An Economic Analysis of Lobbies

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Introduction

This paper analyzes the effects upon resource allocation, welfare and the public sector deficit of two lobbies, the public sector contractor's lobby (the PSC lobby), and the labor union's lobby (the LU lobby).

The action of the PSC lobby consists of making the public sector buy from its contractors supplies at a quantity-price combination which is above and to the right of the supplies' marginal product schedule.

Likewise, the action of the LU lobby consists of making the public sector hire labor at a quantity-price combination which is above and to the right of the marginal product of labor schedule.

Once a price or wage has been agreed upon by each lobby and the public sector, it prevails all accross the economy; i.e., this paper does not consider price discrimination.

The difference between the concern of this paper and a monopolist contractor or a labor union is that in such cases the public sector would face a price to which it could adjust the quantities purchased or hired according to the marginal products of labor and supplies, respectively. On the contrary, this paper deals with a situation in which the lobbies make the public sector buy or hire more than indicated by the respective marginal product schedules.

It will be shown that the effects of the lobbies' actions are not symmetryc: While raising the price charged by the PSC lobby benefits it without harming the LU lobby, increases in the wage rate benefits the latter but harms the PSC lobby.

This paper will be concerned with the public sector deficit which results from the lobbies' actions only. There might be other sources of deficit with which this paper is not concerned. It will be shown that the effect of rising the prices charged by the lobbies upon the public sector deficit is ambiguous. When these prices change the public sector buys less of one input and possibly more of the other, yielding an ambiguous result upon the deficit.

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Consequently, the public sector's deficit may either increase or decrease if either lobby, or even both, succeeds in increasing the prices they charge. Or equivalently, the deficit may increase even if the government succeeds in making both lobbies charge lower prices.

Welfare, as measured by GNP at undistorted prices, changes in response to an increase in the prices charged by the lobbies, improving as resources move to where their social marginal productivity exceeds their marginal social cost, and decreasing when the opposite occurs. Since both phenomena may take place, the net effect on welfare remains ambiguous.

Moreover, there is not a definite relationship between deficit and welfare; for instance, the sufficient condition for the deficit to fall in response to an increase of the prices charged by the lobbies does not guarantee that welfare improves in response to that phenomenon. Reciprocally, the sufficient condition for welfare to improve in response to an increase of the prices charged by the lobbies does not guarantee that the deficit falls in response to that phenomenon.

The Model

The economy has a fixed quantity of labor, V, which is perfectly mobile and homogeneous. Labor is allocated to each of the two sectors, private and public, in quantities V_y and V_x respectively. That is,

(1) $$V = V_y + V_x$$

The private sector uses V_y and part of the public sector's output, X, to produce its own output, Y, according to the following production function.

(2) $$Y = g(V_y, X_y);$$

This production function is assumed to be concave, twice differentiable and no factor can be inferior.

The public sector, in turn, uses V_x and part of the private sector's output to produce its own output, according to the following linearly homogeneous production function:

(3) $$X = f(V_x, Y_x).$$

The part of the production of each sector which is not used as input by the other sector is consumed, according to the demand function for the privately produced good D(p, NI):

(4) $$D(p, NI) = Y - Y_x,$$

where p denotes the relative price of Y in terms of X (exogenously agreed upon by the PSC lobby and the public sector), and NI denotes disposable national income. It is further assumed that $MD/Mp < 0$, and $MD/MNI > 0$.

Equilibrium in the market for Y assures, by Walras Law, that the market for X is also in equilibrium.

The optimal input mix in the production of Y is described by equations (5) and (6):

(5) $$p\,(Mg/MV_y) = k,$$

(where k is the wage rate exogenously agreed upon by the LU lobby and the public sector).

(6) $$p\,(Mg/MX_y) = 1.$$

Given exogenous values of p and k, equations (5) and (6) yield the quantity of labor and intermediate input employed in the private sector, while equation (1) indicates that the public sector hires whatever quantity of labor is necessary to achieve full employment. Likewise, equations (2), (4) and (8) determine the quantity of Y privately consumed and the public sector purchases of Y, Y_x.

