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A FRAMEWORK FOR THE ANALYSIS OF THE
EFFECT OF SMALL BUSINESS SUBSIDIES

[v. 5]

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INTRODUCTION

The purpose of this paper is to provide a conceptual framework for the evaluation of government assistance to small business. Two types of assistance are examined. The first is the group-specific subsidy, a subsidy for which all businesses defined in some way to be "small" are eligible. The second is the firm-specific subsidy for which only selected small businesses are eligible.

The small business tax rate is an example of a group-specific subsidy. Provided its retained earnings do not exceed \$750,000, a firm is eligible for the small business tax rate to the first \$150,000 of its net income (the November 21, 1981 Budget has raised these limits).

Examples of firm-specific subsidies are subsidized loans provided by the Federal Business Development Bank and via Small Business Development Bonds and subsidized loan guarantees provided by the Enterprise Development Program and under the Small Business Loans Act.

The effect of a group-specific subsidy is to make membership in the subsidized group more attractive. The effect of the small business deduction is to raise the after-tax rate of return of firms eligible for it. This higher after-tax return will attract new entrants to the group. Entry into the group will continue until the after-tax return it offers no longer exceeds that offered by alternative investments. The benefit provided by the small business deduction is thus either dissipated

or competed away by new entrants.

Unless there are restrictions on entry into the small business sector or new entrants are qualitatively inferior to existing firms, a subsidy for which all small businesses qualify will not increase the wealth of the owners of small businesses. Part of the subsidy will accrue to the consumers of the products of the small business sector, some of it may accrue to the owners of inputs used by small business (commercial property) and some of it will be used to support the excess capacity which is the result of the entry of new firms.

While it does not add to the wealth of small business owners the group-specific subsidy will generally attract additional resources to the small business sector. As a consequence, there will be more activity carried on within the small business sector and less in other sectors of the economy.

Firm-specific subsidies are often awarded to new or expanding small businesses. It is generally argued that without the subsidized loan or loan guarantee the venture involved would not have occurred. This implies that an unsubsidized new entrant would not have earned its opportunity cost, that is, that the market cannot accommodate an additional producer.

If it is the case that existing small businesses are just earning their opportunity cost and a subsidized new entrant appears, market supply will increase, price will fall and unsubsidized producers will earn economic losses. These losses will continue until an unsubsidized producer leaves the market.

The market price will then return to its pre-entry level; the remaining unsubsidized firms will just break-even while the unsubsidized entrant earns economic profits equal to the amount of the subsidy.

At this point the firm-specific subsidy has simply resulted in the replacement of an unsubsidized small business by a subsidized small business. No other change has occurred. No additional resources have been drawn into the subsidized sector. Indeed, the replacement of an unsubsidized firm with a potentially inferior subsidized firm may have reduced the capacity of the economy.

To summarize, firm-specific small business subsidies are not likely to have much effect on the distribution of economic activity. Group-specific subsidies will redistribute activity towards the subsidized (small business) sector. Whether this reallocation involves moving resources to a higher valued use is an issue which is investigated in the sections which follow.

2. ANALYSIS: GROUP SPECIFIC SUBSIDIES

An example of a group-specific subsidy is the small business tax rate. It is received by all existing small business and any new entrants. The introduction of a small business tax rate reduces the effective rate at which small business income is taxed. That is, given the before tax rate of return, the introduction of the small business tax rate results in an increase in the after-tax rate of return.

The effect of an increase in the after-tax rate of return earned by existing small businesses depends on the structure of the industries in which they are operating. In the case of a competitive industry in a closed economy, the following chain of events should occur. First, if existing small businesses had been earning an after-tax rate of return, just equal to the opportunity cost of their capital prior to the introduction of the small business tax rate, the former will be earning an after-tax rate of return in excess of their opportunity cost after its introduction.

Second, the existence of after-tax returns in excess of opportunity cost will attract new entrants to the industry. New entrants shift the industry supply schedule to the right. The rightward shift of the supply schedule reduces the equilibrium price and, if the demand schedule has any elasticity at all, increases quantity demanded.

Third, new entry will continue until the industry price has fallen to a point at which after-tax rates of return are again

equal to the opportunity cost of capital. The new equilibrium will be characterized by: (a) more firms; (b) smaller output per firm; (c) greater total output; and (d) a lower price. If the pre-subsidy case entailed no distortions, the post-subsidy case will entail economic losses due to both the adoption of inefficient scales of operation by all producers and the expansion of industry output beyond the point at which its marginal cost exceeds the public's marginal evaluation of it.

This sequence of events can be illustrated with some simple algebra and some elementary diagrams. First, the required before-tax return on equity is

$$\phi = \rho / (1-t)$$

where ρ = after tax return that can be earned elsewhere

t = rate of tax on business income.

The introduction of the small business tax rate reduces t which reduces ϕ , the required before-tax return on equity.

The before-tax cost of capital is

$$\psi = \phi k + i(1-k)$$

where k = proportion of assets financed by equity

$(1-k)/k$ = leverage ratio

i = before-tax cost of debt.

Provided $k > 0$ a reduction in the before-tax cost of equity reduces the before-tax cost of capital. If $k = 0$, the firm is entirely debt financed and any corporate taxes paid will be on rents. In this case, a change in the corporate tax rate would be of no consequence.

Assuming that $k > 0$, then, there is a link between the corporate tax rate and the opportunity cost of capital, that is, $d\psi/dt = k\rho/(1-t)^2 > 0$.

Average cost per unit of output will depend on the opportunity costs of capital and variable inputs respectively. A simple average cost function could be written as

$$AC = \psi K/Q + CQ$$

where K = value of all capital inputs including working capital
 C = cost of variable inputs per unit produced.

This simple unit cost function is U-shaped and implies an optimal scale of

$$Q^* = (\psi K/C)^{\frac{1}{2}}$$

A reduction in ψ shifts the average cost curve down to AC' and reduces optimal scale. It does not affect marginal cost. This is illustrated in Figure 1. At the new average cost, AC' , the old price implies economic profits and will induce entry. Entry shifts in industry supply schedule to the right. It will continue until price has fallen to $P' = AC'$.

The new equilibrium industry supply will be Q' which exceeds Q if the elasticity of demand exceeds zero. New equilibrium industry sales, $P'Q'$ will exceed pre-subsidy sales, PQ , if the elasticity of market demand exceeds one. If there was no distortion prior to the subsidy, its introduction entails an economic loss measured by the area ABD . This is the excess of marginal cost over marginal evaluation of additional output $Q' - Q$.

