

# Efficient Foreign Firms and the GATS in Developing Countries with Natural Resources

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**Abstract** The paper examines liberalization of trade in services in natural resource-rich developing countries that use their resource revenues to subsidize employment in services firms owned by the state. The role of natural resources is specifically incorporated in this way into a model of service provision where publicly owned domestic incumbents and a foreign entrant compete. We find that if demand is inelastic, domestic profits increase when the likelihood of lower future natural resource prices is high. But foreign profits are higher in this situation regardless of demand elasticity. The analysis underscores the importance of competition by showing that service prices decline even if the foreign entrant is inefficient relative to domestic firms. A government focused on the growth and development of its economy would prefer liberalization when future natural resource prices are likely to be higher.

*Keywords:* Services Trade, foreign firm entry, natural resources

*JEL Classification:* F12, F21, F23, O1

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## 1. Introduction

Services have been the fastest growing part of the world economy for more than a decade. Recent estimates by the World Trade Organization put the value of services trade above \$4 trillion—representing more than seven percent of global output and almost a quarter of total trade in goods and services—and this is expected to grow rapidly in the future. According to Deardorff (2001), trade in services is regularly underestimated because conventional methods do not account for the role services play in the trade of goods and trade of other services such as finance. The economic and commercial significance of services is therefore quite obvious.

The services sectors, particularly the so-called backbone services of telecommunications and finance, are key to the growth prospects of any country. To fully realize this potential, countries around the world have been engaged in the progressive liberalization of their services sectors with the objective of promoting competition and eliminating inefficiencies. In many countries, this process has increasingly come to be anchored in the General Agreement on Trade in Services (GATS) for various reasons including the prospect of financial and technical aid from international organizations, and insulation from domestic political pressures.

Analytical literature on trade in services, although scarce, is starting to emerge to better understand the mechanics of economic activity in this area. Some notable studies include Hindley and Smith (1984) that argues for the applicability of comparative advantage principles to services trade; Deardorff (1985) that checks the assertion made by Hindley and Smith and concludes that comparative advantage applies to services trade under certain conditions; Markusen (1989) that emphasizes the role of knowledge intensity; and Markusen, et al. (1999) and Brown, et al. (2000) that incorporate returns to scale and product differentiation.

Hill (1977) distinguished between goods and services trade by asserting simultaneity in the production and consumption of services. This is not the only reason why traditional Ricardian theory, while holding up well for services trade in many circumstances, leaves much to be desired in the context of services trade. The fact that numerous service industries are regulated (which effectively plays the role of a trade barrier), and the classification in the GATS of commercial presence in the target market as a medium for international trade, also create problems for the applicability of Ricardian theory. One implication of the simultaneity of production and consumption is the need for the producer and the consumer to be in the same location. Jones and Ruane (1990) and Francois (1990) model services trade drawing the distinction between goods and services. However, the GATS envisions trade in services to include the above definition as well as cross-border consumption. In view of this, Francois and Wooton (2001), Harms, et al. (2003), and Konan and Maskus (2004) analyze the liberalization of services in the context of imperfect competition and domestic regulation to address issues like cartel behavior and other impacts of liberalization policy.

Market access and non-discriminatory treatment of multinational companies is a significant issue in services trade. Service sectors like water, electricity, health care, and telecommunications that are crucial for the development of an economy as well as to increasing the competitiveness of export industries are characterized by less competition than other service sectors. Domestic markets in these sectors tend to be dominated by a public monopoly. One result of this feature often turns out to be an unfair advantage favoring the incumbent. This is most clear, for example, in the case of telecom, with the need of the entrant to connect to the existing network (interconnection) that is mostly owned and controlled by the incumbent.

