”.) To maintain the same level of profit for public firms the government has to give each public firm a subsidy S :

$$\begin{aligned}
 S &= \left[\frac{c_1^{1-\sigma}}{c_2^{1-\sigma}} a_2 - a_1 \right] - \left[\frac{(c_1 - \hat{e}_1^*)^{1-\sigma}}{(c_2 - \hat{e}_2^*)^{1-\sigma}} a_2 - a_1 \right] \\
 &= \frac{[c_2(c_1 - \hat{e}_1^*)]^{\sigma-1} - [c_1(c_2 - \hat{e}_2^*)]^{\sigma-1}}{[c_1(c_1 - \hat{e}_1^*)]^{\sigma-1}} a_2
 \end{aligned} \tag{20}$$

Clearly, $\frac{\partial S}{\partial a_2} > 0$. That is, the higher the initial cost of entry (or the lower the competition), the higher the subsidy that needs to be given to each SOE to maintain its profit level.²²

Lemma 6 $\frac{\partial S}{\partial a_2} > 0$.

4.6 State Capture and the Competition Trap

As has been shown in previous sections, public firms clearly benefit from an institutional environment that limits competition. An increase in the marginal and fixed costs imposed on private firms unambiguously increases the profit and market share of public firms. In contrast, private firms are clearly harmed by such an environment. This fact explains the motivation of *both* public and private firms to lobby the government to create laws, regulations, and practices that drive costs in the direction they desire. Following Grossman & Helpman (2001) and Aghion & Schankerman (2004), this section uses a simple political economy model in which both special interest groups (i.e., public and private firms) can capture politicians.²³ For simplicity we assume away the free-rider problem emerging from the collective action of public and private firms. We will show that if the politician is corruptible and if competition is initially low, then the economy may be trapped in this low competitive status.

The variable of interest in this section is the fixed cost a_2 borne by private firms.²⁴ It is assumed that public (private) firms attempt to bribe the politician to increase (decrease) the fixed cost a_2 imposed on private firms. The politician, however, can receive the bribe from either side.

First, let's consider the political cost to the politician if he receives a bribe from either side (i.e., public or private firms.) Assume that the politician's pay-off is proportional to the utility of the representative consumer when he does not receive a bribe from either side. Specifically, if the politician is not corruptible, his payoff is $\lambda U(a_2)$, where λ is a positive number. It follows that the politician's cost of taking the bribe is: $b(a_2) = \lambda \left| \frac{\partial U(a_2)}{\partial a_2} \right|$ where a_2 is the initial policy. Substituting U from equation (10) gives:

$$b(a_2) = \left| \lambda \frac{\partial U(a_2)}{\partial a_2} \right| = \frac{\lambda(\sigma - 1)^{\frac{\sigma-1}{\sigma}} Y}{\sigma^2 c_2^{\frac{\sigma-1}{\sigma}} a_2^{\frac{\sigma+1}{\sigma}}}$$

Public firms are successful in bribing the politician to adopt a policy that increases a_2 if and only if their bribe fully compensates the politician for cost of imposing such a policy, including the political cost $b(a_2)$ and the opportunity cost of forgoing the bribe from private firms. This condition amounts to:

$$m \frac{\partial \pi_1}{\partial a_2} > (n - m) \left| \frac{\partial \pi_2}{\partial a_2} \right| + b(a_2) \quad (21)$$

²²It can also be shown that $\frac{\partial S}{\partial c_2}$ can be positive or negative, depending on the value of the parameters.

²³For empirical evidence on government capture, see Hellman and Schankerman 2000, and Hellman and Kaufmann 2001.

²⁴It is straightforward to extend the analysis of this section to include marginal cost asymmetry.

The LHS is the increase in the total profit of public firms as a result of a marginal increase in a_2 . It is also the maximum amount that public firms are willing to bribe the politician in exchange for a policy that imposes a higher fixed cost on private firms. Similarly, the first term on the RHS $\left((n - m) \left| \frac{\partial \pi_2}{\partial a_2} \right| \right)$ is the decrease in the total profit of private firms as a result of a marginal increase in a_2 .²⁵ It is also the maximum amount that private firms are willing to bribe the politician in exchange for his not imposing a higher fixed cost to them. The second term on the RHS $[b(a_2)]$ is the political cost to the politician if he accepts the bribe from public firms.

