Is Public Spending Good For You?

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The whole world is marching towards the right, with the transformation of the Soviet Union and Eastern Europe, the drastic economic reforms in China, and the privatisation, liberalisation, and (reversing the historical increasing trend) reduction in public spending in many Western countries. Much about these changes is applaudable and economists may feel proud for partially contributing to them. However, this paper argues that the reduction in public spending—especially in education, research, and environmental protection—is counter-productive. This may not be so viewed in the narrow perspective of production and consumption especially in the short run, but is almost certainly so viewed in the wider perspective of welfare (or happiness) in the long run. It is well known that public spending has some efficiency problems but the probably much worse inefficiency of private consumption has been largely ignored. This paper attempts to provide a broader and more balanced picture from an interdisciplinary perspective.

The failure of private consumption to increase happiness

First, let us look at the recent evidence on the relationship between happiness and income discovered by psychologists, sociologists, and a (small but increasing) number of economists. When one is starving, increased consumption is essential. However, there is increasing evidence that, after the satisfaction of basic biological needs, increases in private consumption fail to increase happiness at the social level.

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1 For example, the share of total general government outlays in GDP increased very substantially over many decades to around 34% in the mid 1980s (1985–1987) in the US but then declined to 30.1% in 1999 and projected to decline to 29.4% in 2001. The corresponding figures for all OECD countries (Australia in brackets) are: 38.3% (36%) in mid 1980s, 37.8% (32.3%) in 1999, and 36.9% (31.8%) in 2001. (Source: *OECD Economic Outlook* June 2000, p. 270.)
It is true that happiness is difficult to measure and compare objectively. However, conceptually, it is quantifiable (Ng 1997). A practical method has also been developed and used to objectively quantify happiness. Though most existing measures of happiness have some problems with their comparability, they are not completely useless. Different researchers come up with largely consistent results (Fordyce 1988), which also correlate well with reports of friends and family members (Diener 1984), with physical measures like heart rate and blood pressure measures (Shedler, Mayman & Manis 1993), and with EEG measures of prefrontal brain activity (Sutton & Davidson 1997). If one wants to be pedantic in insisting on perfect accuracy, even the measurement of GDP is open to query on its accuracy and comparability.

The relationship between happiness and income cross-nationally shows only a weak positive relationship (Cummins 1998), with a top income country (Japan) registering the lowest happiness level. This may be partly explained by the modesty of the Japanese. However, this does not explain the failure (see below) of the happiness level to increase over time as *per capita* income exploded, since the modesty level is not regarded as increasing. Moreover, the low happiness level in Japan is consistent with some other indirect measures. For example, according to the survey of 18 thousand adults in 27 countries and regions by Durex reported in the mass media world-wide on 17–18 October 2000, the Japanese also have sex the lowest number of times over a year—37 on average—far behind the second lowest (Malaysia) of 62, and the highest (US) of 132.

Taken together, the evidence suggests that income matters more for happiness at very low levels of income but it still accounts for less than 2% of the overall variance in individual happiness (Diener *et al.* 1993). The positive relationship vanishes over time within the same country (at least for the advanced countries which have such data). For example, from the 1940s to 1998, the real income per capita of the US nearly trebled. However, the percentage of people who regarded themselves as “very happy” fluctuated around 30%, without showing an upward trend; another measure of average happiness fluctuated around 72%. Over the period 1958–88, the per-capita real income level in Japan increased by more than five times. However, its average happiness measure fluctuated around

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2 i.e. to make it cardinally and interpersonally comparable (Ng 1996a).
Is Public Spending Good For You?

59%, also without an upward trend.\(^3\) In fact, “if there is any causal relationship in rich countries, it appears to run from happiness to growth, not vice-versa” (Kenny 1999, p. 19). Happier persons may be more able to get and keep well-paying jobs.

Recent research suggests that individuals who strongly value extrinsic goals (fame, wealth, image) relative to intrinsic goals (personal development, relatedness, community) have less happiness (Ryan, et al. 1999). “Materialism, a preoccupation with economic well-being, is negatively correlated with SWB [subjective well-being], and especially so in those that believe that more money would make one happier” (Offer 2000, p.20, reviewing Ahuvia & Friedman 1998, p.154, 161).