Many services sectors, particularly telecommunications, are characterized by rapid technological change. This often means that entrenched monopolies in services find it difficult to maintain control over the activities carried out in their sectors. Thus, in many developing countries, this tilts the playing field in favor of liberalization. However, in the case of natural resource-rich countries, the urgency can be mitigated if the monopolies happen to be publicly owned enterprises. This is due to the ability of these public entities to better control alternative technologies given their access to subsidies made possible by revenues generated by the natural resource. This control can be the result of a variety of reasons including both financial and non-financial. For example, VOIP (Voice Over Internet Protocol) technology is illegal in several of these countries because it cuts into the profits of international calls, which represent a major chunk of fixed and cellular telephony. Non-financial reasons include security and culture. Hence, the government has more control over the decision regarding the possibility and timing of any liberalization of the service sectors according to their economic and political readiness. In the oil-rich countries of the Middle East and North Africa (MENA) region, for example, where

governments were—and to a lesser extent today continue to be—employers of last resort, the privatization and liberalization process of public utility companies has been slow compared to other regions of the world.

Unlike sectors like agriculture and textiles, where suppliers are better organized than consumers and are therefore able to effectively mobilize resistance to liberalization, service sectors like telecom do not face this type of problem of asymmetry. This is because the consumers of these services are likely to themselves be suppliers in other sectors with substantial stakes in efficiently functioning sectors upstream in the production chain. This setup would then be able to counter and perhaps overcome the resistance to liberalization.

An increasing number of studies now demonstrate the benefits of liberalization and competition in services. However, protection remains the mainstay in these sectors. Although Laffont and Tirole (2001) suggest that carefully designed barriers to entry can enhance welfare, the reasons primarily have to do more with political economy and infant industry considerations. Since public monopolies in developing countries are routinely used to employ the domestic population, any possibility of restructuring due to liberalization or any other reason is seen with suspicion as it inevitably leads to a loss of jobs.

This paper adds to the existing literature by focusing on the liberalization of services in natural resource-rich developing countries where resource revenues are used to subsidize employment in publicly owned monopolies. It builds on Samman and Shahnawaz (2007) by additionally examining the impacts of entry of foreign firms with different levels of efficiency relative to the foreign incumbent(s). The paper argues that trends in the global market for the natural resource can have strong implications for market share, profits, and prices in the domestic services market and the decision to liberalize. Hence, natural resource-rich countries making commitments under the GATS should carefully assess tendencies in global resource markets.

The rest of the paper proceeds as follows. Section 2 presents our model of services trade. In section 3, we discuss the results obtained. Section 4 presents results of varying the efficiency of the entering foreign firm on prices, output, and profits. We conclude by offering a summary and some policy recommendations in section 5.

## **2. The Model**

We develop a simple model of entry by a foreign firm into a domestic services market of a developing country. We take into account the imperfectly competitive market structure that characterizes these sectors. Service sectors in many developing countries consist of publicly owned enterprises. For example, the finance sector is often comprised of several national banks that operate as a cooperative oligopoly. Public utilities such as electricity, water, and telecom mostly contain one state owned monopoly.

The foreign firm is modeled as being more efficient than domestic firms in light of the observation that multinationals and foreign firms from developed countries have lower operating costs than their local counterparts. The focus of the model is on deriving the effects of

competition on the incumbents. We also consider implications for policy for the government of a natural resource-rich developing country that uses part of the revenue to subsidize employment in public enterprise.

We consider a regulated home market where a homogeneous service is provided by  $n$  identical domestic firms and a single foreign firm. The foreign firm faces costs of establishing itself in the home country and barriers to providing the service to domestic consumers. These barriers can be taxes that foreign firms are required to pay on each unit sold by them in the home market. However, domestic regulation and bureaucratic red tape as barriers to services trade are better interpretations given the much more significant role these play in services trade and the GATS. While it is possible in many cases to provide the service across borders (referred to as mode 1 in the GATS) without establishing commercial presence (referred to as mode 3 in the GATS), establishment costs do not affect the decisions of the foreign firm for maximizing profits in our model.

