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Mark D. Harrison

University of Wollongong, harrison@uow.edu.au

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A Critique of the Productivity Commission's Cost-Benefit Analysis in the 'Disability Care and Support' Report

Mark Harrison¹

Abstract

In its 2011 NDIS report, the Productivity Commission rationalises its policy recommendation by means of a cost-benefit analysis, claiming that 'the benefits of the [National Disability Insurance] scheme would significantly outweigh the costs'. But methodology the PC adopts departs from conventional cost-benefit analysis in ways that understates costs, presumes the benefits, muddies policy comparisons, and jumbles equity and efficiency issues. These problems are traceable to the Commission's use of a 'distributional weights approach' to equity benefits. The 'basic needs approach' is an alternative way of dealing with equity considerations that better captures the underlying preferences of citizens and the rationale for disability care and support policies.

Introduction

In its 2011 'Disability Care and Support' report, the Productivity Commission (PC) recommended a major overhaul of the disability support system. The PC found the current State-based disability support system is 'underfunded, unfair, fragmented and inefficient' (PC 2011a: 2) and recommended replacing the State-based schemes with a new National Disability Insurance Scheme (NDIS). In March 2013, both major political parties supported legislation to establish the scheme and a 0.5 percentage point increase in the Medicare levy to help fund it. The scheme would provide support for Australians who are born with, or acquire, a severe or profound disability. The PC estimates 410 000 people would be on the scheme (ibid.).

The PC bolstered its policy recommendation with what it describes as a cost-benefit analysis. The PC acknowledges its cost-benefit analysis is not conventional,

¹ University of Wollongong; harrison@uow.edu.au.

for its analysis does not attempt the difficult task of a welfare *efficiency* analysis of the benefits from expenditure on the disabled, but focuses instead on equity or distributional effects. Benefits are measured using a distributional weights approach — dollars to people with disabilities have more social value than dollars to taxpayers. The methodology the PC adopts understates costs, presumes the benefits, muddies policy comparisons and jumbles equity and efficiency issues.

In cost-benefit analysis we should always ask: what is the essential benefit the project confers? Clearly any assessment of disability care and support policy options must evaluate the equity benefits. But in conventional cost-benefit analysis, equity and efficiency are strictly separated. Efficiency is all about the willingness to pay, and can, in principle, be estimated from observed behaviour using well-established economic techniques. In contrast, there is a lack of agreement on how to judge equity effects, which involve ethical or value judgments. In particular, there is no general consensus about the weights that should be attached to the welfare of different groups under the distributional weights approach. There is not even agreement on whether the distributional weights approach the PC adopts is the appropriate way to assess equity issues. I argue that although it is an approach favoured by economists, it is peculiar and does not represent the values of the general public. The basic-needs approach to evaluating equity effects is superior, especially for disability care and support policy.

The cost-benefit analysis

Chapter 20 of *Disability Care and Support* presents a cost-benefit analysis of the NDIS (PC 2011b). Unfortunately, it appeared for the first time in the final report and did not go through the scrutiny of the draft report hearings and consultation process. It constitutes an *ex post* rationalisation of the PC's recommendations, rather than being used to shape and inform policy formulation and compare options.

The PC presents the result of its cost-benefit analysis as: 'The benefits of the scheme would significantly outweigh the costs. ... The NDIS would only have to produce an annual gain of \$3800 per participant to meet a cost benefit test. Given the scope of the benefits, that test would be passed easily.' (PC 2011a: 2.)

This presentation is mysterious, and to the extent it can be fathomed, highly misleading. Their analysis assumes 410 000 participants and puts total expenditure on the NDIS at \$13.5 billion; an increase of \$6.5 billion over

spending (PC 2011a: 3).² But benefits of \$3800 per participant come to \$1.56 billion, an amount less than 30 per cent of the increase in spending. How can \$1.56 billion 'pass' \$6.5 billion? The answer is that the PC puts the marginal excess burden (MEB)³ at a (conservative) 24 per cent, and so claims: 'That suggests that the approximate economic cost of funding the NDIS would be around $0.24 \times \$6.5$ billion or about \$1.56 billion.' (PC 2011b: 955.) Thus the only 'cost' of any policy is its Marginal Excess Burden. Thus if the MEB of some policy scheme was zero, the PC would presumably claim the scheme had no economic cost at all, and was justified no matter how small the benefits.