The public sector deficit resulting from the actions by the lobbies (there might be other sources of deficit, with which this paper is not concerned), $*$, is obtained as follows: In order to isolate the effects of the lobbies we use the homogeneity assumption, which guarantees that the value of output would always equal factor payments if they were paid their marginal products. Therefore

$$X = V_x (Mf/MV_x) + Y_x (Mf/MY_x);$$

but the PSC and LU lobbies make the public sector hire factors in quantities such that the prices are higher than the respective marginal products: $k > Mf/MV_x$ and $p > Mf/MY_x$, respectively. Therefore, factor payments in the public sector exceed the value of output by exactly

(7) $$* = [k - (Mf/MV_x)] V_x + [p - (Mf/MY_x)] Y_x.$$

Following a standard procedure in public finance, it is assumed that any changes in $*$ will be automatically compensated by equivalent changes in other public expenditures. These, in turn, are assumed to be carried out in such a way that their marginal social cost equals their marginal social benefit, so that changing their level will not affect welfare.

This procedure allows us to isolate the effects of the lobbies, without mixing them with the effects of the particular way in which the public sector chooses to finance the lobbies' activities.

Disposable national income equals gross national product, GNP, plus $*$. GNP in turn, is equal to:

$$GNP = p (Y - Y_x) + (X - X_y);$$

Hence[2],

(8) $$NI = GNP + * = (V_x k) + (pY - X_y).$$

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[2] To obtain equation (8) the following relationships were used:

$X = k V_x + p Y_x - *$, and $pY = k V_y + X_y + R$ (where R stands for profits in sector Y).

Notice that NI turns out to be equal to the wage bill in the public sector (the first bracket in the right hand side of equation (8)), plus the value of production in the private sector net of intermediate inputs (the second bracket in the right hand side of equation (8)). The latter, in turn, equals the wage bill in the private sector plus profits.

Therefore, disposable national income turns out to be equal to the wage bill of the economy plus profits, and would be equal to GNP if there were no transfers; i.e., if the public sector paid its labor and inputs a reward equal to their respective marginal products.

Equations (1), (5) and (6) yield the equilibrium values of V_y, X_y, and V_x, for given values of p and k. These, in turn, determine Y, hence D, NI, Y_x, X, GNP, R and *.

Effects of changes in the price charged by the PSC lobby

It is assumed that the objective of the PSC lobby is to increase R, as defined in footnote (2). The instrument to do this consists of raising p and getting the government to buy as much as needed to clear the markets at the new p.

To examine the effects of changes in p upon the variables in the model, holding k constant, we first rewrite equation (4) as

(4') $g(V_y, X_y) - Y_x = D[p, (V-V_y)k+pY-X_y]$, and

calculate from equations (5), (6) and (4') respectively[(3)]:

(9) $g_{vv}\, dV_y/dp + g_{vx}\, dX_y/dp = -k/p^2$,

(10) $g_{xv}\, dV_y/dp + g_{xx}\, dX_y/dp = -1/p^2$,

(11) $g_v\, dV_y/dp + g_x\, dX_y/dp - dY_x/dp = D_p + D_{ni}\, Y$.

The determinant of this linear system is

$$) = - (g_{vv}\, g_{xx} - g_{vx}^2) < 0,$$

because of the second order condition for profit maximization (recall that g is the production function of the private sector).

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(3) Two subscripts will indicate second derivatives; e.g., g_{vv} stands for M^2g/MV_y^2. Also the notation D_p and D_{ni} will be introduced to denote the derivatives of the demand function for Y by final consumers with respect to p and NI, respectively.

From equations (9), (10) and (11) we get:

(12) $dV_y/dp = (k\ g_{xx} - g_{vx}) /\ )\ p^2 > 0$,

(13) $dX_y/dp = (g_{vv} - k\ g_{xv}) /\ )\ p^2 > 0$, and

(14) $dY_x/dp = -(D_p+Y\ D_{ni}) + [g_v(kg_{xx}-g_{xv})+g_x(g_{vv}-kg_{xv})] /\ )\ p^2\ ^{>}_{<}\ 0$,

or

(14') $dY_x/dp = -(D_p+Y\ D_{ni}) + dY/dp\ ^{>}_{<}\ 0$.

The positive signs of equations (12) and (13) follow from the inputs' non-inferiority assumption(4).

Thus, a rise in p increases V_y and X_y while it has an ambiguous effect on Y_x.

According to equation (1) the increase in V_y implies a decrease in V_x; that is, labor moves from the public to the private sector as a consequence of a rise in p.