We employ a simple linear market demand function given by:

$$P = x - y(nq_h + q_f) \quad (1)$$

The quantities produced by the two types of firms are subscripted with  $h$  for the home firms and  $f$  for the foreign firms. We use these as our subscripts to differentiate between the domestic and foreign firms throughout the paper.

Marginal costs of both domestic and foreign firms have two components. Both types of firms have constant economic marginal costs, but these are lower for foreign firms on account of their higher operational efficiency. We denote these by  $m_h$  for the home firms and  $m_f$  for the foreign firm, with  $m_f < m_h$ . In addition, the foreign firm pays a per unit cost  $t$  due to the barriers it faces in providing the service in the home country as discussed above. Domestic firms, on the other hand, face an ‘underemployment’ cost  $u$  in addition to the economic marginal costs. These underemployment costs reflect employment subsidization in the domestic firms by the government. Thus the government uses the revenues it earns from the sale of its natural resources to absorb some of the unemployed in the economy into the publicly owned service providers. Labor is employed in this manner to score political points for the regime in power. This underemployment cost depends on the price the natural resource fetches. So, when the natural resource price is high, revenues from their sale are high and therefore the cost to add people to the payroll of the domestic firm is low (i.e., it is easy to finance this underemployment or, in other words, to subsidize the domestic firm). A lower natural resource price corresponds to a higher underemployment cost. The price of the natural resource is stochastic from the point of view of the foreign firm. This is based on the observation that countries that supply natural resources, such as oil on the world market are one of handful suppliers and consequently have substantial control over prices, or at least superior knowledge regarding their future movements. Since a country like Saudi Arabia wields considerable (though not total) control over oil prices, domestic firms are in a position to have a fairly good idea of which direction, up or down, oil prices are likely to go into. Hence,  $u$  is stochastic from the point of view of the foreign firm that has access to market analysis that assists in attaching probabilities to the high and low price events. The costs for the foreign firm are given by:

$$c_f = (m_f + t)q_f + T \quad (2)$$

The firm has entry and establishment costs given by  $T$  and marginal costs given by  $(m_f+t)$ . The costs for the domestic firms, from the viewpoint of the foreign firm, are:

$$c_h = (m_h + u^H)q_h \text{ with probability } \theta \quad (3)$$

$$c_h = (m_h + u^L)q_h \text{ with probability } (1 - \theta)$$

Domestic firms incur high underemployment costs  $u^H$  when natural resource prices drop with probability  $\theta$  and low underemployment costs  $u^L$  with probability  $(1 - \theta)$ . Note that  $u^H > u^L$ .

Let  $q_h^*(u^H)$  denote the optimal quantity choice of the domestic firm when underemployment costs are high,  $q_h^*(u^L)$  when they are low. For the foreign firm, it is simply  $q_f^*$ . Under Cournot assumptions, the  $n$  domestic publicly owned firms cooperate with each other and solve the following profit maximization problem:

$$\max_{q_h} [(x - y(nq_h + q_f^*) - (m_h + u^i))]q_h, \quad i=L, H$$

The foreign firm solves:

$$\max_{q_f} \pi_f = \theta [(x - y(nq_h^*(u^H) + q_f)) - (m_f + t)]q_f + (1 - \theta) [(x - y(nq_h^*(u^L) + q_f)) - (m_f + t)]q_f - T$$

The first order conditions obtained from solving the preceding maximization problems are:

$$q_h^*(u^H) = \frac{1}{2yn} [x - yq_f^* - (m_h + u^H)] \quad (4)$$

$$q_h^*(u^L) = \frac{1}{2yn} [x - yq_f^* - (m_h + u^L)] \quad (5)$$

$$q_f^* = \frac{1}{2y} [x + \theta yn(q_h^*(u^L) - q_h^*(u^H)) - (m_f + t) - ynq_h^*(u^L)] \quad (6)$$

Using (4), (5), and (6) we arrive at the following equilibrium conditions for quantities, prices, and profits in our Cournot model.