FIGURE I

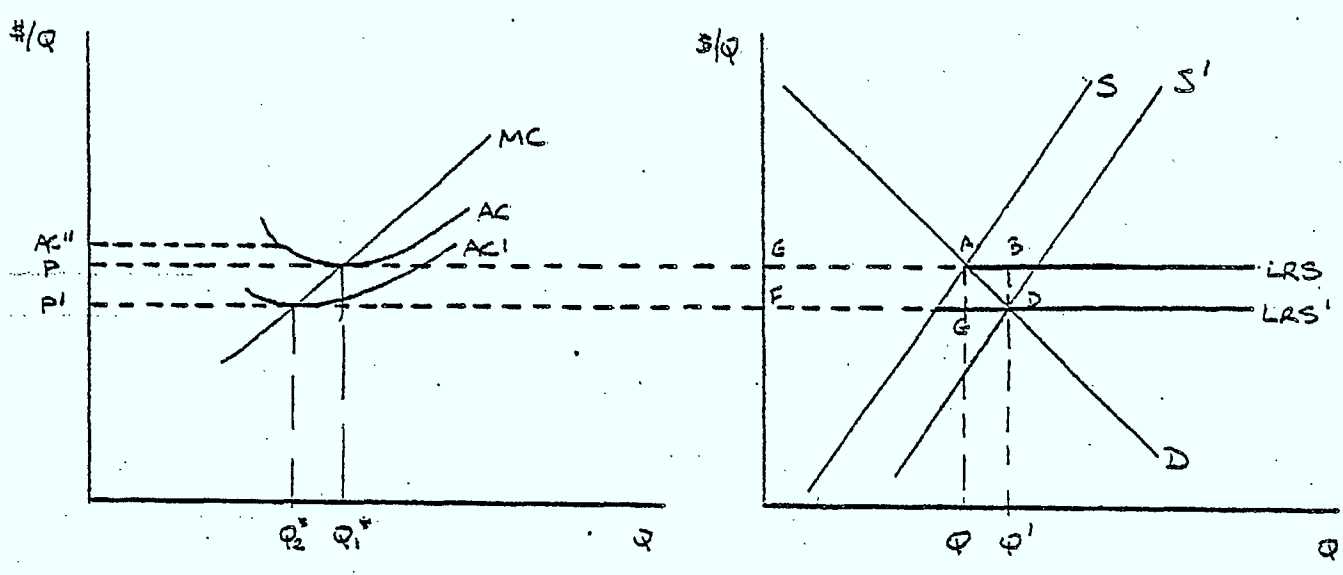
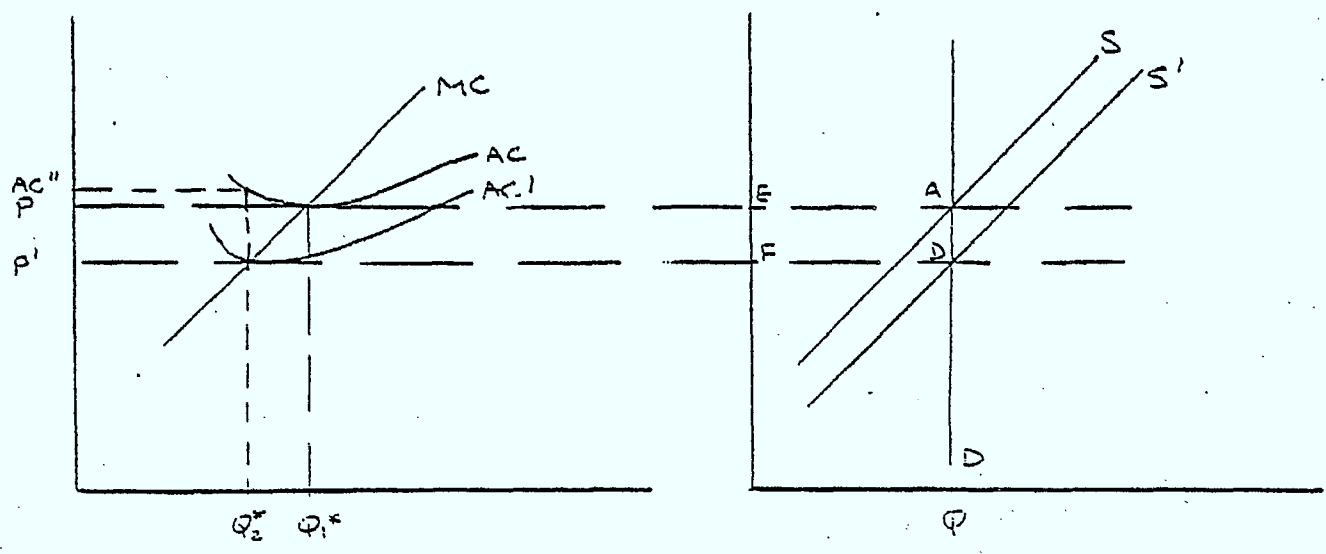


FIGURE II



The introduction of the small business tax rate reduces the perceived optimal scale of the firm from Q_1^* to Q_2^* . The reason is that the subsidy it entails is biased toward capital. Recipients are using a factor combination which is excessively capital intensive by pre-subsidy standards. The cost of being off the expansion path is $AC''-P$ per unit. This is a second economic loss resulting from the subsidy. Not only is too much output produced, it is produced with the wrong factor combination. Output is too great and output per firm is too small.

It is important to note here that these efficiency judgements presume that the pre-subsidy case involved no distortions. If the capital required by small business were supplied by a monopolist, for example, ρ would exceed the opportunity cost of capital. In this case, the reduction of t and thus of ϕ could just offset this distortion. Firm scale Q_2^* and industry output Q' would then represent the efficient outcome.

Similarly, wages paid to workers in small business may exceed their opportunity cost. While the capital subsidy implied by the small business tax rate does not represent the ideal response to this problem, it does represent a potential improvement.

It is also important to be clear about the distributional impact of this kind of a subsidy. Because there is free entry, the more generous tax treatment of small businessmen does not increase their wealth. The before tax return to capital falls by an amount sufficient to offset the impact of the tax reduction.

The more generous tax treatment of small business does benefit

consumers of products typically produced by small business. In Figure I which assumed that the entire industry was composed of small businesses, the gain to consumers is EADF. It is less than the tax revenue foregone for two reasons. First, consumers value additional output QQ' less than that which must be paid in subsidy to induce its production. Second, the subsidy induces recipients to adopt an inappropriate factor combination. Unit costs fall by less than if an equivalent neutral subsidy were offered.

This simple model can be used to examine two special cases. The first assumes that the elasticity of market demand for the services produced by small business is zero. It may be the case, for example, that a reduction in the price of gasoline (as a result of lower equilibrium margins for service stations) does not increase the number of gallons purchases. This is illustrated in Figure II.

In the zero elasticity of demand case, the small business tax rate shifts the average cost curve down by the same amount as in the general case. Economic profits are earned at the initial market price. New entrants are attracted and the supply schedule shifts right to S' .

Since demand is inelastic, the rightward shift of the supply function reduces the market price but does not increase industry output. Entry continues until the market price has fallen to P' . At P' the after-tax return to capital is again equal to its opportunity cost.

Assuming there were no distortions prior to the subsidy, the economic loss caused by it is represented by the excess of unit cost incurred by producing at what is, from a pre-subsidy point of view, a less than optimal scale. This loss is $(AC''-P)Q$.

The economic loss resulting from the introduction of the small business tax rate is smaller the less elastic is market demand. In the zero elasticity case illustrated in Figure II, there is no economic loss on the output side at all. The reason is, of course, that the subsidy does not expand output. An amount ADEF is transferred from taxpayers to consumers of products produced by small business. The subsidy is smaller (by amount AB DG in Figure I) and the economic loss or waste of resources represented by area ABD is avoided.

