A case for higher spending on public goods

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Yew-Kwang Ng, Emeritus Professor in the Department of Economics at Monash University in Australia, argues in favor of increased spending on public goods

An important issue in public policy is how much we should spend on public goods. A pure public good has the characteristic that its usage by some does not reduce its availability to others. Examples include defense, broadcasting, publication, and research.

Private goods (subsuming services) like apples or haircuts are typically paid for by consumers. In a market economy, their provision and prices are thus typically determined by the balance of supply and demand. The demand is in accordance with the willingness to pay by the consumers; this, in turn, depends on their marginal valuation (the additional value provided by consuming another unit). On the other hand, the supply depends on the marginal costs of production (the additional costs of producing another unit).

Optimal supply of public goods: Basic analysis

Since public goods benefit all consumers/individuals simultaneously, the marginal valuations of all individuals must be summed together vertically to yield the ∑MV curve depicted in the diagram below. Since an additional unit typically yields marginal benefits or values less than that of the previous unit, this curve typically slopes downward. The line in the diagram is an example, and for simplicity's sake, it is a straight line.

The MC curve represents the marginal costs of providing the public good concerned (its amount being measured along the horizontal axis). In many cases, the amount of a public good is measured by the amount of spending on it. This makes the MC curve a horizontal line at the height of one dollar (along the vertical axis). According to an analysis at the basic level (first provided by Nobel laureate Paul Samuelson in 1954), the intersection of the ∑MV curve and MC curve at A determines the optimal level for the provision of this public good.
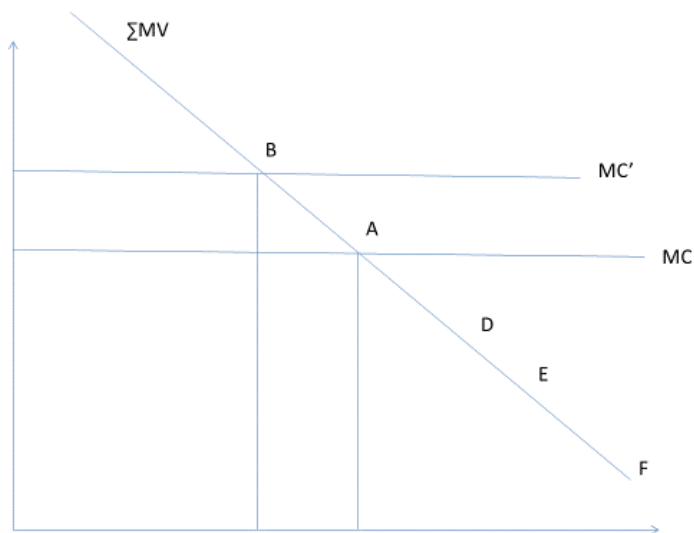
Taking account of the disincentive effects of taxation: The economists' consensus

Public goods are typically supplied by the government. The costs of supplying public goods have to be financed by taxation. Apart from the amount of taxes, taxation typically imposes additional costs on the economy, called an excess burden, or distortionary effect, of taxation, usually estimated at around 30%.

This includes the disincentive effects of taxation, as having to pay more with higher incomes discourages people from earning higher incomes. The MC curve at the height of one dollar in the simple analysis above does not consider this additional cost of about 30%. (The administrative costs of taxation usually do not vary significantly with the amount of taxation over the relevant range and are ignored here for simplicity.) To correct this, economists from Arthur Pigou in 1928 to Nobel laureate Joseph Stiglitz in 1988 are in favor of using the 30% inclusive marginal cost curve of MC' in the diagram below. This makes the optimal provision of the public good shift from point A to point B, involving a lower amount of provision, as the amount of the public good is measured along the horizontal axis.

Return to basics? Kaplow's criticism of the consensus

Economists still operate under the assumption that Point B in the diagram indicates the optimal provision of a public good. However, in 1996, Louis Kaplow argued in a paper in the National Tax Journal that we do not have to move from Point A to Point B as illustrated in the above diagram rather, the optimal provision of a public good may remain at the level indicated by the basic analysis of Samuelson.

Kaplow argues that the costs of providing public goods may be financed by taxation without incurring additional costs of disincentive effects. This is done by adjusting the tax amount in accordance with how much taxpayers benefit from the public goods rather than

in accordance with income. Then, the additional benefits and the additional taxes cancel each other, yielding a zero net balance and producing zero disincentive effects.

Though Kaplow's point has not yet been widely known and accepted by most economists, I am strongly in its favor. In fact, I have become more Kaplow than Kaplow. I not only follow him in going from B back to A, but I go further to Points D, E, and F in favor of higher provision than the simple analysis. This is justified by considering the additional considerations discussed below.