$$q_h^*(u^H) = \frac{1}{yn} \left[ \frac{1}{3} (x - 2m_h + m_f + t) - \frac{1}{2} \left( \frac{\theta}{3} (u^H - u^L) + u^H + \frac{1}{3} u^L \right) \right] \quad (7)$$

$$q_h^*(u^L) = \frac{1}{3yn} \left[ (x - 2m_h + m_f + t) - (\theta(u^H - u^L) + 4u^L) \right] \quad (8)$$

$$q_f^* = \frac{1}{3y} \left[ \theta u^H + (1 - \theta)u^L + x + (m_h - 2m_f) - 2t \right] \quad (9)$$

$$P^*(u^H) = x + (m_h - m_f) - t + \frac{\theta}{3} \left( \frac{1}{2}u^H - u^L \right) - \frac{1}{2} \left( u^H - \frac{1}{3}u^L \right) \quad (10)$$

$$P^*(u^L) = x + (m_h - m_f) - t + \frac{2\theta}{3} (u^H - u^L) + \frac{5}{3}u^L \quad (11)$$

$$\pi_h^*(u^i) = (P^*(u^i) - (m_h + u^i))q_h^* \quad \text{where } i=H, L \quad (12)$$

$$\pi_f^*(u^i) = (P^*(u^i) - (m_f + t))q_f^* - T \quad \text{where } i=H, L \quad (13)$$

Note that (10) and (11) above present the equilibrium prices that would prevail if the price of the natural resource rises or falls, respectively.

We now proceed to analyze these results. More specifically, we examine the role of natural resource prices and trade barriers and the implications for the decision to liberalize.

### 3. Analysis and Implications

The implications of changing natural resource prices for output and market share, service price, and profits and the possibility of fulfilling commitments under the GATS (interpreted as changes in trade barriers here) can now be examined using the equilibrium conditions derived in the previous section. Since the subsidization of unemployment depends on natural resource prices, which therefore influence the output decision of the foreign firm, we begin with an examination of the impact of changes in the probability of movements in the price of the natural resource. Recall that  $\theta$  is the probability of high underemployment costs and thus low oil prices in the future. Simple comparative statics applied to the equilibrium conditions derived in the previous section yield the following results:

$$\frac{\partial q_h^*(u^H)}{\partial \theta} = -\frac{1}{6yn} (u^H - u^L) < 0 \quad (14)$$

$$\frac{\partial q_h^*(u^L)}{\partial \theta} = -\frac{1}{3yn} (u^H - u^L) < 0 \quad (15)$$

$$\frac{\partial q_f^*}{\partial \theta} = \frac{1}{3y}(u^H - u^L) > 0 \quad (16)$$

$$\frac{\partial P^*(u^H)}{\partial \theta} = \frac{1}{3}\left(\frac{1}{2}u^H - u^L\right) \quad (17)$$

$$\frac{\partial P^*(u^L)}{\partial \theta} = \frac{2}{3}(u^H - u^L) > 0 \quad (18)$$

$$\frac{\partial \pi_h^*(u^i)}{\partial \theta} = (P^*(u^i) - (m_h + u^i))\frac{\partial q_h^*}{\partial \theta} + q_h^* \frac{\partial P^*(u^i)}{\partial \theta} \quad (19)$$

$$\frac{\partial \pi_f^*(u^i)}{\partial \theta} = (P^*(u^i) - (m_f + t))\frac{\partial q_f^*}{\partial \theta} + q_f^* \frac{\partial P^*(u^i)}{\partial \theta} \quad (20)$$

The results above provide important and relevant information. From (14) and (15) above, we see that as  $\theta$  increases, i.e., as the probability of ending up with high underemployment costs (or a low price of the relevant natural resource) increases, the quantity the domestic firms produce in equilibrium goes down. However, from (16), the higher  $\theta$  becomes, the higher the quantity the *foreign* firm produces in equilibrium. This means that if the world market perceives that natural resource prices are going to go up, domestic firms would produce more and the foreign firm would produce less.

