

Optimal Tariffs and Privatization in Transition Economies

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Abstract

Privatization and trade liberalization are often suggested to centrally planned economies as a necessary reform package. This paper examines whether such a package is optimal from the perspective of a centrally planned economy. By using a mixed oligopoly model, we show that the reform package suggested in the literature may not be optimal. On the contrary, privatization should be accompanied with increasing tariff barriers, if more cost-efficient domestic private firms are absent or if domestic private firms exist but the state-owned firm is not too inefficient. Moreover, we also show that under similar conditions partial privatization will be optimal. But the optimal extent of privatization is positively related to the number of domestic private firms and is higher under the tariff regime as compared to the case of free trade.

I. Introduction

It is often claimed that the privatization of existing state-owned enterprises is a necessary and sufficient condition for the success of economic reform of a centrally planned system. It is also argued that trade liberalization will be needed in the process of economic reform as it provides some much needed competition to state-owned enterprises (Krueger, 1992). However, it is debatable whether, from the perspective of a centrally planned economy, privatization and trade liberalization can be an optimal reform package. In reality, some countries proceed to tariff liberalization while others raise tariff barriers, when state-owned enterprises are privatized. Chile, for example, adopted a sweeping tariff reform that slashed tariffs from approximately 100% in 1973 to 20% in 1976 and to 10% by 1979 (Sebastian, 1992). On the contrary, China raised tariffs on some products such as autos, electronics, synthetic fiber, and chemistry in the early stage of her economic reform when these sectors were gradually privatized. It is therefore not quite clear whether it is in the best interest of a centrally planned economy to privatize its state-owned enterprises while at the same time to liberalize its tariff. This paper intends to provide some answers to the above question. Specifically, we will study optimal tariffs in a mixed oligopoly model for different market regimes (a centrally planned economy vs. a market economy). Whether full privatization is the optimal reform strategy for a centrally planned economy will also be studied.

The paper is organized as follows. Section II sets up a basic model in which there are one state-owned public firm and n foreign private firms. We will first examine the economic impacts of tariff liberalization and privatization. We then derive the optimal extent of privatization and compare the optimal tariffs under three cases: (1) the centrally planned economy, (2) the market economy, and (3) the case of endogenous extent of privatization. Section III extends the previous model to include n domestic private firms. The optimal extent of privatization and tariff implications for the three cases will also be discussed. The last section concludes the paper.

II. The Basic Model--- One State-owned Firm and n Foreign Private Firms

Consider a centrally planned economy with a market for a homogenous good, served by one state-owned domestic firm and n foreign private firms. All foreign firms have identical and mature technology with constant marginal costs of the production given by c_f . However, the technology adopted by the state-owned firm is relatively inefficient, and can be represented by the quadratic cost function: $TC_1 = \frac{kq_1^2}{2}$, where q_1 is the

output of the state-owned firm and $k > 0$ is a constant.¹ To simplify the analysis, the market demand is assumed to be linear: $p = a - (q_1 + \sum_{j=1}^n q_f^j) = a - q_1 - Q_f$, where q_f^j is the output of foreign firm j . The profit functions of the state-owned firm and foreign firms can be written as

$$\pi_1 = pq_1 - \frac{kq_1^2}{2}, \quad (1a)$$

$$\pi_f^j = (p - c_f - t)q_f^j, \quad (1b)$$

where $j = 1, \dots, n$, and t is the specific import tariff imposed by the domestic country.

While foreign private firms aim at maximizing their own profits π_f^j , the state-owned firm will choose output to maximize the domestic welfare W :

$$W = \pi_1 + CS + t \sum_{j=1}^n q_f^j, \quad (2a)$$

where the second term is consumer surplus (CS) and the last term is tariff revenue.²

Now, suppose that the state-owned firm is privatized. Let θ $0 \leq \theta \leq 1$ denote the extent of privatization, where $0 < \theta < 1$ refers to the case of partial privatization, $\theta = 1$ the case of full privatization, and $\theta = 0$ the case of the centrally planned economy. Given θ , the objective function of the state-owned firm can be illustrated as the weighted average of the domestic welfare W and its owned profit, with the weight being the extent of privatization θ :³

$$\Pi_1 = \theta\pi_1 + (1 - \theta)W. \quad (2b)$$

Thus, with an increasing extent of privatization, the privatized firm switches from welfare maximization to profit maximization.