The only waste of resources in the zero elasticity case is the distortion of the input choice arising from the capital bias of subsidy. As a result of the subsidy, there are more firms producing the same total output. From a pre-subsidy point of view, all firms are operating at a sub-optimal scale, or, what is the same, are excessively capital intensive. Even here, however, the loss is smaller than in the case the elasticity of market demand is positive. Although unit cost exceeds that which would be incurred at optimal scale by the same amount in both cases, $AC''-P$, total output, hence the total economic loss is greater in the positive elasticity case.

In sum, in the zero elasticity case, the introduction of the small business tax rate leaves industry output constant, but

reduces total sales revenue. The same output is produced by more firms. Each firm uses more capital and less labour than it did prior to the subsidy. As a whole, the industry uses more capital and less labour to produce the same output. Although there has been a wasteful substitution of capital for labour, the amount of the waste is smaller than in the positive elasticity case.

Whether the zero elasticity case illustrates the folly of special treatment for small business depends on the goal of the government. If there were no distortions prior to the subsidy, the latter wastes resources. The waste is smaller, however, the less elastic is the demand for the output of the subsidized sector. Thus, the subsidy effects the transfer from taxpayers to consumers of services provided by small business with the least amount of waste in the zero elasticity case.

It may be, however, that the government support of small business is a means of pursuing other goals. It may subsidize small business in order to "create" jobs. In this case, there is a distortion prior to the introduction of the subsidy. The wages paid to workers exceed their opportunity cost. It was argued previously that the small business tax rate does not represent the ideal correction of this distortion. Indeed it biases input choice away from labour rather than towards it. In the positive elasticity case, this bias is offset by the expansion of output and possibly of employment. In the zero elasticity case it is not. In this case a reduction in the small business tax rate merely reduces the demand for labour at a given wage.

The second special case to which the competitive model can be applied is one in which the elasticity of demand for the product of the subsidized sector is infinite. An example would be a situation in which the subsidy allows the recipients to participate in the world market, that is, to export.

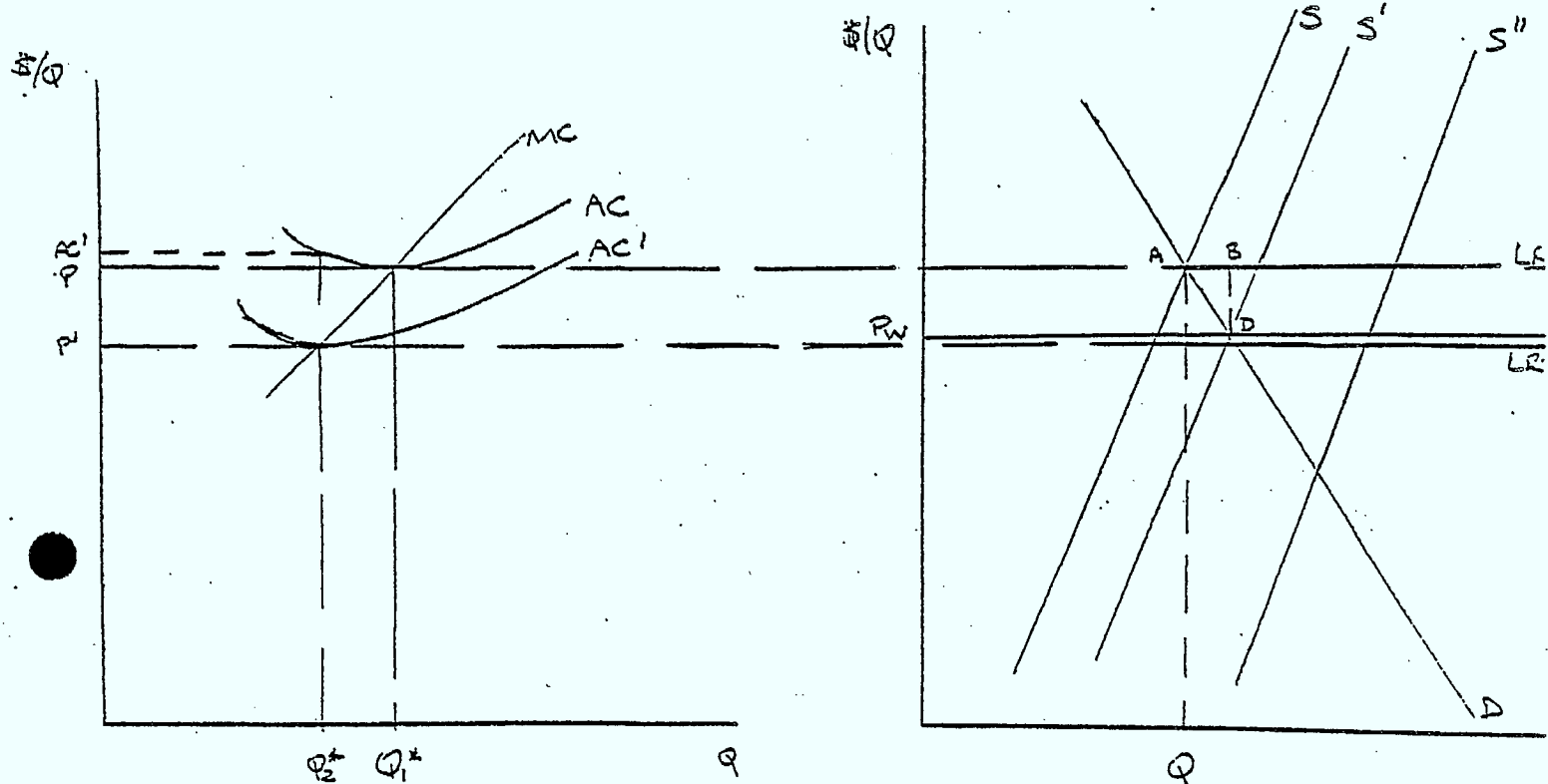
The export case is illustrated in Figure III. Prior to the introduction of the small business tax rate, firms operate along AC and the domestic market price is P. The world price, P_w , lies below P while the landed price of foreign goods lies somewhere above P. There are neither exports nor imports. Domestic output is Q.

The introduction of the small business tax rate shifts the average cost curve down to AC'. AC' lies on or below P_w . At the initial price P economic profits will be earned. This will attract new entrants which shifts the domestic supply schedule to the right. If AC' lies just below P_w new entry will continue indefinitely. That is, as long as they cannot affect the world price, Canadian firms will always make a profit selling at it.

The result of the introduction of the small business tax rate is an industry with more firms, greater output, greater sales revenue and more employment. This is good news in a Keynesian world in which there is, in effect, a pre-existing distortion in the labour market. In the absence of such distortions, however, this expansion simply implies a greater waste of resources.

The sources of waste are the same as in the cases examined

FIGURE III



above. First, all producers are over-capitalized. As a result, unit costs are higher by $AC''-P$ per unit than if the optimal scale were adopted. All output, including pre-subsidy output, Q , the additional output purchased by the domestic market $Q'-Q$ and the indeterminate amount of exports is produced at this higher cost. The waste due to the choice of an incorrect input combination is larger simply because more inputs are being used.