Kenny (1999, pp. 4–5) also puts the point of fast diminishing marginal utility of income in more objective terms thus:

Comparing Mozambique, China and the USA. In turn, the countries’ GNPs per capita in 1992 were $80, $470 and $24,740. Infant mortalities were 145.6, 30.5 and 8.6 per 1,000 live births, respectively. Life expectancies were 47, 69 and 76 years. Thus, going 1.6 percent of the distance between Mozambique and the United States in terms of wealth, so reaching China’s income, we move 84 percent of the distance in terms of infant mortality and 76 percent of the distance in terms of life expectancy.

On the other hand, there are factors that affect or at least correlate with happiness much more significantly than income, including being married or single (Myers 1996, p. 510), being employed or not (Winkelmann & Winkelmann 1998), and having a religious belief and church attendance. (See Veenhoven 1984 and Kahneman et al. 1999 for factors associated with happiness.)

For those who do not trust the more subjective measure of happiness and opt to use more objective indicators of the quality of life, the picture is not much different. Analysing a panel dataset of 95 quality-of-life indicators (including education, health, transport, inequality, pollution, democracy, political stability) covering 1960–1990, Easterly (1999) reaches some remarkable results. While virtually all of these indicators show quality of life across nations to be positively associated with per capita income, when country effects are removed, the effects of economic growth on the quality of life are uneven and often nonexistent. It is found that “quality

\(^3\) Diener & Suh 1997; Myers 1996; Frank 1999; Blanchflower & Oswald 2000; Veenhoven 1993.
of life is about equally likely to improve or worsen with rising income...in the sample of 69 indicators available...62 percent of the indicators had time shifts improve the indicator more than growth did” (Easterly 1999, p.17–8). Only 20 out of 81 indicators have a significantly positive relationship with income. Even for these 20 indicators, time improved 10 out of these 20 indicators more than income did.

The surprising results are not due to the worsening income distribution (there is some evidence that inequality is reduced by growth). Rather, the quality of life of any country depends less on its own economic growth or income level but more on the scientific, technological, and other breakthroughs at global level. These depend more on public spending than private consumption.

If private consumption does not increase happiness (at the social level), public spending that reduces private consumption may be costly in dollar terms but not in happiness terms. Since happiness, rather than money, is our ultimate objective, reckoning in dollar instead of happiness terms overestimates the truly ultimate cost of public spending.

Why still the rat race for money? The inefficiency of private consumption

If more income does not increase happiness, why do people still engage in the rat race for making more and more money? This may be explained by: (a) environmental disruption effects, (b) relative-income/consumption effects, (c) inadequate recognition of adaptation effects, and (d) irrational materialistic bias. The first two are well known and consistent with existing economic analysis, but not sufficiently emphasised by most economists. The last two require the extension of economic analysis beyond its traditional scope of production and preferences. (A simple analysis is attempted in Ng 2000c.)

Environmental effects

The production and consumption of most goods and services imposes significant disruption on the environment either directly, or indirectly through input usage (including various forms of pollution, congestion, deforestation, etc.) Ideally, taxes should be imposed in accordance with the estimated costs to society of these environmental disruption effects.
However, largely speaking this has not been done, at least not adequately. Though some environmental regulations exist in many countries, national efforts are typically inadequate at the global level due to the significant global aspect of environmental disruption. Increased consumption/production at individual level has negligible effects on environmental quality. Thus, rationality at the individual level leads to excessive consumption/production.