Consider a two-stage game. In the first stage, the domestic government announces the level of an import tariff t and the extent of privatization θ . In the second stage, firms observe the announced tariff and the extent of privatization and then simultaneously choose their output levels. We will solve for the subgame perfect Nash equilibrium (SPNE) by backward induction. That is, for given t and θ , we first determine the equilibrium output of firms. We then substitute them back in the domestic government's objective function to derive the welfare-maximizing levels of tariff and (or) the extent of

¹ Here, we assume zero fixed cost with no loss of generality, since entry decisions are not considered here. White (1996), for example, uses the same cost function for the state-owned firm.

² Under a linear demand, $CS = (q_1 + \sum_{i=1}^n q_f^i)^2 / 2$.

³ See Bos (1987) and Matsumura (1998) for using a similar objective function.

privatization.

The Nash Outcome in the Second Stage

Given t and θ , the domestic firm chooses q_1 to maximize Π_1 while the foreign firms choose q_f^j to maximize their profits π_f^j , where $j = 1, 2, \dots, n$. We derive the second stage Nash outcomes as:

$$q_1 = \frac{a(1+n-\theta n) + \theta n(c_f + t)}{D_1}, \quad (3a)$$

$$Q_f = \frac{n[a(\theta + k) - (1 + \theta + k)(c_f + t)]}{D_1}, \quad (3b)$$

where $D_1 = (1 + \theta + k + n + nk) > 0$, and $Q_f = nq_f$. It can be shown that for any t and θ , the domestic firm is always less efficient than the foreign private firms in terms of marginal cost of production.⁴

Given θ , the effects of a change in the tariff on q_1 and Q_f are:

$$\frac{dq_1}{dt} = \frac{\theta n}{D_1} > 0, \quad \frac{dQ_f}{dt} = -\frac{n(1 + \theta + k)}{D_1} < 0. \quad (4)$$

(4) says that an increase in the tariff raises q_1 (the protection effect) but lowers Q_f (the import-reduction effect or the profit-shifting effect). The protection effect increases with θ , but it vanishes when $\theta = 0$. In other words, when the domestic firm is fully state-owned, tariffs can only be used to extract rents from foreign firms. This is because the state-owned firm already produces the welfare-maximizing output so that there is no role for tariffs to play to protect the state-owned firm. However, if the domestic firm is partially or fully privatized, the protection effect exists and is positively related to the extent of privatization.

Given tariffs, the effects of the extent of privatization on output can be derived:

$$\frac{dq_1}{d\theta} = -\frac{H_0}{D_1} - \frac{nH_1}{D_1} < 0, \quad (5a)$$

$$\frac{dQ_f}{d\theta} = \frac{nH_1}{D_1} > 0, \quad (5b)$$

where $H_0 = H_1 = [(1 + n + nk)(a - c_f) + c_f - n(1 + k)t] > 0$.

(5a) and (5b) indicate that an increase in the extent of privatization θ lowers q_1 but raises Q_f due to the following two effects. One is the motive effect that induces the privatized firm to put a larger weight on the profit motive rather than the welfare motive,

⁴ For any t and θ , $MC_{q_1} = kq_1 > c_f$ where MC_{q_1} is the marginal cost of producing q_1 .

and a smaller output q_1 is hence produced (the first term in (5a)). The other is the cost-shifting effect that shifts the production from the less efficient privatized firm to the more efficient foreign firms ((5b) and the second term in (5a)). Combine (5a) and (5b), we can see that the net effect of θ on total output consists of the motive effect only. As a result, a larger extent of privatization lowers total output, raises commodity price, and reduces consumer surplus.

The Outcome in the First Stage

Knowing the effect of t and θ on the second-stage outcome, we then discuss the optimal tariffs and/or the optimal extent of privatization for the following three market regimes. Case (i) the domestic firm is fully state-owned, i.e., $\theta = 0$. We refer this case as the centrally planned economy. Case (ii) the state-owned firm is fully privatized, i.e., $\theta = 1$. We refer this case as the market economy. Case (iii) the optimal extent of privatization, i.e. the domestic government will choose θ and t simultaneously to maximize her welfare.