Equation (21) can be rewritten as:

$$mc^{1-\sigma} - \frac{\lambda(\sigma - 1) \frac{\sigma-1}{\sigma} Y}{\sigma^2 c_2^{\frac{\sigma-1}{\sigma}} a_2^{\frac{\sigma+1}{\sigma}}} - (n - m) > 0$$

Define $\psi(a_2) \equiv mc^{1-\sigma} - \frac{\lambda(\sigma - 1) \frac{\sigma-1}{\sigma} Y}{\sigma^2 c_2^{\frac{\sigma-1}{\sigma}} a_2^{\frac{\sigma+1}{\sigma}}} - (n - m)$. Note that $\psi'(a_2) > 0$.

Let a_2^* be the value of a_2 such that $\psi(a_2^*) = 0$. $\psi'(a_2) > 0$ implies that if initially $a_2 > a_2^*$, then public firms are successful in bribing the politician to increase a_2 . The intuition of this result is that, if a_2 is initially high (i.e., the competition is initially low), then the cost of reducing a_2 (i.e., more competitive environment) to public firms is high. It is therefore desirable for public firms to bribe the politician to keep a_2 unchanged, or even to increase a_2 so as to prevent private firms from growing (in terms of both number and market share.)

Lemma 7 *If the fixed entry cost is initially high (meaning competition is low) then the public firms can succeed in bribing the politician for protection. As a result, the economy is trapped in a low competition economy.*

Arguably, given the industry and ownership structure in Vietnam (see 2.3), private firms are more likely to incur higher cost of collective actions because of free-rider problems. This means that a low competition trap is more likely to occur.

4.7 The Endogenous Demand for Competition

It is clear that there is a conflict of interests between the private and public sectors. Private firms want lower values of a_2 and c_2 . In contrast, the SOEs want, not only higher a_2 and c_2 , but also lower a_1 and c_1 . There is also a conflict of interest between consumers and the public sector: Consumers demand a higher level of competition since it gives rise to more product varieties while the public sector wishes to be protected from competition.

These conflicts present a dilemma for the government. On the one hand, the government has reasons to protect public firms from competition. The profit of SOEs is one of the most important sources of government revenue. Politically, the credibility and legitimacy of the government depend on the performance of public firms relative to private firms. The legitimacy of the communist party-state is also greatly influenced by its ability to maintain the significance of the public sector (measured by its contribution to GDP), its market share, and its ability to create jobs, compared with the private sector. By having its citizens beholden on the SOEs for jobs, the government's support and control of power are more

²⁵Since we only consider the effect of a marginal increase in a_2 , the entry effect is ignored.

secure. Moreover, a paternalistic government has a vision of a good life, and by maintaining a large and vibrant public sector, it has more control over where the economy, and more generally, where the society are headed. On the other hand, the protection of the SOEs from competition by creating an unequal playing field is very costly to the government. The “artificial” profit of the SOEs (artificial in the sense that this profit would have diminished without government’s support) is achieved at costs to both consumers and private sector. That is, the unequal treatment of the private sector by the government potentially creates a huge welfare loss. Moreover, in relying on the protection of the government, the SOEs lack incentives to improve their performance. As a result, the government has to spend a huge amount of money to subsidize SOEs merely to maintain their performance. As shown in equation (20), the amount of subsidy is increasing in the fixed cost imposed on private firms. In summary, we have the following Proposition:

Proposition 1 *An competition policy that is protective of the public sector and biased against the private sector creates many costs for the economy. These costs include: (i) a loss in consumer welfare; (ii) a reduction in private firms’ profits in the short term and a welfare loss caused by hindering them from entering the market in the long term; (iii) inefficient SOEs that cannot compete effectively with private firms; (iv) a fiscal burden on the government because of its subsidization of the SOEs; (v) corruptible politicians; and (vi) a low-competition trap.*²⁶

It is worth emphasizing that as the gaps between a_2 and a_1 and between c_2 and c_1 grow, these costs also increase. These growing costs then give rise to an *endogenous demand for a welfare-enhancing competition policy*.

5 Government Types, Privatization and Competition Policies

Suppose that the government, facing growing pressures for privatization, decides to privatize all SOEs. In this section we show that competition and privatization alone are not the panacea for the efficiency problems created by the public sector. Specifically, we show that the implementation of competition and privatization policies depends critically on the type (or the objective) of the government. To this end, one simplification and another modification from the standard D-S model are introduced. First, to simplify the analysis, we now assume that all firms (both public and private) are symmetric with respect to the marginal cost, which is normalized to 1. We continue to maintain the assumption that there is an asymmetry in fixed cost between privatized firms and the private firms. Second, we deviate from the standard D-S model by assuming that this *fixed-cost asymmetry* between privatized and private firms depends on the *degree of privatization* of the SOEs. As discussed in the introduction, this difference in the fixed cost reflects the biased treatment against the private sector in Vietnam (note that the government still maintains partial ownership in privatized firms.) Let 1 be the index of m privatized firms, and 2 be