Relative-income effects
The importance of relative incomes (one’s income relative to those of others) is beyond doubt and has been discussed by economists from Rae (1834) and Veblen (1899) to Frank (1999). However, recent studies reveal that the importance of relative (as opposed to absolute) standing has a magnitude and scope that is almost inconceivable to most people, myself included. For example, Clark and Oswald (1996) find that, while income have little effect on happiness, comparison income has a significant effect. For another example, one may expect that the importance of relative standing is least in the area of health care where the absolute effects may be expected to dominate. However, Wilkinson (1997) shows that even in health care, relative standing is more important than absolute standing. The relatively poor, even with higher absolute incomes and health care, end up with much lower level of healthiness than the absolutely poor but relatively well-off. Mortality is more a function of relative than absolute income and health care.4

For a single person, an increase in income increases both her absolute and relative incomes. It is thus perceived to be very important. If the friends/schoolmates of your child all receive expensive birthday gifts, you also have to give your child an expensive one. If your friends all have luxurious cars, you may feel less satisfied with your standard one. Thus, optimisation at the individual level again leads to excessive consumption/production.

The importance of relative standing and its pursuit (possibly to an irrational level) may also be explained by evolutionary biology. The top male in a group has (and had until recently for *homo sapiens*) access to a whole

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4 For direct neurological evidence of the relativity of preference, see Tremblay and Schultz (1999), and Watanabe (1999).
harem of females for mating. This also partly explains the largely male fetish for sports competitions.

**Adaptation effects**

People are aware that as they go into a dark room, their eyes adapt to the environment and allow them to see things at much lower levels of illumination. (The degree of such adaptation is phenomenal, allowing us to see fairly normally in environments with actual physical luminosity varying by a factor of more than one million times; see Loewenstein & Shane 1998). However, psychological studies show that most people ignore or underestimate the negative effects of current consumption/enjoyment on future happiness and the positive effects of current abstinence/suffering on future happiness (Headey & Wearing 1991). Most people believe that, rather than becoming disabled (losing either two legs or both eyes), it is better to be killed in an accident. I have taken shows of hands at classes and public lectures, the answers are consistently about 3 to 1 in favour of being killed (i.e. about 3 times more people choosing being killed than those choosing being disabled). Studies show that quadriplegics are only slightly less happy than healthy people (Brickman *et al.*, 1978). After a period of adjustment, the happiness levels of seriously disabled accident victims are restored to levels close to the pre-accident levels. They are then glad that they were not killed in the accidents.

Many people spend a lot of money and time buying lottery tickets. However, there is evidence that lottery winners are no happier than non-winners (Brickman *et al.*, 1978). True, they are delighted after winning. However, their happiness levels fall back to the original levels within weeks. Their original expectation of having a much happier life after winning is not fulfilled. It is thus not really worthwhile to spend, say, $10 per week plus the time and trouble when the expected return is only $6, unless you get a big kick out of daydreaming about spending the big win. (Moreover, if the actual spending has no real effect on happiness, the daydreaming has no rational basis either.) Obviously, we are subject to sizeable adaptation effects, making our welfare depend much on our reference position, rather than just the actual position. However “individuals seem unable to anticipate changes in their reference position” (Frijters 1999, p. 8). Thus, most people put too much emphasis on the importance of making more money.
Materialistic bias

Most people are aware that animals like mice, squirrels, ants, and bees instinctively store food. Many animals also instinctively guard territory and grab resources. Obviously, the storage of food may enhance survival and reproductive fitness as it reduces the probability of death from starvation. Similarly, we are also born with the accumulation instinct. In the modern commercial society, this is manifested in the insatiable desire to make more money, even to the detriment of one’s welfare, by sacrificing things far more important for happiness such as friendship, family and freedom (i.e. by violating the law). Despite the fact that we are the most rational species on earth, we are still imperfectly rational, partly because of the costs of programming perfect rationality and partly due to the fact that evolution is largely determined by fitness rather than by welfare. (Cf. Ng 1995, 1996b.)

We are also brought up in a consumption-oriented society with incessant and omnipresent advertisements encouraging us to consume more goods and services. Worse than just creating a consumption bias, much of advertising actively creates unhappiness. As a top executive of a large merchandise chain admitted, “It is our job to make women unhappy with what they have” (as quoted in Walsh & Gillespie, 1990, p. 5). There is a bias in favour of consuming goods and services because people can only profit by selling goods and services, and not by selling leisure or happiness as such. Our accumulatory nature is thus powerfully combined with the nurture of advertising to create a strong bias towards excessive materialism which, in turn, combines with the relative consumption effect to result in excessive consumption.