The SPNE outcomes for different regimes are summarized as follows:

Case (i) Centrally Planned Economy ($\theta = 0$)

$$\underline{t} = \frac{k(a - c_f) - c_f}{(1 + k)(2 + n)}, \quad (6a)$$

$$\underline{q}_1 = \frac{a}{1 + k}, \quad (6b)$$

$$\underline{Q}_f = \frac{n[k(a - c_f) - c_f]}{(1 + k)(2 + n)}. \quad (6c)$$

Case (ii) Market Economy ($\theta = 1$)

$$\bar{t} = \frac{(3 + 3k + k^2)(a - c_f) + c_f(n - 1 - k)}{D_2}, \quad (6d)$$

$$\bar{q}_1 = \frac{(2 + k)(2a + c_f n)}{D_2}, \quad (6e)$$

$$\bar{Q}_f = \frac{n[(1 + 3k + k^2)(a - c_f) - (3 + k)c_f]}{D_2}, \quad (6f)$$

where $D_2 = 2(2 + k)^2 + n(1 + 3k + k^2) > 0$.

Case (iii) Endogenous Extent of Privatization

$$t^* = \frac{k(a - c_f) - c_f}{2 + k(2 + n)}, \quad (6g)$$

$$\theta^* = \frac{nk(a - c_f) - nc_f}{nk(a - c_f) + 2a}, \quad (6h)$$

$$q_1^* = \frac{2a + c_f n}{2 + k(2 + n)}, \quad (6i)$$

$$Q_f^* = \frac{n[k(a - c_f) - c_f]}{2[2 + k(2 + n)]^2}. \quad (6j)$$

To guarantee $\underline{Q}_f, \bar{Q}_f$ and Q_f^* to be positive, we assume $k > c_f / (a - c_f)$. This assumption, in turn, implies that optimal tariffs and optimal extent of privatization for the above three cases are strictly positive.

The Comparisons

From (6h), it is easy to check that if imports are prohibited (i.e., $n=0$), then $\theta^* = 0$. There is no need to privatize the state-owned firm as it already produces at the welfare-maximizing level of output. However, if the domestic market is open to the n foreign firms, partial privatization ($0 < \theta^* < 1$) will be the optimum.⁵ Moreover, from (6h) we can show that the optimal extent of privatization is positively related with the size of domestic market (a), the cost parameter (k) and the number of foreign firms (n), but negatively related with marginal cost of foreign firms (c_f). The higher the cost parameter k , the higher the cost of production by the state-owned firm, and so a higher extent of privatization is needed to reduce the output of the less efficient state-owned firm. On the other hand, the more foreign firms n there are (or the smaller the foreign firms' marginal cost c_f is), the larger the cost-shifting effect and tariff revenue will be, therefore a higher extent of privatization is needed to capture this benefit.

If the domestic government adopts a free trade policy (i.e., $t=0$), the optimal extent of privatization can be derived as

$$\theta(FT) = \frac{n^2[k(a - c_f) - c_f]}{(1 + 2n + kn + kn^2)(a - c_f) + (1 + n)c_f}.$$

It can be shown that $0 < \theta(FT) < 1$ and $\theta^* > \theta(FT)$. That is, partial extent of privatization is also optimal under the free trade regime. But the optimal extent of privatization is lower under the free trade regime, as compared to the tariff regime.

Proposition 1. In a mixed oligopoly model with one state-owned firm and n foreign private firms, partial privatization will maximize domestic welfare regardless of whether

⁵ Matsumura (1998) also obtains partial privatization in a closed economy framework in which there is one public firm and one domestic private firm.

tariff is imposed or not. But the optimal extent of privatization is higher under the tariff regime, as compared to the free trade regime. Moreover, the optimal extent of privatization is positively related to the market size a , the cost parameter of the state-owned firm k , and the number of foreign firms n , but negatively related to the marginal cost of foreign firms.

What happens to the optimal tariffs under different regimes? Compare (6a), (6d), and (6g), we obtain $\bar{t} > t^* > \underline{t}$.

Proposition 2. Instead of liberalizing her trade, the domestic government should raise tariffs when the economy is transformed from a centrally planned economy to a market economy. This tariff implication holds even when the economy adopts the optimal extent of partial privatization.