Second, output is being sold at a price which is lower than its cost of production. The loss here is represented by area ABD in Figure III, which is the same as ABD in Figure I, plus the area between LRS and LRS' to the right of Q' . This area will be greater the more the industry exports. The intuitive interpretation of this point is simple. The more generous tax treatment of this sector enables it to sell to the world at a price which is below the opportunity cost of the resources, in this case the capital, it employs. The more the sector sells the greater is the loss.

Thus, assuming there was no misallocation to begin with, the case in which the subsidy enables its recipients to export entails the greatest waste of resources. If there was a misallocation to begin with, the gains from removing it are the largest where there is a possibility of exporting. If, for example, the small business tax rate is just sufficient to offset a capital market distortion and the "true" average cost curve AC' lies below P_w , the gain from its adoption is greater the larger are the exports of the industry.

The cases analysed up to this point assume a group-specific

subsidy, competition and open and closed economies, respectively. An alternative assumption is that the structure of the subsidized sector (or group) is characterized by monopolistic competition rather than perfect competition.

The assumption of monopolistic competition may be regarded as a better reflection of the situation of the small businessman. It turns out, however, that insofar as the impact of the subsidy is concerned, monopolistic competition does not differ from competition.

Consider a representative monopolistic competitor producing output q_0 selling at P_0 and just earning opportunity cost (Figure IV). The representative firm is already over capitalised, that is, maintaining excess capacity. This is, of course, a characteristic of equilibrium under monopolistic competition.

Suppose that the representative firm receives the type of generalized capital subsidy implied by the small business tax rate. The average cost curve shifts downward and the representative firm earns economic profits in the amount $(A-B)q_0$.

The existence of economic profits will attract entry. The effect of entry is to rotate the demand schedule to the left. Entry and the leftward movement of the demand schedule will continue until economic profits are eliminated.

The new equilibrium q_1 will be characterized by smaller output per firm, a lower price and unit costs which are higher when measured exclusive of the subsidy. Since successive reductions in output result in successively higher unit costs, the

FIGURE IV

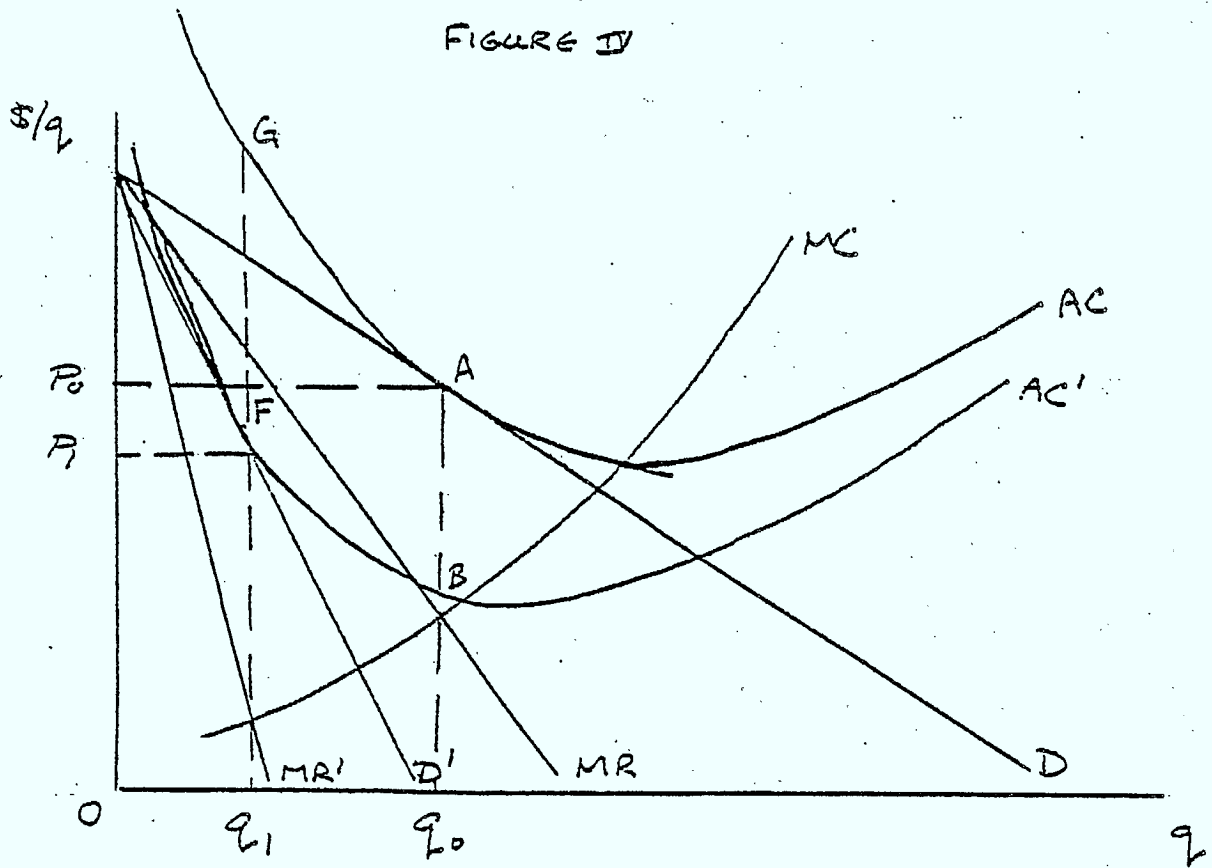
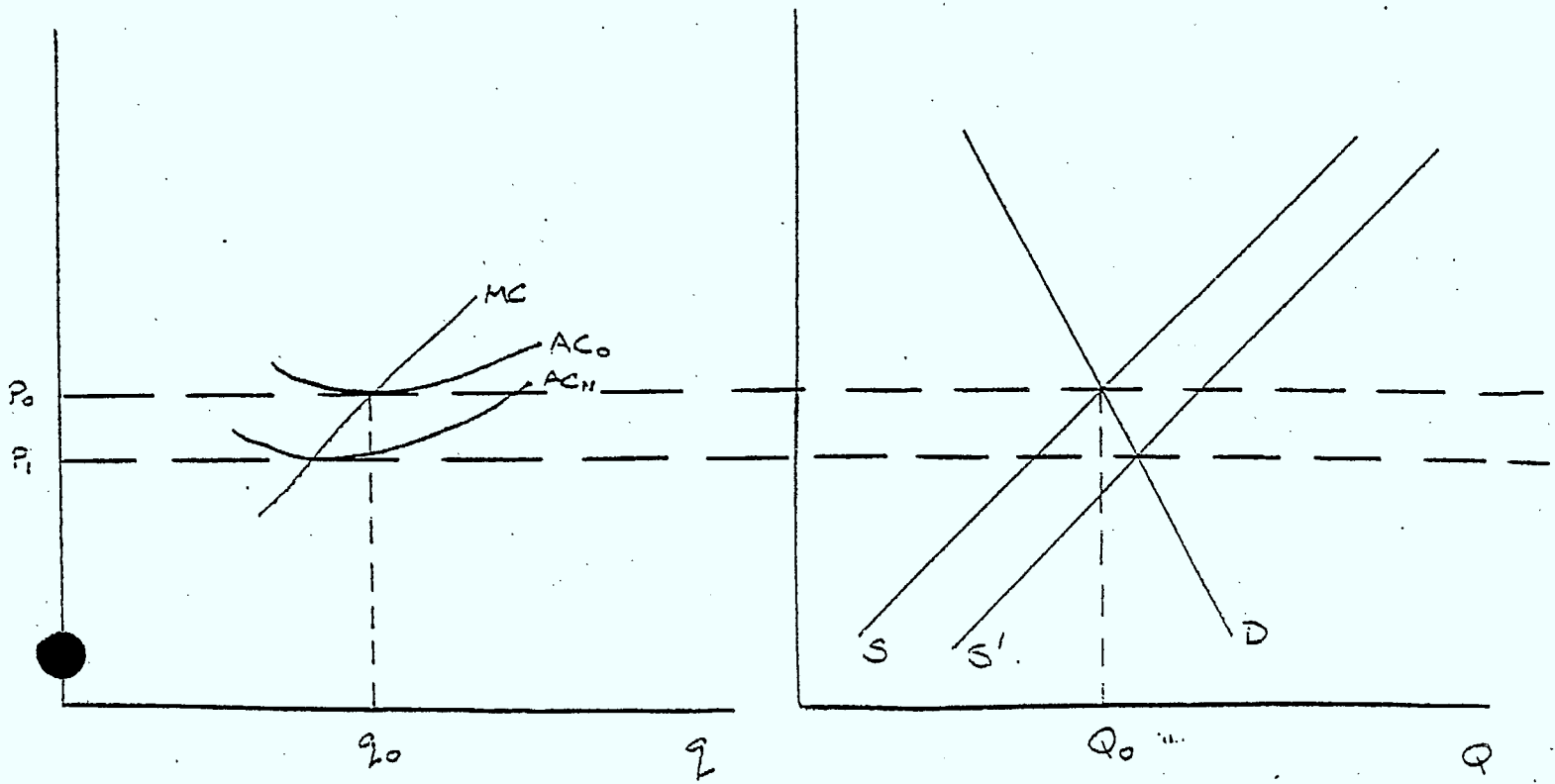