In addition, (18) shows that an increase in  $\theta$  raises the equilibrium price when the cost of underemployment is low. This is also the case if the high cost of underemployment is “high enough”—specifically, if the high cost of underemployment is more than double the low cost of the same. Given the linear demand function in the model, this implies that the equilibrium output of the industry decreases. But since an increase in  $\theta$  leads to lower domestic but higher foreign output, this means that the foreign firm gains market share. The opposite holds if  $\theta$  decreases—industry output goes up but domestic firms gain market share. Hence, if we believe that the foreign service-provider builds infrastructure when it increases output and gains market share (and the host country gains without the government taking an active role in infrastructure provision), the best time to liberalize would be when natural resource prices are likely to go up.

Note that in the very special case where underemployment costs are high but these realized high costs are less than double the unrealized low costs, an increase in  $\theta$  would lead to a lower equilibrium price. This suggests that in this highly unique scenario, an increased chance of lower natural resource prices would lead to higher industry output, but also to a gain in market share for the foreign firm, as before. However, it gains market share much more slowly since industry output is also increasing along with the output of the foreign firm in this case. We now complete our analysis by discussing the effects of changes in  $\theta$  on profits.

Note that (19) and (20) above have not been signed as positive or negative. Several factors determine the ultimate sign. We therefore take a closer look at these expressions.

*Case 1.* We proceed first by assuming that the difference between the price and marginal costs for both domestic and foreign firms, i.e.,  $(P^*(u^i) - (m_h + u^i))$  in (19) and  $(P^*(u^i) - (m_f + t))$  in (20), is positive. Then the effect of an increase in  $\theta$  would be positive on the profits of the foreign firm and would rest on the elasticity of demand for the home firm. Using (14)-(18) with (17) positive, observe that (20) is unambiguously positive with the foreign firm selling more at a higher price. However, the output of the home firms decreases. Hence, an increase in  $\theta$  here reduces the profits of domestic firms the more elastic the demand. Therefore, the government would be able to safeguard more of the profits of its own enterprise when natural resource prices are increasingly likely to go down and hence might perceive liberalization as more acceptable in this case if the objective is to maximize profits while fulfilling any liberalization commitments made under the GATS.

Consider now the case where the right-hand side in (19) is equal to zero. Specifically, we start by writing the following:

$$(P^*(u^i) - (m_h + u^i)) \frac{\partial q_h^*}{\partial \theta} + q_h^* \frac{\partial P^*(u^i)}{\partial \theta} = 0 \quad (21)$$

Multiplying both sides of (21) by  $\frac{1}{P^*}$  and doing some simple algebra allows us to write:

$$\frac{(P^* - (m_h + u^i))}{P^*} = \frac{1}{\varepsilon^*} \quad (22)$$

Here,  $\varepsilon^*$  is the price elasticity of demand for the service and the term on the left hand side is the price-cost margin for the home firm. The expression in (22) is the well-known pricing rule for a monopoly. This implies that if (22) holds, the home firm is a monopoly and  $\frac{\partial \pi_f^*}{\partial \theta} = 0$  (or the collection of home firms collude, thereby acting as a monopoly), implying that perceptions of the world market regarding the price of natural resources do not affect the profits of the home firm. This would be true if the home firm is operating in the absence of foreign competition in the services market.

Note that the likelihood of home profits increasing with  $\theta$  is higher, the lower the price-cost margin is relative to the inverse elasticity of demand. In other words, home profits rising with  $\theta$  depends very much on (a) how efficient the home firm is (captured by  $m_h$ ), and (b) how high the cost of subsidizing unemployment (given by  $u^i$ ) in the state-owned enterprises is going to be. In short, a negative relationship between  $\theta$  and home profits is more likely to exist the more efficient the home firm, and the lower the cost of subsidizing unemployment. This matches well our intuition regarding the results since it means that the possibility of higher future natural

resource prices would reinforce the likelihood of higher home profits the more efficient are the local firms and the higher are the current natural resource prices.