In contrast to the widespread opinion that privatization should be accompanied with trade liberalization, proposition 2 shows the opposite policy prescription, i.e., a higher tariff barrier should be imposed. The result can be explained by the following two reasons. One is that since the output and profits of foreign firms increase with θ , the domestic government has incentive to adopt a higher tariff when the state-owned firm is privatized in order to extract larger rent from foreign firms. The other reason is that under the centrally planned economy a tariff policy only has the import-reduction effects, while in the case of privatization it has an additional effect --- protecting the domestic privatized firm. When the extent of privatization θ increases, this protection effect gets larger⁶ which induces the domestic government to adopt a higher tariff.

Given optimal t and/or θ , it can be shown that

$$\bar{q} < q^* < \underline{q}, \quad \bar{Q}_f > Q_f^* < \underline{Q}_f, \quad \bar{p} > p^* > \underline{p}.$$

This result is consistent with the stylized fact that the level of output has actually fallen and there is an inflation tendency in virtually all of the societies undergoing transition to a market economy.⁷ Foreign firms, however, benefit from the privatization.

III. The Extended Model ---Coexistence of Private Firms and the State-owned Firms

Suppose in addition to the state-owned firms, there are m domestic private firms in the market. The domestic private firms are able to adopt the advanced technology as foreign firms and thus face the same constant marginal costs c_f . The profit function of the domestic private firms can be written as:

⁶ $d(\frac{dq_1}{dt})/d\theta > 0$.

⁷ See Olson (1992).

$$\pi_2^k = (p - c_f)q_2^k, \quad k = 1, \dots, m \quad (7)$$

where q_2^k is the output of the domestic private firm k .

Now, we have a typical mixed oligopoly model: one state-owned firm, m domestic private firms, and n foreign private firms. Under this framework, the domestic welfare becomes $W = CS + \pi_1 + \sum_{i=1}^m \pi_2^i + t \sum_{j=1}^n q_f^j$. Again, we consider a two-stage game in which the first stage is the policy decisions (t and θ) which is followed by the output decisions (q_1 , q_2^k , q_f^j) in the second stage.

Given t and θ , the second-stage Nash outcome can be solved for:

$$q_1(m) = \frac{(1 + n - n\theta)a + (m + n\theta)c_f + [\theta(1 + m) - m]nt}{D_3}, \quad (8a)$$

$$Q_2(m) = \frac{m[(k + \theta)(a - c_f) - c_f + (1 + k)nt]}{D_3}, \quad (8b)$$

$$Q_f(m) = \frac{n[(k + \theta)(a - c_f) - c_f - [1 + (1 + m)(k + \theta)]t]}{D_3}, \quad (8c)$$

where $D_3 = 1 + n + k(1 + m + n) + \theta(1 + m)$, and $Q_2 = mq_2$.

Given θ , the effects of a change in the tariff are:

$$\frac{dq_1(m)}{dt} = \frac{n\theta}{D_3} - \frac{mn(1 - \theta)}{D_3}, \quad (9a)$$

$$\frac{dQ_2(m)}{dt} = \frac{mn(1 - \theta)}{D_3} + \frac{m(\theta + k)}{D_3} > 0, \quad (9b)$$

$$\frac{dQ_f(m)}{dt} = -\frac{n(1 + \theta + k)}{D_3} - \frac{m(\theta + k)}{D_3} < 0. \quad (9c)$$

Thus, in addition to the protection effect on q_1 (the first term in (9a)) and the import-reduction effect on Q_f (the first term in (9c)) as discussed in the previous section, tariffs now have the cost-shifting effect when there are m domestic private firms.⁸ That is, an increase in t will shift the production from the less efficient state-owned firm to the more efficient domestic private firms (the second term in (9a) and the first term in (9b)).⁹ Moreover, an increase in tariff can also protect the domestic private firms from foreign

⁸ See also Pal and White (1998).

⁹ It can be shown that given t , the marginal cost of the state-owned firm is greater than that of the private firm: ($MC_1 = kq_1 > c_f$), and the cost difference increases with tariffs:

$d(MC_1 - c_f)/dt = kmn/[1 + n + k(1 + m + n)] > 0$.

competition and therefore increase their output Q_2 but lower foreign firms' output Q_f (the second terms in (9b) and (9c)). When considering all these effects, we obtain the expected results, i.e., an increase in t raises Q_2 and lowers Q_f , but its effect on q_1 will depend on the degree of privatization. When the firm is fully state-owned, q_1 is negatively related to t as there exists only the negative cost-shifting effect. However, when the firm is privatized and the extent of privatization is sufficiently large (i.e., $\theta > m/(1+m)$) so that the positive protection effect dominates the negative cost-shifting effect, q_1 will be positively related to t .