If higher incomes do not make us happier, why do we pursue them, as a reviewer queries? In fact, individually a higher income makes an individual slightly happier but this slight effect is largely offset by the relative-income effects at the social level, as discussed above. Secondly, most individuals do not fully realise the essential futility of higher consumption in increasing long-term happiness, partly because of the inadequate recognition of the powerful adaptation effect, as noted above. (See also Lane 2000.) Furthermore, individuals may not be perfectly rational. I regard myself as certainly within the top 1% of people when it comes to degree of rationality. However, if you put me in a locked room with a very attractive and willing girl, I would willingly choose to go to bed with her even though I know that the significant risk of contracting AIDS meant that I
would actually reduce my expected welfare. This is so despite the fact that I agree that, rationally and abstracting away the effects on others, I should maximise my expected welfare. (For more details, see Ng 2000b, Ch.4.)

**Economists overestimate the costs of public spending**

Non-economists typically cost one dollar of public spending at one dollar. However, economists typically cost it at well in excess of one dollar. A recent estimate (Feldstein, 1997) puts it at $2.65. Such high estimates of the costs of public spending suggest that public projects should be expected to yield very high benefits before they are judged worthwhile to undertake. This conception probably partly contributes to the worldwide trend towards cuts in public spending.

The costs of public revenue include not only its direct cost (the amount of taxes imposed) but also the costs of administration, compliance, policing, and distortion of markets. While the first three types of costs are substantial, they do not vary significantly with the tax revenue raised. Hence, concentrating on the marginal costs of public spending, economists emphasise the distortionary costs or excess burden of taxation due to the fact that taxes distort the free choices of individuals, especially in discouraging work effort, i.e. disincentive effects. Since at least the time of Pigou (1928), economists have emphasised that the benefits of public goods must exceed their direct costs by an amount sufficient to outweigh the excess burden of taxation. An authoritative modern textbook (Stiglitz 1988, p. 140) puts the Pigovian principle this way: “Since it becomes more costly to obtain public goods when taxation imposes [market] distortions, normally this will imply that the efficient level of public goods is smaller than it would have been with nondistortionary taxation.” It is known that this general rule is subject to qualifications due to the presence of considerations like complementarity/substitutability between public and private goods. Specific cases or conditions under which the efficient level of public goods is not affected have also been identified.

In contrast to minor qualifications and special cases, a whole scale onslaught on the Pigou principle is presented by Kaplow (1996). He argues that public goods can be financed without additional distortion by

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using an adjustment to the income tax that offsets the benefits of the public good:

[The] preexisting income tax schedule is adjusted so that, at each income level, the tax change just offsets the benefits from the public good. By construction, an individual's net reward from any level of work effort will be unaltered; any reduction in disposable income due to the tax adjustment is balanced by the benefits from the public good. Because an individuals' after-tax utility as a function of his work effort will thus be unchanged, his choice of work effort—and utility level—will also be unaffected.

(Kaplow 1996, p. 514).

For example, if the benefit of a public good is proportional to the income level of the taxpayers, it may be financed by a (or an increase in) proportional income tax. The proportional income tax itself may involve a disincentive effect. However, the tax plus the public good together involve no disincentive effect. Suppose that, for each $100 earned, $20 have to be taxed. Is not the incentive to earn more income less than the case where one can keep the full $100? This lower incentive may well apply if the tax revenue is thrown into the ocean. However, normally the revenue is used for public spending that the taxpayers value more or at least no less (otherwise public spending is inefficient even using the benefit/cost ratio of one). Suppose tax revenue is used for police protection of property whose benefits are roughly proportional to income level. Then, each individual may in fact have greater incentive to earn the protected $80 than the unprotected $100.