²⁶We have not considered some other costs that are important to the economy. One is the efficiency cost resulting from driving private firms out of the formal sector and into the informal sector (see Vu and Nguyen, 2004). Another is that because public firms are shielded from competition, and private firms are constrained by unfair competition policy, they are both unprepared for the competition from foreign firms as Vietnam integrates more broadly into the world economy.

the index of $(n - m)$ private firms. Then our assumption amounts to: $a_2(\alpha) \geq a_1(\alpha) \forall \alpha \in [0, 1]$, where α is the portion of private ownership in the privatized firm, or the degree of privatization. We should be careful about the interpretation of the fixed cost in this section. Since it is now assumed that all firms employ identical technologies, the difference in the fixed cost assumed in this section is attributed only to the government's unequal treatment of private and public ownership.

5.1 Government's Motivation in the Privatization Program

Given our assumptions, the profit of all private firms is still zero ($\pi_2 = 0$). The profit of a public firm now is: $\pi_1 = a_2(\alpha) - a_1(\alpha)$. It follows that the consumer's profit from her shares in privatized firms is $m\alpha[a_2(\alpha) - a_1(\alpha)]$, and the government's revenue is $m(1 - \alpha)[a_2(\alpha) - a_1(\alpha)]$.

The utility of the representative consumer now is:

$$U = \frac{(\sigma - 1)^{\frac{\sigma-1}{\sigma}} Y}{\sigma [a_2(\alpha)]^{\frac{1}{\sigma}}}$$

where Y is the income of the representative consumer, now coming from two sources: initial endowment I and profit shares in privatized firms. That is, $Y = I + m\alpha[a_2(\alpha) - a_1(\alpha)]$. Substituting Y back to the expression of U , it can be shown that in contrast to the result in section 4.1, $\frac{\partial U}{\partial a_2}$ now can be positive.²⁷ That is, a decrease in a_2 generates two opposite effects on the utility of the representative consumer. On the one hand, a lower value of a_2 generates more product varieties in equilibrium, thereby leading to a higher consumer's utility. On the other hand, a reduction in a_2 negatively affects the profit of privatized firms in which the consumer holds shares.

This result sheds some light on the motivation of the Vietnamese government in its privatization program. It is quite possible that the privatization program is considered by the Vietnamese government only as a compromise solution to its dilemma discussed in section 4.7. By partially privatizing the SOEs the government can potentially achieve several goals at the same time. It can realize some of the economic benefits of a market economy (e.g., improving consumers' well-being, enhancing the performance of the SOEs) without transferring power to the hands of private individuals. It is worth mentioning that when $\frac{\partial U}{\partial a_2} > 0$, the consumer will side with public firms in promoting unfair competition policy that imposes higher cost (i.e. higher a_2) to private firms.

The above analysis of the welfare effects of partial privatization warrants further discussions. Superficially, it seems that by partially privatizing the SOEs together with increasing a_2 , the government can improve consumer welfare in some cases (see footnote 27) and increase its revenue. Note, however, that these welfare improvements come at a cost of private firms. Private firms suffer from profit loss in the short term and are forced to exit in the long term. It is also worth mentioning that there are two sources of distortion in our model. The first is monopolistic competition. The second results from the fact that high-cost public firms remain active thanks to the high cost of entry. In addition, the model does not capture the distribution of profits created by privatized firms. In reality, since

²⁷ $\frac{\partial U}{\partial a_2} > 0$ if $\alpha \sigma m a_1 > I$.

most of the shares (and therefore profits) in privatized firms is concentrated in the hands of very few individuals, an increase in a_2 will clearly benefit only a handful individuals at the cost of the population at large. Moreover, this handful of early winners may then turn into the blockers of further reforms.

The profit share of the government in the privatized firm and the utility of the representative consumer are both functions of the degree of privatization α . It is therefore possible, and presumably desirable, for the government to choose α so as to achieve whatever goal it might pursue. The government's goal, however, depends on its type. In the following subsections, we will consider different types of government, the associated objective, and the consequences of its choice of α .

5.2 A Rent-seeking Government

To reflect the rent-seeking government's bias against the private sector, we assume that the government creates institutional arrangements and policies so as to make the fixed cost of private firms higher than that of partially privatized enterprises. We assume further that a higher degree of privatization (higher α) is associated with a higher cost for the privatized firm and a lower cost for private firms. This assumption is justified on the ground that as the degree of privatization increases, the government's stake in privatized firms decreases. As a result, the government does not care that much about protecting privatized firms. That is, we assume:

$$\begin{cases} A1 & : a_2(\alpha) > a_1(\alpha) > 0 \quad \forall \alpha \in (0, 1) \\ A2 & : a_2'(\alpha) \leq 0, a_1'(\alpha) \geq 0 \quad \forall \alpha \in [0, 1] \\ A3 & : a_2(1) = a_1(1) \end{cases}$$

Assumption (A1) captures the government's differential treatment towards the private sector. Assumption (A2) reflects the possibility of regulatory (or state) capture by firms with partial state ownership.