Given t , the effects of an increase in the extent of privatization are:

$$\frac{dq_1(m)}{d\theta} = -\frac{H_0}{D_3} - \frac{nH_1}{D_3} - \frac{mH_2}{D_3} < 0, \quad (10a)$$

$$\frac{dQ_2(m)}{d\theta} = \frac{mH_2}{D_3} + \frac{m(1+n)H_3}{D_3} > 0, \quad (10b)$$

$$\frac{dQ_f(m)}{d\theta} = \frac{nH_1}{D_3} - \frac{mnH_3}{D_3} > 0, \quad (10c)$$

where $H_1 = (1+n+kn)(a-c_f) + c_f - (1+k)nt > 0$,
 $H_2 = (1+n+kn)a + (1+m-kn)c_f - (1+k)(2+m+n)nt > 0$,
and $H_3 = n(1+k)t - c_f$.

The above results imply that in the presence of m domestic private firms, an increase in θ will shift the production from the privatized firm not only to the foreign firms (the second term in (10a) and the first term in (10c)) but also to the domestic private firms (the third term in (10a) and the first term in (10b)). Since both the motive effect (the first term in (10a)) and the cost shifting effects are negative for the privatized firm, q_1 will be negatively related to θ . But, Q_2 is positively related to θ , as long as the domestic government adopts the optimal tariffs so that $H_3 > 0$.¹⁰

Taking the effect of t and θ into consideration, we will derive optimal t , θ , and the equilibrium levels of output for the following cases:

Case (i) Centrally Planned Economy ($\theta = 0$)

$$\underline{t}(m) = \frac{[k(a-c_f) - c_f][(1+k) + m(1+2k+n)]}{D_4}, \quad (11a)$$

$$\underline{q}_1(m) = \frac{a[2+n+k(2+2m+n)] + m[2+2k(1+m) + mn]c_f}{D_4}, \quad (11b)$$

¹⁰ When evaluate at optimal tariffs in any case discussed here, $H_3 > 0$.

$$\underline{Q}_2(m) = \frac{m[k(a - c_f) - c_f][2 + 2k(1 + m) + mn]}{D_4}, \quad (11c)$$

$$\underline{Q}_f(m) = \frac{n[k(a - c_f) - c_f](1 + k - m)}{D_4}, \quad (11d)$$

where $D_4 = 2 + n + k^2(2 + 4m + 2m^2 + n) + k(4 + 4m + 2n + m^2n) > 0$.

Case (ii) Market Economy ($\theta = 1$)

$$\bar{t}(m) = \frac{[3 + 2m + k^2(1 + 2m) + k(3 + 4m)](a - c_f) - [1 + m + k(1 + 2m) - n]c_f}{D_5}, \quad (11e)$$

$$\bar{q}_1(m) = \frac{2a[2 + m + k(1 + m)] + [2(2 + k)m + 2(1 + k)m^2 + (2 + k)n]c_f}{D_5}, \quad (11f)$$

$$\bar{Q}_2(m) = \frac{2m(1 + k)[2 + m + k(1 + m)](a - c_f) - m[2(2 + m) + 2k(1 + m) - n]c_f}{D_5} \quad (11g)$$

$$\bar{Q}_f(m) = \frac{n[(1 + 3k + k^2)(a - c_f) - (3 + k + m)c_f]}{D_5}, \quad (11h)$$

where $D_5 = 4(2 + m)^2 + n + k^2[2(1 + m)^2 + n] + k[4(1 + m)(2 + m) + 3n] > 0$.