FIGURE I



additional cost incurred from a given reduction in output per firm is greater in the case of monopolistic competition than in the case of perfect competition.

Since the initial equilibrium had no claim to optimality (marginal evaluation exceeded marginal cost), it is difficult to argue that the subsidy has made things worse. What can be said is that the subsidy has raised the cost of producing the old output by FG per unit. It has also resulted in new output which would not otherwise have been produced.

Again the small business subsidy does not increase the wealth of that sector. It increases the wealth of buyers of its services and perhaps of suppliers of inputs to it. Unless new entrants are inferior, existing businesses retain none of the subsidy.

3. ANALYSIS: FIRM SPECIFIC SUBSIDIES

Firm-specific subsidies are awarded only to selected small businesses. Examples are subsidized loans provided by the Federal Business Development Bank and subsidized loan guarantees provided under the Small Business Loans Act.

In the case of the general subsidy, it was shown that with free entry the benefits of the former would be competed away. A benefit intended to go to small business does not, in fact, go to small business. Part of it goes to the consumers of the services provided by small business. Part of it is dissipated in the use of an excessively capital intensive mode of operation. Part of it may go to land owners, franchisors or workers whose wage exceeds their opportunity cost. What is clear is that unless the new entrants in the small business sector are, for some reason, qualitatively inferior to existing small businesses, none of a non-exclusive small business benefit goes to small business.

The case of an exclusive benefit, one which goes only to a selected few small businesses, produces results which are initially, at least, quite different. The recipient of the subsidy does retain the benefit of it. At best, however, society is as well off as it was before the subsidy. There is a chance that the subsidy will make society worse off.

Consider the industry depicted in Figure V. Existing producers have unit cost curves AC_0 . At price P_0 existing firms earn their opportunity cost and there is no incentive for entry. If an entrant with average cost curve AC_0 were to begin production,

market supply would shift to the right, price would fall and all producers, including the new entrant, would lose money.

Now suppose the new entrant were to receive a subsidized loan. If the loan is contingent upon entering this particular industry, the opportunity cost of capital for the entrant will be lower than that of existing producers. Since there is no subsidy on other (variable) inputs, the entrant's marginal cost schedule is unaffected. Thus, the entrant will have average cost AC_N and marginal cost MC . The potential entrant can obviously earn a return equal to its (private) opportunity cost at prices below P_0 and therefore has an incentive to enter.

The effect of entry is to shift the market supply to the right. Suppose it shifts to S' . At the new equilibrium price, P_1 , the entrant just earns its opportunity cost while all old producers earn economic losses. The price need not fall to P_1 . Any price below P_0 will result in economic losses to old producers.

The equilibrium at P_1 cannot be sustained. All old producers are making economic losses. One must leave the industry. The departure of one producer shifts market supply to the left-back to S . Price rises to P_0 . The remaining old (unsubsidized) producers again earn their opportunity cost while the new entrant earns rents in the amount $(P_0 - AC_N)q_0$.

The exclusive subsidy has no effect whatsoever. Market price and output and the number of producers remain unchanged. Absent the cost of awarding the subsidy, society neither gains or loses. Even the factor combination employed by the entrant is

correct. Because the new entrant receives a capital subsidy, its optimal factor combination will be capital intensive relative to that of existing producers. Producing q_0 at $P_0=MS$, however, the new entrant is using more labour and less capital than is optimal from its own point of view (it is off its expansion path) but the correct factor combination from a social point of view.

If there is to be a waste of resources with an exclusive subsidy, the subsidy must be awarded to a firm with costs in excess of those of existing producers. In this case, an efficient but unsubsidized producer will be displaced by an inefficient but subsidized one. Resources will be wasted in the amount of the pre-subsidy difference between the unit costs of the entrant and those of existing producers times the output of the entrant.

The exclusive subsidy inherent in an FBDB loan or an SBLA guarantee is not really exclusive. Other entrepreneurs will see the new entrant earning rents while existing producers merely break even. They too will apply for subsidized loans and enter the industry, expecting, of course, to displace another of the existing but unsubsidized producers. Thus, subsidized producers will ultimately displace unsubsidized producers.

This displacement process is unlikely to involve much in the way of new facilities involving, as it does, the simple replacement of someone designated as "old" under FBDB rules by someone designated as "new". Indeed, there will be an incentive for all existing producers to "go out of business", reorganize and re-enter with subsidized financing.

The displacement process will continue until all firms are subsidized. Of course, at this point, or perhaps before, price will begin to fall. It will fall to P_1 at which each firm is just earning a return equal to its subsidized cost of capital. At this point, the analysis becomes identical to that of the non-exclusive subsidy. Whatever subsidy the FBDB loans entailed is then passed along to consumers or landowners, or, possibly, workers. None is retained by the small business itself. There will also be the usual allocative loss in the product market.