*Case 2.* Reversing the assumption we started with, i.e., now assuming that the difference between the price and marginal costs for the firms is negative, the relationship between  $\theta$  and home profits clearly becomes positive. Higher  $\theta$  therefore means higher profits. This makes sense since if marginal costs exceed the equilibrium price and profits go down with rising  $\theta$ , home firms would cut output. For the foreign firm, the situation is similar to the discussion for home firms under Case 1. That is, we obtain the monopoly pricing rule for  $n=1$  (equivalently, the pricing rule for a cartel with  $n$  cooperative firms when  $n>1$ ) when foreign profits are independent of  $\theta$  implying that there is no home firm in the market. Foreign profits are more likely to drop when  $\theta$  increases if the foreign firm is either very inefficient or if regulations affecting services trade are too restrictive. Again, we observe that the impact changes in  $\theta$  have on foreign profits rests also on foreign firm efficiency and the relationship of the domestic regulatory mechanism with services provision.

#### **4. Relative Firm Efficiency and Profits**

Since domestic and foreign firms are likely to be characterized by different levels of efficiency, we perform some simulations to assess their impact on the price, output, and the profits of each firm. The results are presented in the figures at the end.

Simulations were performed with varying parameter values but the general trend in our variables of interest presented above remained roughly the same. Hence, changes in the probability of lower future natural resource prices have no significant implications for our simulation results except for the magnitudes, which vary in accordance with the conclusions of our analysis in the previous section.

The results reinforce our intuition regarding the possible effects of differences between the operational efficiencies of the two types of firms. As the foreign firm becomes more inefficient compared to the home firms, domestic output increases while the output of the foreign firm declines. At the same time, profits of either type of firm drop with the increasing relative inefficiency of the foreign firm. Interestingly, there is an inverse relationship between the relative inefficiency of the foreign firm and the equilibrium price—lower prices are associated with relatively more inefficient foreign firms in the market. This highlights the significance of competition since even the entry of a relatively uncompetitive foreign provider of services is sufficient to push prices down. It also explains lower domestic profits in the presence of a relatively inefficient foreign competitor.

Therefore, the preceding analysis suggests that the entry of a foreign firm that is relatively inefficient not only lowers the market price of the service but also reduces the profits earned by the foreign as well as the domestic firms. While the impact on prices is favorable from the viewpoint of the consumers, it is accompanied by the prospect of lower profits for the incumbent firms. Thus a government that considers safeguarding the profitability of state enterprises as

necessary could find itself faced with the challenge of balancing its interest with those of the consumers.

Bringing the information in the above analysis together, as the probability of lower future natural resource prices increases, home profits go down and foreign profits increase the more efficient is each type of firm. The preceding is reinforced by higher costs of subsidizing employment in government run service providers, and lower trade barriers to service delivery in the domestic market. For a given likelihood of lower future natural resource prices, relatively more inefficient foreign firms are associated with lower domestic and foreign profits.

## 5. Conclusions

The liberalization of services is of increasing interest and concern to both developing and developed countries. Developing countries that are members of the WTO and those that are not but aspire to join are required to move decidedly in the direction of liberalization of services as envisioned by the GATS. In most such countries, service providers tend to be publicly owned and are often used by the government to hide grave problems in the labor market through the hiring of the unemployed and moving them into the realm of the underemployed instead. This approach is used more heavily in natural resource-rich economies that use resource revenues to subsidize underemployment.

The question this paper has attempted to answer is the following: Given the need to commit to WTO membership, at what point should a natural resource-rich government that subsidizes employment in publicly owned service providers liberalize its service sectors in relation to the price of that natural resource? The short-run strategy for countries in which governments have traditionally been the employer of last resort is to ensure that any such restructuring can be accomplished during the time of high income from its natural resources. However, the discussion and the model above build a case for liberalization of those sectors where demand is relatively elastic when the *probability* of higher natural resource prices in the future is high. This would occur even when the revenues from natural resources are not sufficient to compensate for rapid restructuring efforts at the time of liberalization.