The rent-seeking government wants to maximize its profit with respect to its ownership share in privatized firms. It solves the following problem:

$$\max_{\alpha} m\pi_g(\alpha) = m(1 - \alpha)[a_2(\alpha) - a_1(\alpha)]$$

Under assumptions (A1), (A2), (A3):

$$\pi_g'(\alpha) = - \underbrace{[a_2(\alpha) - a_1(\alpha)]}_{(-)} + \underbrace{(1 - \alpha)}_{(+)} \underbrace{[a_2'(\alpha) - a_1'(\alpha)]}_{(-)} < 0 \quad \forall \alpha \neq 1$$

That is, to maximize its profit from the privatized firm, the rent-seeking government chooses $\alpha = 0$. In other words, the rent-seeking government thinks of the SOEs as "cash cows" and tries to exploit them fully to accommodate its financial needs. Moreover, the rent-seeking government also wants to raise the fixed cost a_2 applied to private firms.²⁸

Proposition 2 *A government that wants to extract rent from business firms chooses not to privatize profitable SOEs and, at the same time, promotes institutional arrangements and policies that increase the costs to the private firms.*

²⁸This conclusion may change if the managers share some of the rent (e.g., see Vu 2004).

5.3 A Benevolent Government

The benevolent government seeks to maximize the utility of the representative consumer²⁹ It solves the following problem:

$$\max_{\alpha} U = \frac{(\sigma - 1)^{\frac{\sigma-1}{\sigma}} \{I + m\alpha[a_2(\alpha) - a_1(\alpha)]\}}{\sigma[a_2(\alpha)]^{\frac{1}{\sigma}}}$$

5.3.1 Case 1: $a_2(\alpha) \equiv a_1(\alpha)$

In this case the government is both benevolent towards the consumer and friendly to the private firms. This type of government wants to remove all privileges of the SOEs and completely level the playing field between the public and private sector. In terms of the model, it sets $a_2(\alpha) = a_1(\alpha)$. To maximize the consumer's utility, the benevolent government needs to minimize the fixed cost of the private firms by reducing obstacles, i.e. by being friendly to the private sector. If we continue to assume that $a_2'(\alpha) < 0$, then to minimize $a_2(\alpha)$ the government sets $\alpha = 1$, i.e. fully privatize the SOE.

Proposition 3 *Under the condition that the public and private firms enjoy equal treatment, the benevolent government chooses to privatize all SOEs completely to maximize the welfare of consumers.*

5.3.2 Case 2: $a_2(\alpha) > a_1(\alpha) \forall \alpha \in (0, 1)$

For simplicity, assume that $I = 0$ and let $\Delta(\alpha) \equiv a_2(\alpha) - a_1(\alpha)$. The government solves:

$$\max_{\alpha} \frac{\alpha[a_2(\alpha) - a_1(\alpha)]}{[a_2(\alpha)]^{\frac{1}{\sigma}}} = \frac{\alpha\Delta(\alpha)}{[a_2(\alpha)]^{\frac{1}{\sigma}}}$$

If we assume an interior solution, then after manipulating the FOC, we find that the optimal degree of privatization α^* is given by:

$$\alpha^* = \frac{\sigma a_2(\alpha^*)\Delta(\alpha^*)}{a_2'(\alpha^*)\Delta(\alpha^*) - \sigma a_2(\alpha^*)\Delta'(\alpha^*)} \quad (22)$$

• The Relationship Between Privatization and Competition Policy:

The question of interest in this subsection is the following: “What is the effect of changing the cost gap $\Delta(\alpha)$ on the optimal value α^* ?” In other words, we want to sign $\Delta'(\alpha^*)$. From equation (22), we can find the expression for $\Delta'(\alpha)$ as:

$$\Delta'(\alpha^*) = \frac{\Delta(\alpha^*) \left[\frac{\alpha}{\sigma} a_2'(\alpha^*) - a_2(\alpha^*) \right]}{\alpha a_2(\alpha^*)} \quad (23)$$

Under mild assumptions: $a_2(\alpha^*) \geq a_1(\alpha^*) > 0$ and $a_2'(\alpha^*) < \frac{\sigma a_2(\alpha^*)}{\alpha}$, equation (23) implies that $\Delta'(\alpha^*) < 0$, meaning that as long as the government's public policies are