Case (iii) Endogenous Extent of Privatization

$$t^*(m) = \frac{[k(a - c_f) - c_f](1 + 2m)}{2 + k[2(1 + m)^2 + n]}, \quad (11i)$$

$$\theta^*(m) = \frac{[k(a - c_f) - c_f](2m + n)}{(2 + kn)(a - c_f) + 2(1 + m)^2 c_f}, \quad (11j)$$

$$q_1^*(m) = \frac{2a + c_f[2m(2 + m) + n]}{2 + k[2(1 + m)^2 + n]}, \quad (11k)$$

$$Q_2^*(m) = \frac{2m(1 + m)[k(a - c_f) - c_f]}{2 + k[2(1 + m)^2 + n]}, \quad (11l)$$

$$Q_f^*(m) = \frac{n[k(a - c_f) - c_f]}{2 + k[2(1 + m)^2 + n]}. \quad (11m)$$

Note that under the three cases here, the state-owned firm is always less efficient than the domestic and foreign private firms, regardless of the value of k . (11j) shows that if the state-owned firm is less inefficient (i.e., $k < 1/m$) such that $G \equiv 2(1 - km)(a - c_f) + [2 + 6m + 2m^2 + n]c_f > 0$, partial privatization ($0 < \theta^*(m) < 1$) will be the optimum.¹¹ Under such a condition, we have the endogenous SPNE outcome as summarized in case (iii). However, if the state-owned firm is too inefficient (i.e., k is

¹¹ Note that $k < 1/m$ is the sufficient condition for $G > 0$.

sufficiently large such that $G \leq 0$), then $\theta^*(m) \geq 1$. In this case, the corner solution $\theta^*(m) = 1$ may occur.

From (6h) and (11j), it can be shown that for any positive m , $\theta^*(m) > \theta^*$ and the difference between $\theta^*(m)$ and θ^* gets larger as m increases. This implies that the optimal extent of privatization is higher when the domestic private firms exist and will increase with the number of the domestic private firms. Thus, even in the case where the domestic market is not open to foreign firms (i.e., $n = 0$), the optimal extent of privatization $\theta^*(m)$ is still positive. This is because the existence of the more efficient domestic private firms makes the privatization of the state-owned firm become necessary. Moreover, it can be shown that the optimal extent of privatization $\theta^*(m)$ is higher under the tariff regime than under the free trade regime:

$$\theta^*(m) > \theta^*(m, FT).$$

When comparing the optimal tariffs under different regimes, we obtain:

$$\bar{t}(m) > t^*(m) > \underline{t}(m),$$

where the sufficient condition for the last inequality to hold is $k < 1/[m(m+n-1)-1]$. Whether tariffs should be raised after privatization will depend on the cost parameter k . If the state-owned firm is not too inefficient (i.e., $k < 1/[m(m+n-1)-1]$), a centrally planned economy should raise its tariff barriers when the state-owned firm is fully privatized or is privatized at the optimal extent $\theta^*(m)$.

Proposition 3. In the presence of m domestic private firms, partial privatization will be optimal if the state-owned firm is not too inefficient (i.e., $k < 1/m$). Under such a case, the optimal extent of privatization increases with the number of the domestic private firms m and is higher under the tariff regime than under the free trade regime. Moreover, if the state-owned firm is not too inefficient (i.e., $k < 1/[m(m+n-1)-1]$), a higher tariff should be adopted when an economy is switched from a centrally planned system to a market economy.

IV. Concluding remarks

Privatization and trade liberalization are often suggested to centrally planned economies as a necessary reform package. This paper examines whether such a package is optimal from the perspective of a centrally planned economy. By using a mixed oligopoly model, we show that the reform package suggested in the literature may not be optimal. On the contrary, privatization should be accompanied with increasing tariff barriers, if more cost-efficient domestic private firms are absent or if domestic private firms exist but the state-owned firm is not too inefficient. Moreover, we also show that under similar conditions partial privatization will be optimal. But the optimal extent of

privatization is positively related to the number of domestic private firms and is higher under the tariff regime as compared to the case of free trade.

Reference:

Bos, D, 1987, Privatization of Public Enterprises, *European Economic Review* 31, 352-360.

Claque C. and G.C. Rausser, 1992, *The Emergence of Market Economies in Eastern Europe*, Blackwell Publishers: Cambridge.

Matsumura, T., 1998, Partial Privatization in Mixed Duopoly, *Journal of Public Economics* 70, 473-483.

Olson, M., 1992, The Hidden Path to A Successful Economy, in *The Emergence of Market Economies in Eastern Europe*, ed., by Claque C. and G.C. Rausser.

White , M.D., 1996, Mixed Oligopoly, Privatization, and Subsidization, *Economics letters* 53, 189-195.