Also, the increases in V_y and X_y imply, according to equation (2), an increase in Y; that is, the private sector expands production along an upward sloping supply schedule in response to a rise in p.

This increased production may or may not be demanded by final consumers at the new p. In any case, the existence of a PSC lobby assures that the public sector will buy whatever quantity is required to clear the market at the new p. Equation (14) indicates that the purchases by the public sector may go up or down, depending on the price and income responses of the private demand for Y, D_p and D_{ni}, and on the production response dY/dp.

The income response arises from the fact that an increase in p increases disposable national income, because it increases profits leaving the wage bill of the economy untouched(5).

As indicated by equation (14), if $Y\ D_{ni} < *D_p*$ the public sector will end up buying more Y than it did at the previous value of p. On the contrary, if the income response of the private demand for Y is strong enough, the public sector may end up buying less Y.

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(4) See D. V. T. Bear, "Inferior Inputs and the Theory of the Firm", Journal of Political Economy,

Vol. LXXIII, No. 3, June 1965.
The inputs' non-inferiority assumption implies $g_v\, g_{xx} - g_x\, g_{vx} < 0$ and $g_x\, g_{vv} - g_v\, g_{xv} < 0$.

(5) This result can be verified by calculating from equation (8):
$dNI/dp = Y + p[g_v\, (dV_y/dp) + g_x\, (dX_y/dp)] - k\, dV_y/dp - dX_y/dp = Y$.

This ambiguity about the effect on Y_x is responsible for the ambiguity about the effect on public sector production. Although it has been established that V_x falls, nothing definite on the effect upon X can be stated a priori, simply because the effect on Y_x is ambiguous.

The effect of increasing p upon the deficit, *, is ambiguous. The reason is: An increase in p (1) will make the public sector pay more for the quantity of Y it already buys (thus increasing *); (2) may make the public sector buy more Y (thus increasing *); (3) shifts labor from the public to the private sector (thus reducing *). This result can be verified by calculating from equation (7):

$$d*/dp = Y_x + [p-f_y]\, dY_x/dp + [k-f_v]\, dV_x/dp \gtrless 0.$$

The two brackets are unambiguously positive, so is Y_x, and $dV_x/dp<0$, but the sign of dY_x/dp is not known(6).

Sufficient, although not necessary, conditions for the deficit to fall are:

$dY_x/dp<0$, and

$*[p-f_y]\, dY_x/dp + [k-f_v]\, dV_x/dp* > Y_x$.

According to equation (14'), the first condition above implies $Y\, D_{ni} - *D_p* > dY/dp$. That is, the income effect minus the price effect of an exogenous increase in p upon the private demand for Y overcomes the increase in production of Y. In such a case the additional private sector's purchases of Y will exceed the additional production of Y and the public sector will end up buying less labor and less Y. If, moreover, the savings involved in buying less inputs are greater than the additional cost involved in paying more for Y_x, then the deficit will fall.

Since GNP equals NI - *, changes in p will have ambiguous effects on it:

$$d\,GNP/dp = d\,NI/dp - d*/dp,$$

$$d\,GNP/dp = (Y-Y_x) - [k-f_v]\, dV_x/dp - [p-f_y]\, dY_x/dp \gtrless 0.$$

Notice that the sufficient condition for deficit to fall is also a sufficient condition for GNP to rise.

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[6] The three effects referred to in the preceding paragraph are represented by the three terms in the preceding equation, respectively.

The effect of a change in p upon R, the objective of the PSC lobby, can be calculated from $pY = kV_y + X_y + R$:

(15) $dR/dp = Y + p(g_v\, dV_y/dp + g_x\, dX_y/dp) - k\, dV_y/dp - dX_y/dp = Y.$

Notice that the LU lobby does not lose when the PSC succeeds in raising p: Full employment still prevails at an unchanged k.

Welfare Analysis

The welfare indicator will be taken to be the GNP at undistorted prices, GNP^u; that is, GNP evaluated at the prices which would have prevailed in the absence of the PSC and LU lobbies, p^u.

(15') $GNP^u = p^u (Y - Y_x) + (X - X_y).$

According to second-best-type arguments, a further increase in p already distorted (recall $p > p^u$), in the presence of another distortion ($k=pg_v > f_v$), is likely to have an ambiguous effect on welfare.