²⁹The assumption that the government is benevolent towards consumers does not exclude the possibility that it is hostile to and therefore biased against the private firms.

consistent (i.e., the government cares about consumer welfare) then a pro-competitive policy consequently leads to a higher degree of privatization.³⁰ As has been shown in section 5.3.1, if the government removes all privileges of the SOEs and completely levels the playing field between the public and private sectors, full privatization of all the SOEs will follow. In this sense, $\Delta'(\alpha^*) < 0$ implies that competition policy is substitutable for the privatization program.³¹

Proposition 4 *If the government cares about the welfare of consumers, then a competition policy aimed at leveling the playing field between the public and private firms is substitutable for the privatization program.*

In summary, under plausible conditions the extent of unequal treatment of the public and private firms negatively affects the degree of privatization, and therefore the competitiveness of the market in equilibrium. Stiglitz (1998, 1999) advances the idea that if a country cannot proceed with privatization effectively, it can promote competition as a substituting policy to improve economic efficiency. The result of the Proposition 4 confirms Stiglitz's insight. In this context, the result of Proposition 4 can be interpreted as saying that if the government promotes a more equal status between the public and private ownership, then to maximize the consumer's welfare, the benevolent government would choose a higher degree of privatization. In other words, a policy aimed at leveling the playing field, and thereby creating a fair competitive environment between the public and private firms, will promote a more radical privatization program. In this respect Stiglitz is correct. However, as the result of Proposition 2 in Case 1 suggests, he is completely correct only if the government is benevolent and cares about the welfare of consumers.

6 Concluding Remarks

In this paper, we provide a positive theory to address the issue of substitutability and complementarity between privatization and competition policies in Vietnam's transitional economy. Our study is motivated by two groups of studies. The first group consists of studies suggesting that institutions matter greatly and therefore should be incorporated into formal economic models. The second group consists of empirical and theoretical papers that generate opposite findings and predictions about the interaction between privatization and competition policies in transition economies. We attribute this unsettled situation in the literature to the fact that most of the studies abstract from the specific political, economic, institutional, and social context of the studied countries.

Unlike other studies concerned with the relative effects of privatization and competition on the performance of privatized firms, we are interested in the question of how a government combines the two policies so as to achieve its objectives. To answer this question, we use the Dixit-Stiglitz model of monopolistic competition and modify it to capture some particular features of Vietnam, one of the most important features of which is the favored treatment by the government of the public sector because of its socialist ideological bias.

³⁰It is worth emphasizing that in the following, we have not assumed anything about the functional forms of $a_1(\alpha)$ and $a_2(\alpha)$, except that $a_2(\alpha) \geq a_1(\alpha) > 0 \forall \alpha \in [0, 1]$ (i.e., we only keep assumption A1 while relaxing assumptions A2 and A3.)

³¹In contrast, $\Delta'(\alpha^*) > 0$ means that a competition-enhancing policy alone is not enough to result in a higher degree of privatization and a radical privatization program is necessary.

We discuss the various kinds of unequal treatment and note that the resulting higher costs of doing business to private firms as the major sources of anti-competitive restrictions in Vietnam. Accordingly, we define competition policy as the government's decision to reduce the cost gap between the private and public sectors. The critical assumptions that drive the results in this paper are that: (1) The representative consumer exhibits preferences for variety; (2) Private firms are relatively more efficient than public firms in the sense that they face a lower marginal cost; and (3) The government can, at least to some extent, manipulate the cost structures faced by the public, privatized, and private firms. Moreover, it is assumed that the fixed-cost gap between the private and privatized firms is negatively related to the degree of privatization (because the government cares about the profits of the state's share in privatized firms.)

Three results stand out. First, an unfair competition policy causes losses to consumers' welfare, private firms' profit, and the government's budget (because of subsidies given to unprofitable SOEs). These burdens then give rise to an increasing pressure for privatizing inefficient SOEs. Second, although competition and privatization are necessary conditions to improve the efficiency of the SOEs and the consumer welfare, they are not sufficient. And third, we show that the implementation of the competition and privatization policies depends critically on the type (or the objective) of the government. A rent-seeking government that wants to extract rent from business firms chooses not to privatize profitable SOEs and, at the same time, promotes institutional arrangements and policies that put excessive costs on the private firms. In contrast, a market friendly government chooses to privatize all profitable SOEs completely. Finally, if the government is benevolent and cares for the well-being of consumers, the competition policy aimed at leveling the playing field between the public and private firms will be substitutable for the privatization program.