Before considering these additional factors, let us first justify Kaplow's move from B to A. The general view in favor of Point B considers only the additional/indirect effects of the taxation side but does not consider that of the provision side. Consider the following simple comparison:

1. You earn an extra $100, facing no tax.
2. You earn an extra $100, having to pay $30 in tax.

This simple comparison suggests that your incentive to earn the extra $100 under Situation 1 should be higher than that of earning only $70 post-tax under Situation 2. However, this simple comparison only looks at the taxation side, ignoring the provision of public goods from the tax revenues. If the $30 tax were to be completely wasted, the comparison is valid.

However, typically, the tax revenues are used to provide for public goods like the maintenance of law and order. Thus, instead of the above simple comparison, a more valid comparison is this:

1. You earn an extra $100, facing no tax and no police protection.
2. You earn an extra $100, having to pay $30 in tax, but with police protection.

Though you get more money under Situation 1, it may be robbed or stolen away soon after you get it; though you get less money under Situation 2, the money has better police protection. Your incentive to earn the $70 post-tax under Situation 2 is not necessarily lower than that of earning $100 under Situation 1. Returning from Point B to Point A is thus justified.

Going beyond Kaplow: Taking account of environmental disruption, relative competition, and happiness considerations

Apart from supporting Kaplow as mentioned above, I provide cases for higher public spending on public goods (Ng 2000 a and b).

First, even ignoring Kaplow's point, the economists' consensus argument that taxation imposes distortionary costs (including the disincentive effects) is valid only under the assumption that the initial situation with no taxation is already socially optimal. This assumption is not valid.

First, it ignores the fact that most production and consumption involve environmental disruption like pollution that the producers and consumers do not pay for, making these disruption costs 'external' (to the decision makers). Such external costs make the initial situation with no taxation sub-optimal from a social point of view.

Typically, we have excessive production and consumption of private goods. Given the seriousness of environmental disruption, the imposition of substantial taxes on incomes and/or consumption is likely to be more corrective than distortive.

Thus, instead of having to move the MC curve in the diagram above from the height of one dollar to MC' at about 1.3 dollars, we should really move it lower to a height of less than a dollar, say 0.7 dollars. Thus, apart from not going to Point B, we should actually move from Point A to Point D, increasing the optimal spending on public goods.

Secondly, apart from the environmental disruption effects of most production and consumption, there are other external effects of private goods. Beyond the very low biological survival level, private goods are consumed mainly for their relative comparison/competition effects instead of their intrinsic consumption effects (like providing nutrients and warmth), at least at the margin.

Except for a relatively few countries in Africa with very low per-capita incomes, this relative competition effect is very substantial. This suggests that instead of just moving from Point A to Point D, we should move further to Point E.

Thirdly, while economists emphasize that 'all taxes induce distortion' (Stiglitz 2002, p.341) or excess burden, in fact, there is a type of goods that taxes on them impose not only no excess burden, but no burden at all; even the amount of tax revenue collected is not a burden on the taxpayers. This is what I call 'pure diamond goods,' which are valued for their market values instead of their intrinsic consumption effects (Ng 1987).

Taxes on such goods increase their prices, but consumers may just reduce the physical quantities correspondingly, keeping the market values unchanged. Since consumer utilities and expenditures are also unchanged, they suffer no loss, making taxes on pure diamond goods not only free of excess burden but free of any burden.

Fourthly, in addition to the various points discussed above, if we go beyond the purely economic considerations and go to the more fundamental/deeper level of welfare or happiness (Ng 2003), there are additional factors causing a further shift in favor of even higher spending on public goods.

For one thing, like the food storing instinct of animals like mice and squirrels, we are also born with the accumulation instinct (somewhat like the 'animal spirits' of John M. Keynes). In our long ages of scarcity, this instinct helped us to survive. However, in our present era of abundance, it helps us to be excessively materialistic and put too much emphasis on earning more.

For another thing, the prevalence of commercial advertising also inclines people to consume materialistic things excessively.

Economists in favor of 'big society, small government,' while correctly noting the indirect costs of government spending and possible waste in spending other people's money, ignore the even larger inefficiencies in private consumption, including environmental disruption, relative competition, excessive materialism, etc., as discussed above.

Of course, to improve welfare, public spending has to be in the right areas. While this is largely beyond the scope of this small piece, the important areas of environmental protection, brain stimulation (see Ch.12 of the open access book Ng 2022), and research may be mentioned.

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