The conjecture of the previous paragraph is correct:

(1) Labor moves from the public sector, where its social marginal product is $f_v < pg_v$, to the private sector, where the social marginal product is $p^u g_v$. Since $p^u<p$, we do not know whether the allocation of resources, hence welfare, improves or not.

In other words, one does not know whether increasing employment in the public sector, which is already beyond the optimum, is better or worse than using labor to expand production of Y, which is already beyond the optimum too.

(2) Y_x may rise or fall; which will improve or worsen welfare depending on the unknown relationship between its social marginal product, f_y, and the social marginal cost of producing (or not consuming) it, p^u.

(3) X_y will rise; that is, more X will be used, which entails a social cost of 1, in a production process where its social marginal product is $p^u g_x<1$. This entails a worsening of

the allocation of resources, hence welfare.

Since we do not know the signs of effects (1) and (2) above and, moreover, it cannot be ascertained which of the three effects prevails, it is not possible to determine a priori the overall effect of an increase in p upon welfare. This result can be verified by calculating from equation (15'):

$$dGNP^u/dp = (p^u\ dY/dp - dX_y/dp) + (dX/dp - p^u\ dY_x/dp),$$

and using equations (2), (3) and (6), we get

$$dGNP^u/dp = (p^u g_v\ dV_y/dp) + [f_v dV_x/dp + (f_y - p^u) dY_x/dp] + (p^u g_x - 1) dX_y/dp;$$

because of equation (1): $dV_x/dp = -\ dV_y/dp$, hence

(16) $dGNP^u/dp = dV_y/dp\ (p^u g_v - f_v) + dY_x/dp\ (f_y - p^u) + dX_y/dp\ (p^u g_x - 1) \gtrless 0.$

The three terms in the right hand side of equation (16) refer to the above effects, respectively, and the only one with a known sign (negative) is the third.

Notice that the fulfillment of the sufficient condition for deficit to fall and GNP to rise is consistent with $dGNP^u/dp$ of either sign; that is, welfare may improve or worsen while the deficit is being reduced and GNP is growing.

Effects of changes in the wage charged by the LU lobby

It is assumed that the objective of the LU lobby is to increase k and get the government to hire as much labor as needed to maintain the labor force fully employed.

To examine the effects of changes in k upon the variables in the model, holding p constant, we calculate from equations (5), (6) and (4') respectively:

(17) $g_{vv}\ dV_y/dk + g_{vx}\ dX_y/dk = 1/p,$

(18) $g_{xv}\ dV_y/dk + g_{xx}\ dX_y/dk = 0,$

(19) $g_v\ dV_y/dk + g_x\ dX_y/dk - dY_x/dk = D_{ni}\ V_x.$

From equations (17), (18) and (19) we get:

(20) $dV_y/dk = -g_{xx}/\ )\ p < 0,$

(21) $dX_y/dk = g_{xv}/)\, p \; {}^{>}_{<} \; 0,$

(22) $dY_x/dk = (1/)\,)\, [D_{ni}\, V_x(g_{vv}g_{xx}-g_{xv}^2)+(g_{xv}g_x-g_{xx}g_v)/p] < 0.$

From equations (20) and (21)

$$dY/dk = (g_x\, g_{xv} - g_v\, g_{xx})/)\, p < 0,$$

because of the inputs' non-inferiority assumption.

Thus, a rise in k reduces V_y, Y and Y_x. According to equation (1) the decrease in V_y implies a increase in V_x; that is, an increase in the wage charged by the LU lobby, holding p constant, induces the private sector to hire less labor, which is automatically employed by the public sector.

A rise in k, holding p constant, may not reduce the quantity of intermediate inputs used by the private sector, X_y; nonetheless private sector production, Y, falls given that no factor can be inferior, by assumption. On the other hand, private consumption of Y increases due to income effect(7) (recall there is no price effect for p remains constant when k changes).

These are the reasons why the public sector ends up buying less intermediate inputs Y_x, as indicated by equation (22).

The effect of increasing k upon the deficit is ambiguous: An increase in k (1) will make the public sector pay more for the quantity of V it already buys (thus increasing *); (2) will make the public sector hire more V (thus increasing *); and (3) will make the public sector buy less Y (thus reducing *). These three effects are represented by the three terms in the right hand side of the following equation, respectively:

$$d*/dk = V_x + [k-f_v]\, dV_x/dk + [p-f_y]\, dY_x/dk \; {}^{>}_{<} \; 0.$$

A necessary and sufficient condition for the deficit to fall is $*[p-f_y]\, dY_x/dk* > V_x + [k-f_v]\, dV_x/dk$. That is, the deficit will fall if the savings from buying less Y exceed the additional expenses of buying more labor and paying a higher wage rate.