In addressing the main issues of the paper, namely the endogenous demand for a competition-enhancing policy and its relationship with a privatization program, our model has been simplified in several ways. In particular, our model abstracts from the labor market and a complete treatment of the government behavior. We have not considered the labor market because for our analytical purpose it complicates the analysis without adding much insight. However, if one is concerned with the impact of a privatization-enhancing policy on employment (which is a very important policy issue), a complete treatment of labor market is essential.³² To simplify the analysis, we have also made somewhat ad hoc assumptions about the manner in which the government revenue is spent. Clearly, this potentially affects results of our welfare analysis. This shortcoming of the current paper points to the need of developing a satisfactory theory of the government in transition economies, which we are clearly still lacking.

³²Our model (section 4.3) does say something about the impact of a competition-enhancing policy on output and, therefore, on employment. See Blanchard & Giavazzi (2003) for an analysis of the macroeconomic effects of deregulation in both goods and labor markets in Europe. Also, see Aghion & Blanchard (1994) for an excellent analysis of the reallocation of labor from the public sector to the emerging private sector in transition economies.

7 APPENDICES

7.1 Partial and Gradual privatization in Vietnam³³

Stage 1 (6/1992-4/1996): Voluntary Privatization:

In 1992, the year Vietnam started its pilot privatization program, Vietnam had about 5,800 state-owned enterprises (SOEs). The pilot program was designed to privatize small and medium-size SOEs that satisfied the following three conditions:

1. They were profitable or potentially profitable,
2. They were not strategically important, i.e. the government did not need to maintain 100% state ownership, and
3. The managers and workers in these firms could voluntarily participate in the pilot program. It can be deduced from these criteria that Vietnam is following a two-stage privatization approach in which small SOEs are privatized first, followed by larger SOEs. The results of this pilot program were minimal: in 5 years, from 1992 to 1996, only 5 SOEs were privatized.

Stage 2 (5/1996 - 5/1998): Expansion of the Pilot Program:

In 1996, after evaluating the results of the pilot program, the government decided to expand this program, and for the first time showed a strong commitment to privatization. The first legal framework for privatization in Vietnam was also introduced to facilitate the privatization process. However, once again the results were far below expectations: between 1996 and 1998, only 25 additional SOEs were privatized.

Stage 3 (6/1998 - 5/2002): Acceleration of the Privatization Program

Since June 1998, the experimental program has been replaced by a more ambitious privatization plan in which SOEs are no longer given the option to participate in the privatization program. The government classifies all SOEs into three groups according to their level of importance.

Group 1 consists of public enterprises that are strategically important and should therefore be put under complete state ownership and control. SOEs in this group are not subject to privatization.

Group 2 consists of SOEs in industries that the government wants to keep controlling (or golden) shares if they are privatized.

Group 3 consists of all remaining SOEs, which can be privatized by one of four methods: (1) keeping the state shares intact and issuing new shares (i.e. corporatization); (2) selling part of the state shares; (3) detaching and then privatizing parts of a SOE (mostly applied to the state general corporations); and (4) selling off all state shares to workers and private shareholders (mostly applied to loss-making SOEs). The progress of the privatization program during this stage was more impressive. Between 6/1998 and 5/2002, 845 SOEs were privatized. To summarize, by 5/2002 the Vietnam's government had privatized 875 SOEs, i.e. about 15% of the total number of SOEs, with capital amounting to about 2.5%

³³This section is written based on Nguyen, Huy V. (2002), "Equitization and Ownership Diversification of SOEs", in *Proceedings of Post-Equitization in Southern Provinces*, Central Institute for Economic Management, Ministry of Planning and Investment

of the total capital of all SOEs.

Stage 4: Continuing Privatization Program

It was projected that the number of SOEs would fall to 2,000 by the end of 2005, i.e. before Vietnam's participation in the Asian Free Trade Association (AFTA) under full terms and conditions. Given the slow pace of privatization, in 2002 the government decided to jump start the privatization program by issuing Decree No. 64/2002/ND-CP, replacing Decree No. 44/1998/ND-CP, to improve the legal framework for privatization. There are several notable points about this new Decree. First, privatization is further decentralized, with more authority given to line ministries, local government, and the general corporations. Second, compensation funds are created for compensating and retraining dismissed workers and for facilitating privatization. Third, non-strategic SOEs whose capital is under VND 5 billion are threatened with liquidation if they oppose privatization³⁴. Fourth, the upper share limit imposed on foreign individuals and organizations is increased from 20

In November 2004, the government issued Decree No. 187/2004/ND-CP, replacing Decree No. 64/2002/ND-CP. This Decree helps overcome problems related to SOE's bad debts (both receivable and payable). More importantly the Decree clears the way for applying market methods to the evaluation of SOEs subject to equitization (e.g., public biddings, and independent - even foreign - audits.)