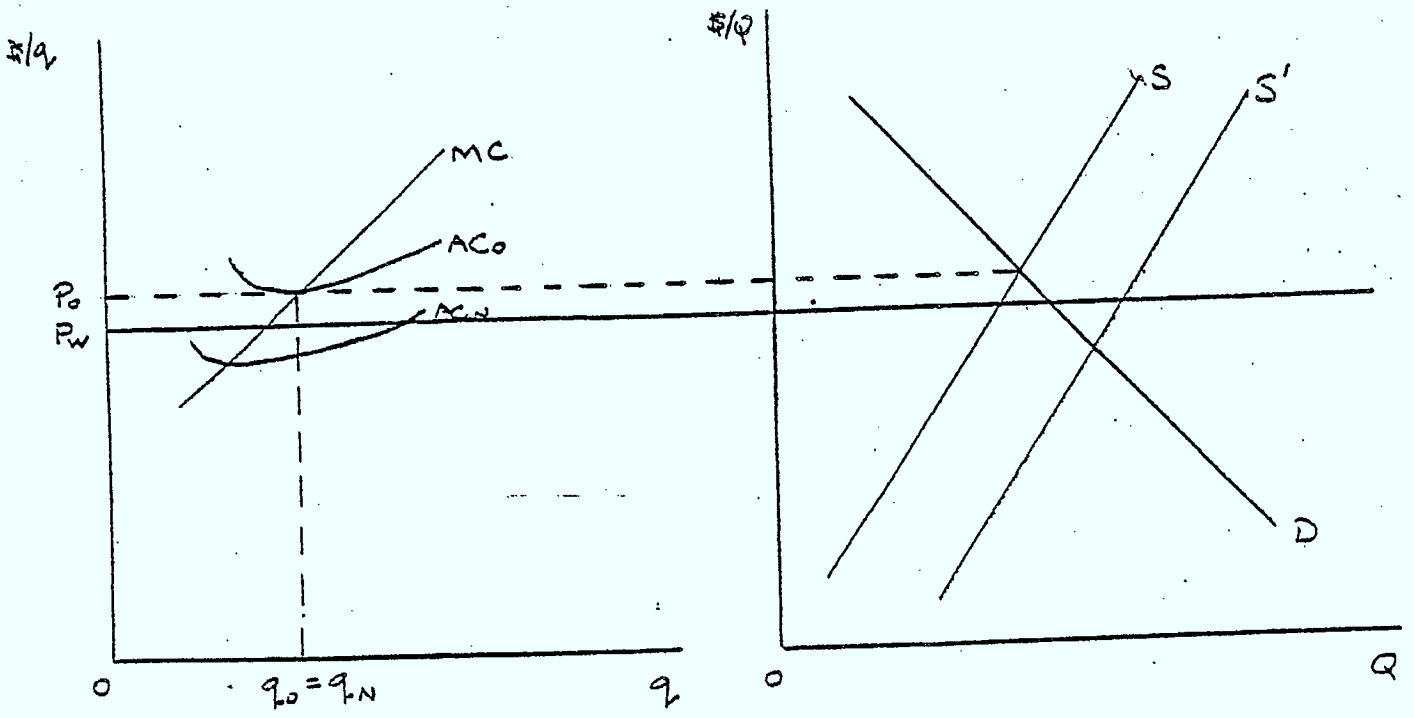
Assume now that there is a possibility of export activity. The pre-subsidy case is illustrated in Figure VI. The domestic equilibrium price exceeds the world price and Canadian producers are confined to the domestic market.

An exclusive subsidy is now awarded to a new entrant. The market supply schedule shifts to the right as a result of the entry of an additional producer. The domestic market price falls but it will not fall below the international price.

As a result of the entry of a subsidized producer, existing firms all make economic losses. The new entrant may be making economic profits or just meeting its opportunity cost. This depends on whether the decline in the domestic price as a result of entry is constrained by the international price. If it is, the new entrant will earn economic profits, if it is not, the entrants' economic profits may be zero.

In any case, the new equilibrium is not sustainable. One of the existing producers will leave the industry. As a result, the

FIGURE VI



market supply schedule shifts left (to S) and domestic price returns to P_0 . The subsidized entrant will earn economic profits while the remaining original producers simply break even.

The exclusive subsidy does not, in this case, encourage exports. The subsidized new entrant can earn greater economic profits directing its output to the domestic market. The remaining, unsubsidized producers, have no choice but to confine themselves to the domestic market.

In sum, the exclusive subsidy has changed nothing. Domestic price and output remain unchanged and nobody exports. A subsidized producer has simply replaced an unsubsidized producer.

If "exclusive" subsidies are ultimately made available to all members of the industry, the result will be the same as in the case of the group-specific subsidy. Given an industry-wide subsidy, production for export will be at least as profitable as production for the domestic market. That is, it will entail economic surplus. As a result the number of firms engaging in this activity will be limited only by the amount of the subsidy available.

The firm-specific subsidy could also be analyzed under the assumption of monopolistic competition. In this case (not illustrated), a new entrant rotates the demand schedules faced by each existing firm to the left. Since existing producers were just earning their opportunity cost prior to the arrival of an additional producer, they will now be making economic losses.

As in the case of perfect competition, the initial post-subsidy

situation involves economic profits (or at least no losses) for the recipient of the subsidy and economic losses for all other producers. This will result in the exit of one of the unsubsidized producers. The demand schedules of the remaining firms then rotate back to the right.

The net result of the firm specific subsidy is that the group remains exactly as it was before in terms of numbers, price and output. The only change is that one unsubsidized producer has been replaced by a subsidized producer.

As long as it remains exclusive, the firm-specific subsidy has no economic effect other than to confer rents upon those fortunate enough to receive it and, possibly, to result in the replacement of an efficient firm by one which is less efficient but subsidized.

4. ANALYSIS: GROUP SPECIFIC SUBSIDY TO A COMPETITIVE FRINGE
FACING A DOMINANT FIRM.

In this case, the subsidy is assumed to be awarded to the small business which comprises the competitive fringe in a market in which price and output are set by a dominant firm.