While Kaplow's argument has to be qualified in the presence of tax evasion, heterogeneity of individuals at the same income level, benefits from public goods relating to ability rather than to income, etc., its main thrust is valid (Ng 2000a). How then do we reconcile Kaplow's argument with the orthodox position of the high costs of public spending? First, Feldstein (1997) obtains his high estimate of $2.65 by including policy-intended effects as unwanted distortions. He emphasises that higher tax rates may not only reduce the supply of labour and capital, but also change the forms in which individuals take their compensation, including more on things that are tax-deductible. However, while correctly including tax-induced expenditures on luxurious working conditions, he also includes other tax-deductible items like “charitable gifts, and health care” as involving distortions. However, these items are what the society/government want
to encourage on the grounds of external benefits (e.g. the prevention of communicable diseases), poverty reduction, or possibly merit wants (though the latter ground is more controversial). Provided the extent of tax-deductibility is not excessive, no net distortion is created. Or, the extent of the distortion is offset by the benefits (Ng 2000a).

Secondly, Feldstein’s high estimate ignores the argument of Kaplow (1996). Alternatively stated, while the cost of a dollar of public spending on the revenue side may be much higher than $1, the excess may be largely offset by the positive incentive (or negative disincentive) effects of the spending side. If the benefits of public spending are not positively correlated with income such that there is no positive incentive effects on the spending side but only disincentive effects on the revenue side, there is a distributional benefit since the rich pay more and the poor pay less (Kaplow 1996; Ng 2000a).

Since high tax rates also encourage tax avoidance and evasion and since some higher benefits of public goods are related to unobservable earning ability rather than observable income levels, the positive incentive effects on the spending side may not completely offset the distortive effects on the revenue side, making a dollar of public spending still in excess of a dollar taking both sides into account. However, the considerations of the previous sections suggest that the cost of a dollar of public spending should be significantly reduced (likely to well below one dollar and possibly approaching zero) or that the benefits of public spending should be significantly increased from those normally estimated by economists. General taxes on income and consumption, though designed mainly for the purpose of revenue raising, may in fact serve as rough counteracting measures to the environmental disruption effects involved. Thus, far from being distortive, taxation may be corrective; instead of imposing positive excess burdens or distortionary costs, taxation may serve to improve efficiency. The relative-income effects also cause a bias in favour of private spending or against public spending. In most estimates, the marginal benefit of private expenditure is likely to be taken to include the absolute-income or intrinsic consumption effects plus the internal or direct relative income effect (as these two taken together constitute the worth of private consumption as it appears to each individual), but not to include the negative external or indirect relative income effects. This creates an over-emphasis in favour of private expenditure, leading to a sub-optimal
level of public spending (Ng 1987a). Similarly, materialistic bias and insufficient recognition of the adaptation effects suggest that the opportunity costs of reducing private consumption due to a higher public spending are not as high as most people believe.

In addition to the above considerations, there is another factor making the cost of public spending lower than normally believed—the existence of burden-free taxes. While most economists realise that corrective taxes on, say, pollution involve negative excess burden or positive efficiency gain, burden-free taxes are regarded as existent only in fairyland. However, for certain goods, taxes create not only no excess burden but no burden at all, even ignoring all the considerations above. These are pure diamond goods or goods valued for their exchange values rather their intrinsic consumption effects. People consume or hold these goods to show off their wealth, to use them as stores of value or gifts of value. Cubic zirconia looks exactly like top quality diamond but costs only a tiny fraction of true diamond. But no one gives his fiancée an engagement ring of cubic zirconia. For such goods, it is the value (price times quantity) that enters the utility function of the consumer rather than the quantity, as posited in economic analysis. As prices increase due to higher taxes on these goods, consumers may just spend the same amounts to buy the same values without real losses. The revenues raised are pure gains, suggesting arbitrarily high taxes on them (Ng 1987b). While many goods (most precious metals and stones, top brands of most goods especially conspicuous items like cars and wines) possess various degrees of diamond effect, few if any good is a pure diamond good. Nevertheless, very high taxes on mixed diamond goods are still efficient. Moreover, as consumers may wish to consume the value (pure diamond) aspect of the mixed good so much (such as to show off their wealth) as to incur negative utility on the intrinsic consumption aspect (such as health-threatening excessive drinking), taxes on such mixed diamond goods may actually make consumers better off (being able to show off to the same extent without drinking to excess) (Ng 1993).