7.2 Criteria for SOE classification

According to Decision No.58/2002/QD-TTg, dated 26 April 2002, of the Prime Minister, on the criteria for classification of SOEs and SGCs:

1. The State will hold 100% charter capital in two groups of SOEs. The first group consists of SOEs that engage in business activities in domains where the state needs to hold the monopoly position; in key sectors and fields, producing important products. In terms of capital requirements, these SOEs must: (i) have at least VND 20 billion of state capital; (ii) contribute at least VND 3 billion to the state budget annually for 3 consecutive years. As for the economic development role, these SOEs are supposed to be pioneer in applying spearhead advanced technologies and play an important role macro-economic stabilization. As for the economic-political role, these SOEs must ensure to meet the essential demand for production and improve the material and spiritual life of people in rural areas, ethnic minority people in mountainous and remote areas.

The second group are SOEs engaging in public-utility services; enterprises assigned to perform special defense and security tasks; and enterprises located in importantly strategic areas where economic and defense tasks demand.

2. The state will keep major shares in the following SOEs after their equitization: First, SOEs that engage in important business activities, having between VND 10 to 20 billion of state capital, and contributing, in average, at least VND 1 billion to the state budget annually for 3 consecutive years. Second, SOEs that engage in some particular types of public-utility services.

³⁴The credibility of this threat is questionable, however.

3. The state will make decision about the SOEs in which it does not need to hold more than 50% of total shares or special (golden) shares. This decision is based on the specific conditions of each enterprises.

4. The state will not keep major shares but special shares in the SOEs engaging in some important sectors and fields so that it can maintain the control right on important issues.

References

- [1] Aghion, Philippe and Schankerman, Mark. “On the Welfare Effects and Political Economy of Competition-Enhancing Policies,” *Economic Journal*, October 2004. Forthcoming.
- [2] Anderson, James H et al. “Competition and Privatization Amidst Weak Institutions: Evidence from Mongolia” *Economic Inquiry*, 38(4):527–49, October 2000. Anderson, James H; Young Lee, and Peter Murrell.
- [3] Biais, Bruno and Perotti, Enrico. “Machiavellian Privatization” *American Economic Review*, 92(1):240–58, March 2002.
- [4] Black, Bernard et al. “Russian Privatization and Corporate Governance: What Went Wrong?” *Stanford Law Review*, 52:1731–1808, 2000. Black, Bernard ; Reinier Kraakman and Anna Tarassova.
- [5] Blanchard, Olivier and Kremer, Michael. “Disorganization” *The Quarterly Journal of Economics*, 112(4):1091–1126, November 1997.
- [6] Bos, Dieter. *Privatization: A Theoretical Treatment*. Oxford University Press, Clarendon Press, Oxford; New York; Toronto and Melbourne, 1991.
- [7] Brown, J David and Earle, John S. “Privatization, Competition, and Transition Policy Strategies: Theory and Evidence from Russian Enterprise Panel Data”. Working paper, SITE, Stockholm School of Economics, February - March 2001.
- [8] Cook, Paul. “Competition and Its Regulation: Key Issues” *Annals of Public Cooperative Economics*, 73(4):541–58, December 2002.
- [9] Cook, Paul. “Introduction: Privatization, Regulation and Competition in Developing Countries” *Annals of Public Cooperative Economics*, 73(4):485–92, December 2002.
- [10] De Soto, Hernando. *The Mystery of Capital*. Basic Books, 2000.
- [11] Dixit, Avinash K. and Stiglitz, Joseph E. “Monopolistic Competition and Optimum Product Diversity” *American Economic Review*, 67(3), June 1977.