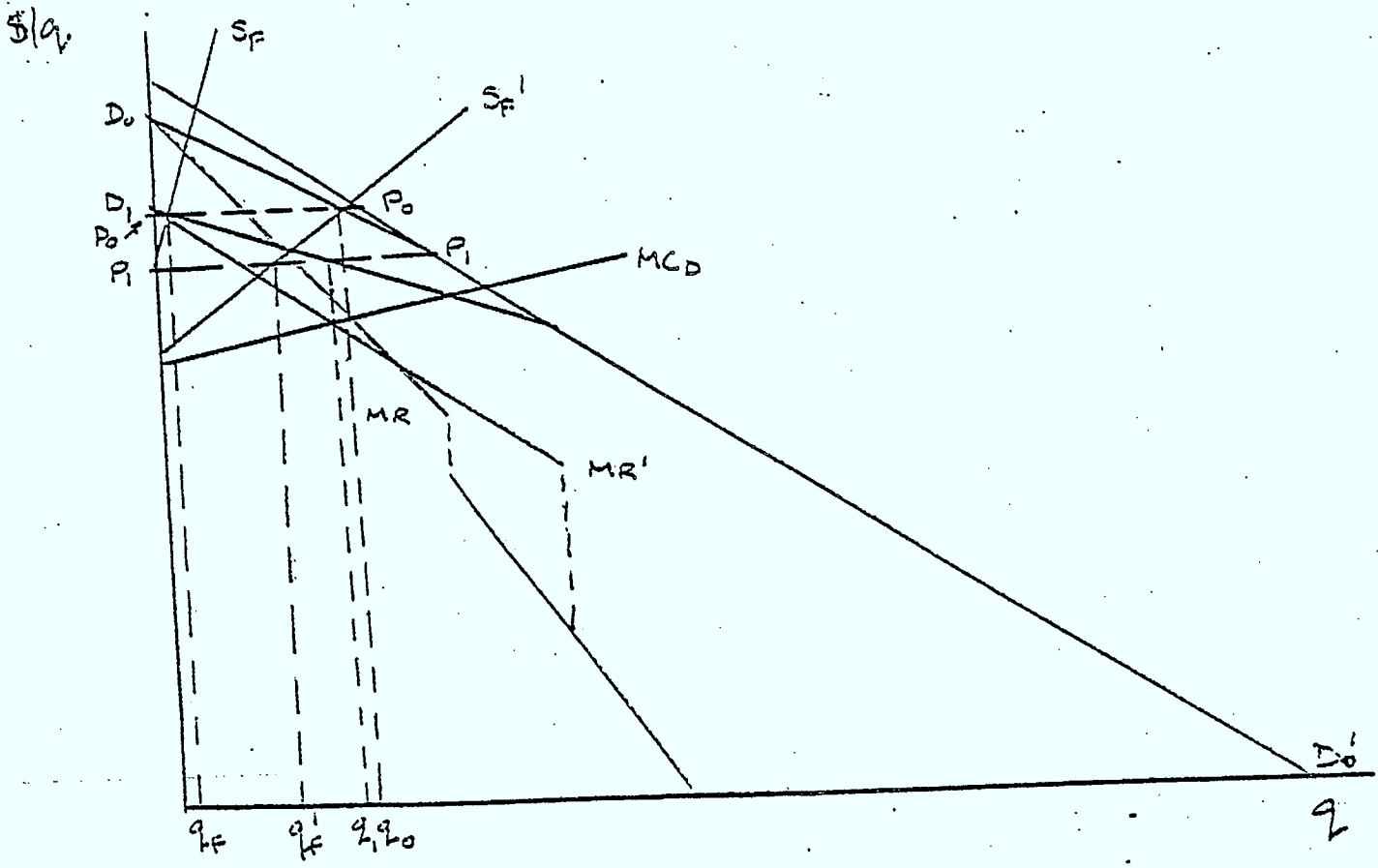
In the dominant firm model, the unit costs of the competitive fringe exceed those of the dominant firm. The subsidy reallocates output from the (low cost) dominant firm to the (high cost) competitive fringe. It will also increase industry output which must be regarded as an offsetting benefit given that price exceeded dominant firm marginal cost in the initial equilibrium.

The impact of the small business subsidy is illustrated in Figure VII. The dominant firm sets a monopoly price based on a demand schedule from which fringe firm supply at each price has been subtracted. Prior to subsidization, the dominant firm produces q_0 and the fringe produces q_F .

The subsidy will cause entry into the fringe and shift the fringe firm supply rightward to S_F' . Dominant firm output falls to q_1 , fringe output increases to q_F' . Market price falls. There is an allocative gain resulting from the increase in output. This is more than offset, however, by transfer of output from a source with marginal cost MC_D to a source with post-subsidy cost S_F' and an ex-subsidy cost which is still higher.

It is likely that the small business fringe will compete away the benefits of the subsidy to it. This is not certain because there is nothing in the dominant firm model to determine

FIGURE VII



either the initial or the post-subsidy market share of the fringe. The existence of the fringe itself is simply assumed. If the existence of the fringe can be assumed so too can the existence of economic profits within the fringe. Thus, what the dominant firm model gains in realism it loses in analytical power.

Finally, it is worthwhile to note that any of these models can be reworked under the assumption that private pre-subsidy costs exceed social costs. A subsidy can then offset this distortion and result in a wealth increasing reallocation of resources. The important questions are, first, why a given distortion affects small businesses and not others and, second, whether the subsidy is appropriate to the distortion. Thus, if small businesses are particularly likely to be hiring workers at a wage (a minimum wage perhaps) in excess of their opportunity cost, it is a labour rather than a capital subsidy which ought to be paid to that sector.

5. THE EMPIRICAL IMPLICATIONS OF THE ANALYSIS

Sections 2...4 report the results of an analysis of the impact of measures designed to assist small business on that sector of the economy. The results are expressed in general terms. In order to attach some magnitudes to the effects described in 2...4, the following questions must be answered.

(a) What are the sources of subsidies to small business?

Three examples, the small business tax rate, FBDB loans and SBLA guarantees, have been cited here. There may be others of greater importance.

(b) What is the value of each subsidy to a small business?

It is necessary to know the value of each of the major subsidies to their recipients if the economic effects measured in terms of output expansion, price decreases and economic profits are to be determined.

(c) Do the policies of the federal government, taken together, confer a net subsidy on small business? If so, how large is it? It is quite possible that federal assistance to small business merely compensates for other federal benefits bestowed on "big" business for which small firms, by force of circumstances, are not eligible. In this case, federal policy results in no net reallocation of resources toward small business and there is no problem of resource misallocation. This point deserves emphasis...Federal assistance to small business will expand small business activity under the

circumstances outlined in Sections 2...4. The post-subsidy level of small business activity may, nevertheless, be no greater than that which would have prevailed had the federal government refrained from economic intervention of any kind. In this case, there can be no question of the federal government diverting resources toward small business from higher valued alternatives. That is, there can be no question of waste.

(d) Do the subsidies involve factor or activity biases? Both the small business tax rate and the implicit subsidies provided by FBDB loans and SBLA guarantees are biased in favour of capital, in the broadest sense. That is, recipients of these forms of assistance will be led to use more capital, including working capital, relative to other inputs in their activity. The subsidization of working capital is of interest because it reduces the cost of premature entry into a market.

(e) To what extent is eligibility for small business subsidies restricted? In the absence of any restrictions on eligibility, the subsidy does not remain in the hands of the small businessman. Part of it is transferred to consumers of goods and services produced by the small business sector. Part of it is dissipated in the use of an excessively capital intensive mode of operation. Part of it may be transferred to the suppliers of inputs used by small business. There could, for example, be a bidding up of commercially zoned land prices.

(f) What are the costs of acquiring the right to a firm-specific subsidy? The right to receive a subsidized loan is a valuable right and it will have to be rationed in some manner. The analysis in Section 3 assumes that firm-specific subsidies are rationed costlessly. As a result the subsidy is transformed into economic profit for its recipient. If subsidized loans are rationed by queuing or are allocated on the basis of some type of lobbying activity then some or all of the value of the subsidy will be dissipated in attempts to acquire the right to it. To the extent that the rights of firm-specific subsidies are costly to acquire, the advantage of subsidized new entrants over subsidized rivals is reduced. It may then be the case that it is the subsidized new entrant rather than one of the unsubsidized incumbents which is forced to leave the market.