Specific areas of deficient research

In a lucid and compelling book, Frank (1999) detailed the enormous waste of conspicuous private consumption (related to relative-consumption
effects discussed above) in the US and discusses specific areas where additional public spending will clearly generate welfare gains far in excess of the opportunity costs.

A century hence, those who read the history of our time will be puzzled about the arguments we have used in defence of cutting, or refusing to fund, so many clearly useful public programs. They will wonder, for example, why we failed to replace our deteriorating municipal water systems, thereby exposing millions of families to toxic levels of lead, manganese, and other heavy metals. They will not understand why we didn’t adopt more stringent air-quality standards, which would have prevented millions of serious illnesses and many thousands of premature deaths; or why we didn’t hire more beef inspectors in response to the growing threat from deadly E-coli 0157 bacteria. They will be puzzled by our having spent so little to maintain our streets, highways, and bridges. And it will not be obvious to them why, despite our considerable wealth, we failed to pay enough to attract the best and brightest teachers for our public schools [(pp. 253–4)]. A Rand Corporation study … estimated that every $1 spent on cocaine prevention and treatment programmes results in a $7 savings in law-enforcement and health-care expenses. Yet consistently we say we cannot afford these programs [(p.62)].

The above list can easily be expanded. For example, a few examples may be given to indicate that a lot more research is needed to increase welfare.

- The very topic of the appropriate size of the public sector, regarded by Feldstein (1997) as the central public finance question, is much under-researched. For example, few if any researchers relate the important issues of relative income and happiness to this central question. While we have discussed this and other related issues above, a lot more analytical and quantitative study is needed.

- While studies on the effects of specific drugs and ingredients have been done, it seems that a general study tracing the different types of food, drugs, and activities taken by a big enough sample of people (at least in tens of thousands) of different ages and health conditions (not just those hospitalised) over a long period (at least in decades) to discover the desirable and undesirable, short and long-run effects, may be most rewarding. Though the study would be very costly, we would gain very useful knowledge on many thousands of things simultaneously. A recent analysis suggests that “even after taking account of distorted incentives, the potential gains to medical advancement are
enormous ... easily justify ... expenditures far above current levels” (Murphy & Robert 2000).

- The stimulation of certain pleasure centres in the brain can relieve acute pain, induce intense pleasure, and promote a sense of well-being without the undesirable health effects of drug addiction and without the effect of diminishing marginal utility. It can also be used as a primer such that someone who had never experienced climax before consistently achieve climax in normal sex after the brain stimulation helped to establish the pathway. This method has been known for nearly half a century (Olds & Milner 1954). Why has the method not been perfected for common use in order to increase happiness, reduce depression, and solve many social and mental problems? (See Ng 2000b for more details.)

Concluding remarks

From the various factors discussed above, the costs of public spending have been grossly overestimated. While it is desirable to do away with the inefficiencies in public spending if possible, it is increases in public spending, especially in education, research, and environmental protection, that can really increase our welfare. The recent trend of checking the growth in public spending may be grossly inefficient. In fact, economic growth increases the optimal share of public spending and, without directly dealing with environmental disruption, economic growth may reduce welfare even if the shares of public spending and environmental protection are being optimised (Ng & Ng, forthcoming).

In addition to the above considerations, public spending on research and environmental protection is also likely to be grossly sub-optimal due to its long-term and global public-good nature. Scientific advances and a cleaner environment benefit the whole world for generations to come. Decisions taken by national governments with relatively short time horizons results in sub-optimal spending in these areas even before we consider factors accounting for the overestimation of the costs of public spending discussed above. This suggests the need for international cooperation to increase funding for research and environmental protection. In fact, the relative-income effects at the individual level discussed above
also apply at national level, resulting in international competition for income growth, bias against public spending and disregard for environmental degradation. This further strengthens the need for international cooperation. The success of such cooperation partly depends on the widespread appreciation of such arguments as surveyed in this article.

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