We find that while all variables of interest move in the expected direction, it only happens if certain conditions are met. More specifically, domestic firms lose market share and earn lower profits with increasing probability of lower resource prices particularly when they are grossly inefficient and the need to subsidize underemployment is high. Foreign firms gain market share and enjoy higher profits with higher probabilities of lower resource prices if they are highly efficient and barriers to service delivery, such as restrictive domestic regulation and bureaucratic red tape, are low. If domestic firms are sufficiently efficient and if pressures to employ large populations in the public sector are low, the domestic firm facing inelastic demand can make profits even if lower future natural resource prices are likely.

When the future price of the natural resource is likely to fall and, as our analysis suggests, the share of the domestic firms in the markets shrinks while that of the foreign firm grows by less than the decrease experienced by domestic firms, the country experiences a fall in overall service

consumption. This could negatively affect the potential for growth and development, especially if backbone service sectors like telecom and finance are considered. Additionally, it holds the prospect of depressing employment by reducing opportunities available to the domestic population. In this sense, liberalization is most beneficial from a development point of view when natural resource prices are likely to rise, without consideration for current resource prices. Benefits in the form of service expansion and all the economic linkages this creates, result from liberalization. The discussion therefore highlights the importance of perceptions regarding the future trend of natural resource prices in making the decision to open up to services trade.

From the viewpoint of the consumer, the model underscores the role of competition. Downward pressure on prices is exerted even when the entering foreign provider of services is inefficient relative to the domestic incumbent. In fact, the pressure seems greater when the foreign firm is highly inefficient compared to its domestic counterpart. As expected, profits of both firms are lower in this case.

The analysis in this paper is intended to add to the growing literature on services trade liberalization and is an initial step within the natural resources context. Future research could explore the issue of sequencing, which is crucial in services liberalization. A dynamic approach to this analysis could be very useful in shedding light on the optimal timing of the steps in the liberalization process in order to maximize gains.

### Endnotes

- \* PO Box 6790, Riyadh 11452, Saudi Arabia. The opinions or statements expressed herein reflect the author's own and sole opinions and should not be taken as a position of or endorsement by BAH. The author is not representing, giving opinion or otherwise making statements on behalf of BAH.
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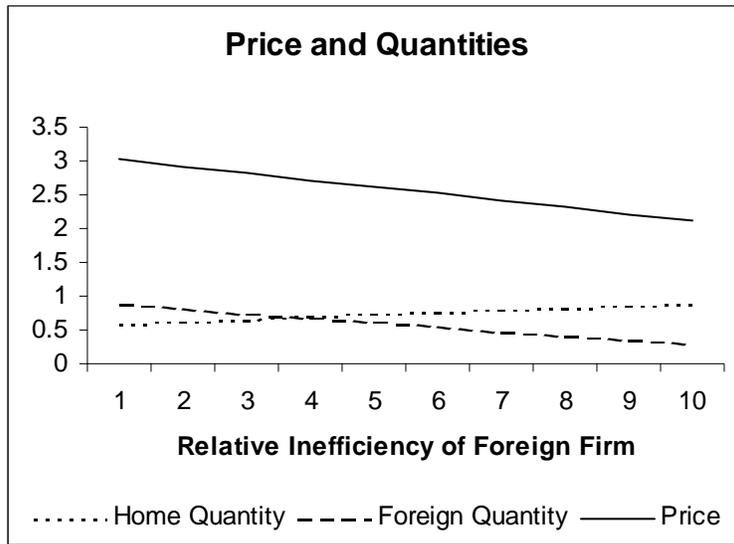
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**Figure 1. Impact of Relative Inefficiency of Firms: Prices and Output**



**Figure 2. Impact of Relative Inefficiency of Firms: Profits**