(g) What is the value of the additional resources attracted to the small business sector as a result of federal subsidies? Given estimates of the value of the subsidies and a range of elasticities of demand and value added:sales ratios it should be possible to calculate the increase in value adding activity in the small business sector necessary to equalize after-tax return in the "big" and "small" business sectors.

(h) Is the movement of resources to the small business sector as a result of the subsidies a movement to a higher or a lower valued use? This point is similar to point (c) above. It simply asks whether, in the absence of federal assistance,

too few resources would be allocated to the small business sector. This would occur if:

- (i) in the absence of the subsidies, the capital used by small business would be priced higher in relation to its cost than the capital used by other businesses.
- (ii) the wages paid by small businesses are higher relative to the opportunity cost of their employees than are the wages paid by other businesses.
- (iii) the prices paid by small businesses for other inputs are higher relative to their respective costs than are the prices paid by other businesses. In case (c) above small business subsidies acted to offset distortions caused by other federal policies. In this case, small business subsidies act to offset distortions from other sources. These include monopoly in the capital market ((h)i), provincial minimum wage laws and unionization, ((h)ii), and price discrimination ((h)iii).

6. GOALS AND POLICY.

Whether federal small business assistance programs are successful depends on what the government was trying to achieve with them. The government may be pursuing a number of goals. Some of these can be attained under the present set of programs while others cannot.

(a) The government may simply want to increase the number of small businesses operating in Canada. It may be regarded as desirable to have a relatively large group of small businessmen (and obviously relatively fewer "big" businessmen and workers) in society. If the goal is simply to sustain a relatively larger small business class, the small business tax rate is an appropriate tool (see section 2). Firm-specific subsidies, on the other hand, are not appropriate in that they will generally result in the replacement of one small business by another (see section 3). It should be possible to calculate the effect of the small business tax rate on the number of small businesses in existence (see 5(f)). Obviously, the pursuit of large number of small businesses for their own sake ignores efficiency considerations entirely. Whether additional small businessmen could have made greater contributions in alternative endeavors is regarded as unimportant.

(b) The government may want to increase value adding activity in the small business sector. It may be regarded as politically desirable to have a relatively larger share of the nation's economic activity, conducted within the institutional

framework of small business. Obviously, this implies less activity is channelled through other institutions such as "big" business. Again, the pursuit of small business value adding activity for its own sake ignores the value of output foregone when resources are diverted from other less favoured sectors.

If the encouragement of small business value adding activity is the goal, then the small business tax rate is again an appropriate policy instrument. Unless the elasticity of demand for the goods and services provided by small business is zero, the income of the value adding factors will be higher, the lower is the small business tax rate (Section 2). Firm-specific assistance such as is provided by FBDB loans and SBLA guarantees will not, in general, result in an increase in small business value adding activity (Section 3).

(c) The government may be attempting to "create" jobs. Assistance to small business may reflect a "Keynesian" view of the world. The Keynesian approach holds that western economies are characterized by sustained involuntary unemployment. Government deficits in effect, mobilize these idle resources. In this case, a bond-financed deficit is spent on small business assistance apparently in the belief that this will create more jobs than would an equivalent expenditure in other sectors.

Efficiency is totally irrelevant in a Keynesian world. Since the resources involved were involuntarily idle prior to government intervention, their employment in the small business sector has to be an improvement.

If the goal is to draw unemployed resources into the small business sector, neither the group-specific nor the firm-specific subsidies are particularly appropriate. The firm-specific subsidy attracts new resources but does not distinguish between resources which are idle and those which were employed elsewhere.

In any cases, there is a much more general framework within which account can be taken of the extent to which small business assistance draws resources from lower valued activities (including idleness) to higher valued activities. This will be explored further in (e) below.

(d) The government may be attempting to encourage exports or technological innovation for their own sake. It may be believed that the small business sector is particularly research or export intensive and that an increase in its relative size will increase aggregate research or export activity. Whether small business is particularly research or export intensive is an empirical question. The evidence is that the reverse is probably true.

In the unlikely event that a relative expansion of the small business sector would result in a net increase in research or export activity, it is the small business tax rate rather than firm-specific assistance which is more likely to bring about this expansion.

Again, the pursuit of exports or research for their own sake ignores the value of resources attracted to these activities in alternative endeavors. There are reasons to believe that the attraction of additional resources to research may be desirable.

It is also the case, however, that there are more direct methods of doing this than subsidizing small business.

(e) The government may be attempting to improve the efficiency with which resources are used in the economy. The subsidization of small business is consistent with efficient resource use if, in the absence of the subsidy, too few resources would be allocated to small business activity. This could occur for the reasons given in 5(h).

A great deal of effort has been devoted to demonstrating that the capital market is biased against small business. At this point, no evidence of any such distortion exists. ✓

It may be the case that small business activities are more likely to involve the unskilled and that the opportunity cost of the latter may be below the minimum wage. The expansion of the small business sector will then draw these workers from lower to higher valued activities. Of course, if the problem is one of workers whose opportunity cost lies below some mandated wage, the ideal solution is a wage subsidy. The small business tax rate deals with the problem only indirectly. Firm specific subsidies do not increase aggregate small business employment and therefore do not deal with the problem at all.

Other arguments for small business support have been made on efficiency grounds. Most are incorrect. It is argued that small business is a training ground for entrepreneurs and ought to be subsidized for that reason. The question here is whether society should subsidize the acquisition of valuable entrepreneurial ✓

skills the benefits of which are reflected in the future income of the small businessman.

It is also argued that workers are happier and less alienated in small business. If this is true, it ought to be reflected in the supply price of labour to the small business sector. There is no need of a subsidy in addition.

Finally, it is argued that the pattern of development of a business follows a logistic curve. Growth occurs at an increasing rate until the business matures and then it tails off. The subsidization of small business is alleged to increase the size of the rapid growth sector at the expense of the slow growth sector.

In response, it might be argued, first, that logistic growth is generally attributed to new goods and services. The growth of firms which produce them merely reflects this pattern. Creating more firms is not the same as creating more new goods and services. Indeed, all the creation of new firms does is divide a given market (new or mature) up into smaller pieces. Aggregate activity will change only to the extent that the additional firms bid down the price.

Second, the benefits of a rapid growth in demand accrue to the owners of firms facing it. Capital will flow naturally toward areas of promise. There is no need to subsidize the movement of capital towards potential growth sectors.

If workers somehow benefit from the existence of the growth sector and this benefit is not reflected in their supply price of labour, the answer is, again, to pay employment subsidies. The

creation of more small firms is an almost hopelessly indirect way of achieving this kind of a labour market goal.

(f) To summarize, the small business tax rate is at least potentially of assistance in achieving most of the possible goals which may lie behind government support of small business. Firm-specific support such as is provided by FBDB loans and SBLA guarantees is compatible with relatively few of these goals. Indeed, these firm-specific support programs make sense only in the context of distortions in the capital market. There is no evidence that such distortions exist.

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