Since GNP equals NI - *, the effect of increasing k upon GNP can be seen to be ambiguous from the equation above and the equation in footnote (6):

$$d\,GNP/dk = -[k-f_v]\, dV_x/dk - [p-f_y]\, dY_x/dk \; {}^{>}_{<} \; 0.$$

The necessary and sufficient condition for GNP to rise in response to an increase in k, $*[p-f_y]\, dY_x/dk* > [k-f_v]\, dV_x/dk$, is weaker than the condition for * to fall.

The effect of changing k upon R can be calculated from $pY=kV_y+X_y+R$:

(22') $dR/dk = -V_y + p(g_v\, dV_y/dk + g_x\, dX_y/dk) - k\, dV_y/dk - dX_y/dk = -V_y$;

that is, the PSC lobby losses when the LU lobby rises k and gets the goverment to hire labor as much as needed to maintain full employment.

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(7) The income effect arises from the fact that an increase in k increases disposable national income because it increases the wage bill of the economy by more than the reduction in profits of the private sector. This can be verified by calculating from equation (8): $d\,NI/dk = V_x + k\, dV_x/dk + p\, dY/dk - dX_y/dk = V_x$.

Notice that the effects of changing p or k upon the objectives of the lobbies are asymmetric: While raising p benefits the PSC lobby without harming the LU lobby, increases in k benefits the LU lobby but harms the PSC lobby.

Welfare Analysis

The reallocation of labor and intermediate inputs between the private and the public sector will possibly have effects of opposite signs on welfare. Hence, the overall effect will have an ambiguous sign.

From equation (15') we get:

(23) $dGNP^u/dk = dV_y/dk\,(p^u g_v - f_v) + dY_x/dk\,(f_y - p^u) + dX_y/dk\,(p^u g_x - 1) \gtrless 0$.

The first two terms in the right hand side of equation (23) are of unknown sign, exactly as in the discussion of equation (16) and for the same reasons. The third term, of a positive sign,
denotes the welfare improvement associated with a lower utilization of X (whose social marginal cost is 1) as an input in the production of Y, with a social marginal productivity of $p^u g_x < 1$.

A sufficient, although not a necessary, condition for welfare to improve is

$(p^u g_x - 1)\, dX_y/dk > *(p^u g_v - f_v)\, dV_y/dk + (f_y - p^u)\, dY_x/dk\, *$.

Notice that, again as in the discussion about changes in p, welfare may worsen or improve although * may be falling as a consequence of a change in k.

Effects of simultaneous changes in p and k

This section will consider identical percentage changes in both prices, so that the ratio k/p remains constant. Insert z=k/p, in equations (4'), (5) and (6) and solve to get the effects on the variables of identical percentage changes in both prices. These changes will be denoted by (d./dp)*, where the dot denotes the variables V_y, X_y, etc.

(24) $(dV_y/dp)^* = -g_{vx}/\,)\, p^2 \gtrless 0,$

(25) $(dX_y/dp)^* = g_{vv}/\,)\, p^2 > 0,$

(26) $(dY_x/dp)^* = -[D_p+D_{ni}(zV_x+Y)]-(g_{vx}g_v-g_{vv}g_x)/\,)\, p^2 \gtrless 0,$

$= -[D_p+D_{ni}(zV_x+Y)]+(dY/dp)^*.$

Moreover

$(dY/dp)^* = (g_x\, g_{vv} - g_v\, g_{vx})/\,)\ p^2 > 0,$

because of the factor's non-inferiority assumption.

Also

(27) $(dNI/dp)^* = z\, V_x + Y > 0.$

From $pY = z\, p\, V_y + X_y + R$, we can calculate

(28) $(dR/dp)^* = Y + p[g_v(dV_y/dp)^*+g_x(dX_y/dp)^*] - zV_y - \qquad - zp(dV_y/dp)^* - (dX_y/dp)^*,$

$= Y - z\, V_y.$

Notice that:

$(dV_y/dp)^* = dV_y/dp + z\, dV_y/dk$, from equations (12) and (20);

$(dX_y/dp)^* = dX_y/dp + z\, dX_y/dk$, from equations (13) and (21);

$(dY_x/dp)^* = dY_x/dp + z\, dY_x/dk$, from equations (14) and (22);

(dNI/dp)* = dNI/dp + z dNI/dk, see footnotes (5) and (7);

(dR/dp)* = dR/dp + z dR/dk, from equations (15) and (22').