- [12] Djankov, Simeon and Murrell, Peter. “Enterprise Restructuring in Transition: A Qualitative Survey”. Discussion Paper Series 3319, Center for Economic Policy Research, Apr. 2002.
- [13] Fforde, Adam and deVylder, Stefan. *From Plan to Market: The Economic Transition in Vietnam*. Westview Press, 1996.
- [14] Fujita, Masahisa et al. *The Spatial Economy: Cities, Regions, and International Trade*. The MIT Press, Cambridge, Massachusetts; London, England, 1999. Fujita, Masahisa, Paul Krugman and Anthony J. Venables.
- [15] Grossman, Gene and Helpman, Elhanan. *Special Interest Politics*. MIT Press, 2001.
- [16] Havrylyshyn, Oleh and McGettigan, Donal. “Privatization in Transition Countries: A Sampling of the Literature”. Working Paper WP/99/06, International Monetary Fund, Jan 1999.
- [17] Hellman, Joel and Kaufman, Daniel. “Confronting the Challenge of State Capture in Transition Economies” *Finance Development*, 38(3):31–35, September 2001.
- [18] Hellman, Joel and Schankerman, Mark. “Intervention, Corruption and Capture: The Nexus between Enterprises and the State” *Economics of Transition*, 8(3):545–76, 2000.
- [19] Kornai, Janos. *The Socialist System*. Princeton University Press, Princeton, New Jersey, 1992.
- [20] Korsum, Georges and Murrell, Peter. “How Does the Transitional State Behave? Evidence from Retained State Ownership in Mongolian Privatization”. In Maskin, Eric and Simonovits, Andras, editors, *Planning, shortage, and transformation: Essays in honor of Janos Kornai*, pages 327–43. MIT Press, Cambridge and London, 2000.
- [21] Lerner, A P. “The Concept of Monopoly and the Measurement of Monopoly Power” *The Review of Economic Studies*, 1(3):226–230, June 1934.
- [22] Li, Wei and Xu, Lixin Colin. “The Political Economy of Privatization and Competition: Cross-Country Evidence from the Telecommunications Sector” *Journal of Comparative Economics*, 30(3), September 2002.
- [23] Maskus, Keith E. and Lahouel, Mohamed. “Competition Policy and Intellectual Property Rights in Developing Countries” *World Economy*, 23(4):595–611, 2000.

- [24] Megginson, William L and Netter, Jeffrey M. “From State to Market: A Survey of Empirical Studies on Privatization” *Journal of Economic Literature*, 39(2):321–89, June 2001.
- [25] Moers, Luc. “Determinants of Enterprise Restructuring in Transition: Description of a Survey in Russian Industry” *Post-Communist Economies*, 12(3), September 2000.
- [26] MOF. *Capital and Asset Statistics of State-Owned Enterprises*. Ministry of Finance, Hanoi, Vietnam, 2001.
- [27] MPDF. “Private Enterprises in Vietnam: Survey on the Public Attitudes”. Private Sector Discussions 9, Mekong Project Development Facility, July 1999.
- [28] Nguyen, Hao G. “Survey on Post-Equitization - A Preliminary Report”. In *Post - Equitization in Southern Provinces*, Ho Chi Minh City, Jul. 2002. Central Institute for Economic Management - MPI.
- [29] Nguyen, Huy V. “Equitization and Ownership Diversification of SOEs”. In *Post - Equitization in Southern Provinces*, Ho Chi Minh City, Jul. 2002. Central Institute for Economic Management - MPI.
- [30] Perotti, Enrico C. “Credible Privatization” *American Economic Review*, 85(4):847–59, September 1995.
- [31] Reza, Sadrel. “Institutional Aspects of Privatization”. Working paper, Asian Development Bank Institute, December 1999.
- [32] Roland, Gerard. *Transition and Economics: Politics, Firms, Markets*. MIT Press, Cambridge, 2000.
- [33] Schmidt, Klaus M. “Managerial Incentives and Product Market Competition” *The Review of Economic Studies*, 64(2):191–213, Apr. 1997.
- [34] Shleifer, Andrei. “State versus Private Ownership” *The Journal of Economic Perspectives*, 12(4):133–150, Autumn 1998.
- [35] Shleifer, Andrei and Vishny, Robert W. “Politicians and Firms” *The Quarterly Journal of Economics*, 109(4):995–1025, Nov. 1994.

- [36] Simon, Mark Dutz, Commander and Stern, Nicholas. "Restructuring in Transition Economies: Ownership, Competition and Regulation". Paper prepared for the annual world bank conference on development economics, Washington D.C., April 28-30 1999.
- [37] Stiglitz, Joseph. "Creating Competition in Telecommunication". Paper prepared for "managing the telecommunication sector post privatization: Meeting challenge with successful strategies", Institute for Global Management and Research, April 1998.
- [38] Stiglitz, Joseph E. "Wither Reform? Ten Years of the Transition". Paper prepared for the annual world bank conference on development economics, Washington D.C., April 28-30 1999.
- [39] Tornell, Aaron. "Privatizing the Privatized". Working Paper 7026, NBER, July 1999.
- [40] Tran, Cuong T. "Post-Equitization Problems and Solutions". In *Post - Equitization in Southern Provinces*, Ho Chi Minh City, Jul. 2002. Central Institute for Economic Management - MPI.
- [41] Vu, Anh T. "Gradualist vs. Big-Bang Reform: The Role of Uncertainty and Learning". [Unpublished Manuscript], March 2002.
- [42] Vu, Anh T. and Nguyen, Nguyen A. "Uncertainty and the Response of the Informal Sector in Vietnam's Transition Economy". November 2003. Paper presented at the SSRC Fellow Conference.