Let's get it straight: an MEB of 24 per cent means an extra dollar of revenue to the government costs taxpayers \$1.24. That is, the proposed reform increases government expenditure by \$6.5 billion, which imposes a cost on taxpayers of \$8.06 billion. For the project to be justified, the benefit it produces must exceed the budgetary costs multiplied by one plus the marginal excess burden of taxation (that is, the marginal cost of funds).

Done properly, the NDIS must produce incremental benefits of \$19 658 per recipient ($=\$8.06 \text{ billion}/410\,000$), not \$3800. Moreover, that is the increase in benefits compared with *current* arrangements, which may themselves be quite inadequate on a cost-benefit criterion. In the most comprehensive application of cost-benefit logic, not only must the incremental benefits of the reform exceed incremental costs, the *total* benefits of the NDIS must exceed the total costs for a project to pass a cost-benefit test.⁴ It must produce gross benefits of more than \$40 830 ($= \$13.5 \times 1.24 / 410\,000 = \$16.74\text{b}/410\,000$) per recipient to justify the \$13.5 billion spent on it. That is, the NDIS must produce at least \$40 830 per recipient to pass a cost-benefit test, not \$3800.

The PC does recognise that 'the \$6.5 billion reduces the income (and therefore consumption) of one group of people — taxpayers in the general community and raises the consumption of people with disabilities and informal carers by the same dollar amount. In conventional cost-benefit analysis, taxpayers lose from such an exchange.' (PC 2011b: 955.)

2 The Australian Government Actuary (AGA) pointed out that the PC's cost estimates of \$13.5 billion per annum were for a full scheme implemented in 2009. Under the PC's plan, the scheme would not be fully operational until 2018. Accounting for inflation, wage rises (especially the Fair Work Australia decision to increase award wages for a large number of social and community sector workers from 1 December 2012) and population increases through to 2018, the AGA puts the number of recipients at 441 000 and the gross cost of the NDIS at \$22 billion in 2018–19, around a \$7.5-billion increase in spending in today's dollars (AGA 2013: 26).

3 The PC recognises that taxes distort behaviour and impose a marginal excess burden. When the government raises an extra dollar of revenue from taxpayers, the cost to taxpayers (marginal cost of funds) is greater than \$1. It is $1 +$ the marginal excess burden (MEB). Accounting for the cost of raising funds to finance a project means applying an extra charge or benefit equal to the marginal cost of funds to each and every cash outflow or cash inflow from and to the public treasury, over the life of the project (Harberger 2007: 6).

4 Ideally, the chosen scheme is that which maximises the excess of total benefits over total costs.

But the PC (2011B: 941, 971) assumes that:

The net economic cost of the NDIS is not the budgetary cost of around \$6.5 billion (which is a transfer of resources from one group to another). ... It is assumed that the dollar value of transfers to the NDIS participants are equivalent to an income transfer of the same amount.

So the PC recognises the budgetary cost is a cost to taxpayers, but gives an offsetting benefit to people with disabilities, which, in its mind, leaves its economic cost equal to the excess burden of the taxes needed to finance it.

Is the dollar paid to Paul worth the dollar taken from Peter?

What is wrong with the PC's approach?

To begin, the NDIS is not a simple cash transfer. It is spending \$13.5 billion on services for people with disabilities. Even when recipients are given more control over how services were planned and delivered — so called self-directed funding — the transfer must still be spent on disability services. The PC (2011b: 971) admits that 'in conventional economic analysis, the benefits to people of hypothecated payments are less than their equivalent income value' but lists reasons why the assumption it is valued at cost is reasonable for this particular policy. At best the methodology is a special case, not a general approach.

The issue is how much benefit people with disabilities get from that spending — the value they place on those services — which needs to be established, not assumed. It needs to be allowed that a portion of the spending goes on a bureaucracy to administer it, so not all of the money makes it to the disabled. People with disabilities do not benefit directly from that spending — the question is how they value what the bureaucracy produces.