The effect of a change in p upon Y overcomes the effect of an identical percentage change in k upon this variable. The sign of equation (26), likewise, indicates that the ambiguous effect of a change in p upon Y_x prevails over the unambiguous effect of an identical percentage change in k upon this variable.

To summarize, whenever p and k change in the same direction and by the same proportion (i.e., holding z constant), the effects of a change in p prevail over those of changing k. This is due to the fact that the labor cost is just a fraction of the marginal cost.

That is, if p and k rise holding z constant then the production of Y unambiguously increases (although by less than if only p had risen). Disposable national income also increases (by more than if only p or k alone had risen, as shown by equation (27)). Therefore, the private demand for Y rises but the quantity demanded falls due to the rise in p, yielding an ambiguous net result.

Despite the assymetrical effects of changing p and k upon the objectives of the two lobbies, when these changes keep z constant the overall effect benefits both lobbies at the same time[(8)]:

The LU lobby gains exactly as much as if only k had changed and the PSC lobby also gains, although not as much as if only p had changed (as shown by equation (28) R rises by $Y\text{-}zV_y$, instead of Y).

This suggests that the two lobbies may not necessarily be irreconcilable enemies, and they may find it convenient to cooperate if, for instance, this gave them more political power.

A full discussion of this issue would lie beyond the scope of this paper. Our only purpose here is to highlight the possibility of collusion between the lobbies.

The results of the section about changes in p concerning welfare, *, and GNP carry over to this section.

Notice that the deficit does not necessarily fall (increase) if both lobbies reduce (increase) the prices they charge. As in the previous discussion, welfare may improve while * rises and GNP falls in response to changes in p and k.

Summary and conclusions

This paper assumes that the objective of the PSC lobby is to increase R, while the objective of the LU lobby is to increase k.
The actions of the two lobbies to achieve these objectives consist of (1) increasing their respective prices and (2) making the public sector buy as much labor and intermediate inputs as needed to clear the markets.

This has unambiguous effects on the quantity of labor employed by the private sector and in the quantity it produces: They both increase when p rises and fall when k rises. The quantity of intermediate inputs demanded by the private sector also increases when p rises.

Disposable national income, GNP plus the transfers embodied in the deficit, increases when p, k, or both, rise. The effects upon GNP alone, however, are ambiguous.

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(8) In this paper we explored the changes in p and k that keep z constant, but there may be other changes in those prices that also give the result that both lobbies gain.

The effects of changing p or k upon the objectives of the lobbies are not symmetric: While raising p benefits the PSC lobby without harming the LU lobby, an increase in k benefits the LU lobby but harms the PSC lobby.

When both, p and k, move in the same direction and by the same proportion the effects of changes in p upon the private sector's production and usage of intermediate inputs prevail, since the labor cost is just a fraction of marginal cost.

Despite the assymetrical effects of changing p and k upon the objectives of the two lobbies, when these changes keep z constant the overall effect benefits both lobbies at the same time. This suggests that there may be circumstances under which they may find it convenient to act jointly.

The effect of rising p, k, or both by the same proportion, upon the public sector deficit is ambiguous. When these parameters change the public sector buys less of one input and possibly more of the other, yielding an ambiguous result upon the deficit.

Consequently, the public sector's deficit may either increase or decrease if either lobby, or even both, succeeds in increasing the prices they charge. Or equivalently, * may increase even if the government succeeds in making both lobbies charge lower prices.

Welfare, as measured by GNP at undistorted prices, changes in response to an increase in p, k, or both, improving as resources move to where their social marginal productivy exceeds their marginal social cost, and decreasing when the opposite occurs. Since both phenomena may take place when p, k, or both, change the net effect on welfare remains ambiguous.

Moreover, there is not a definite relationship between deficit and welfare; for instance, the sufficient condition for * to fall when p rises does not guarantee that welfare improves in response to the rise in p. Reciprocally, the sufficient conditions for welfare to improve in response to changes in the prices charged by the lobbies do not guarantee that the deficit falls in response to such phenomena.