Although costs and benefits are presented in dollars, cost-benefit analysis is conducted in real terms — using either the consumer price index or the GDP deflator. Thus, real economic magnitudes are either expressed in 'consumer baskets' or in 'producer baskets'. Good cost-benefit analysis should also account for possible changes in relevant relative prices. The NDIS almost doubles disability spending, which is likely to bid up the price of disability services. If the relative price of disability services increases, then people with disabilities will receive fewer services per dollar of expenditure. Doubling expenditure doesn't automatically double the amount of real services transferred to the disabled. Some of the expenditure goes to scarce factors in the industry (such as monopoly equipment manufacturers). The PC has considered this possibility

(2011b: ch.15) and concludes that 'There is a danger that a rapid increase in demand for support staff will result in staff shortages as well as wage inflation (PC 2011b: 693).⁵

In summary, the PC assumes an extra billion dollars of expenditure is always valued by the recipients at a billion dollars. But to evaluate the net benefit of extra spending, we need to measure the benefits and costs of that spending, not assume the recipients value it at cost. This assumption does not allow the PC to compare different policies. If each dollar of spending on the NDIS is valued by the recipient at a dollar, how do we know what to spend it on within the scheme? What is the optimal amount to spend on bureaucracy? The PC has asserted that current state programs are poor, but what if we doubled spending on them? Say we doubled the wheelchair subsidy? The PC presumes that a dollar spent on its scheme is valued more than a dollar spent on existing schemes, but that is what needs to be established.

Willingness to pay or marginal utility?

The PC (2011b: 957) sets out three incremental benefits from the transfer.

Accordingly, the NDIS and associated reforms produce three broad economic benefits:

- the excess value of consumption from resources transfers to people with disabilities (V or C2-C1)
- efficiency benefits (E), such as more efficient service provision
- the economic benefits of fiscal savings, such as those arising from reduced DSP payments (F).

The PC focuses on 'V'; that is, the gain in total utility from transferring from taxpayers to people with disabilities — which comes from the recipients having a higher marginal utility of income than the average taxpayer. But putting costs and benefits in terms of utility departs from the efficiency criterion and conventional cost-benefit analysis, which measures costs and benefit in terms of *willingness to pay*, not *utility*. The PC does not clearly separate equity and efficiency — offsetting utility gains from redistribution against dollar efficiency costs from taxation and presenting the result as a net benefit.

The PC (2011b: 955–6) admits 'controversy about the measurement of the MUI and the extent to which cost-benefit analysis should take account at all of the redistributive effects of government interventions ... Nevertheless, it is common

⁵ The PC implicitly assumed that direct wage costs for those providing the care and support accounted for roughly half the costs of this element of the scheme (AGA 2013: 12).

practice for cost-benefit analysis to provide higher weights from benefits or costs to people with lower incomes.’⁶ The PC justifies its approach by quoting from the Department of Finance and Administration Handbook of Cost Benefit Analysis:

As a general practice, it is recommended that analysts refrain from attaching distributional weights to cost and benefit streams in the interest of avoiding subjective bias. The exception is where an unambiguous government policy objective can be identified to assist the specific group at which the project or programme is aimed; and where the priority of assistance to this group relative to other groups is also clearly established. These are stringent and restrictive conditions. (Commonwealth of Australia 2006: 83.)

The PC, reasonably, points out that the conditions are satisfied here, but they fail to quote the next lines:

Moreover, even in these instances, it is important to include in the report the estimate of the *unweighted* net present value, so that the absolute cost of the distributional judgement can be measured. It is also highly desirable to develop an estimate of the efficiency cost of the alternative means of achieving a similar income redistribution, for example, through a direct transfer payment. (Ibid.)

It is true that the underlying rationale for disability support is an equity one. Yet the efficiency effects are worth knowing, and something that can be objectively measured. An efficiency-based cost-benefit analysis can help to inform the decision and clarify the trade-offs when comparing alternative policy proposals, such as how much income may need to be sacrificed to achieve other objectives. By abandoning efficiency analysis, the PC forgoes these benefits.

Separating equity does not mean that distributional concerns are unimportant or should be neglected. It means that they should be brought into account as a separate part of an overall analysis of the problem in question — which may be more important than the resource allocation part, but should not be mixed up with it.

Doing equity properly

Equity is about what is fair and is based on ethical judgements, and so is inevitably subjective. People will have different notions of equity and its importance.

⁶ A referee commented that using distributional weights was ‘common practice’: ‘Not in this writer’s knowledge’. The PC does not cite any examples of studies that do so.

There are two major views of equity: the distributional-weights and the basic-needs approaches.

The PC adopts the distributional-weights approach. It is based on a social welfare function, which represents some ethical judgement about the appropriate distribution of welfare across people affected by a policy change. Just as a utility function shows how a person ranks different combinations of consumption goods, the social-welfare function represents a value judgement of how society should rank different distributions of utility across people. The standard social-welfare function values equality — dollars to the poor increase social welfare more than dollars to the rich and receive a higher distributional weight.

The social-welfare function approach is one particular view of social choice that may not capture how most people think about social welfare or account for equity. For example, the standard form of social-welfare function focuses on equality. But most people would be unconcerned about a transfer of income from a very rich person to a comfortably rich person, yet a standard social-welfare function would say it raises social welfare.

Harberger (1978) points out that the distributional-weights approach has radical implications. It provides a justification for government intervention in any market where buyers and sellers have different incomes. Any policy that redistributed from the richer to the poorer group (such as interventions to drive the market price up or down) would give distributional gains.

Balancing distributional gains against efficiency losses requires acceptance of large efficiency losses for the distributional weights chosen in practice. For example, the PC uses distribution weights of $w_i = (y_a/y_i)^{1.24}$ where y_a is median income, y_i is the income of individual i and 1.24 is the elasticity of the marginal utility of income (PC 2011b: 971). If we use the example from the PC's Box 20.1 'A Tale of Two People' (PC 2011b: 957), about a redistribution from Mike on \$150 000 to Mary, a disabled person on \$25 000, then using the PC's distributional weights, a dollar to Mary is worth $(150\,000/25\,000)^{1.24} = 9.2$ times more to society than a dollar to Mike.

So taking \$100 off Mike, wasting \$89 of it (say on administration costs) and giving \$11 to Mary would increase social welfare according to the PC's distributional weights.

Harberger argues such outcomes are unacceptable. He concludes that the distributional-weights approach does not capture how most people think about distributional issues. It does not represent the value system of most citizens and risks economists' peculiar opinions on distributional issues swamping all other considerations, something that is beyond the economist's professional role (Harberger 1978: S118–9).

An important policy issue is the size and scope of the NDIS. The PC recommended limiting it to 410 000 people with a significant 'tier 3' disability. But in 2009 there were four million people with disabilities in Australia (PC 2011b:15; ABS 2011). There is much scope, and political pressure, for the scheme to expand to cover more people and more disabilities. The only limit to expansion under the PC approach is the MEB; each dollar spent on the scheme costs taxpayers \$1.24. But this is dwarfed by the PC's assumed equity benefits, where redistribution can easily lead to a \$9 benefit for each \$1 cost to taxpayers. The PC's ethical judgement about the benefits of redistribution justifies massive expansion of this and many other redistributions.

An alternative way to bring equity benefits into the cost-benefit framework is what Harberger has labelled the basic-needs approach, (Harberger 1984; Jenkins *et al.* 2011). Rather than rely on the differential weighting of the welfare of different individuals, this approach imputes external benefits connected with the improvement in the circumstances of others. But the basic-needs approach assumes it is not the recipient's utility or income that enters the donor's utility function but the consumption of particular goods and services (food, education, medical care, housing, and so on) or the attainment of certain states (better nourished, better housed ...) that are closely correlated with the adequate consumption of certain goods and services — the extent to which the basic needs of certain segments of society are met. It seems in practice that the altruism we observe is more closely linked to the basic needs of individuals rather than to their utility or entire consumption bundle. Citizens want welfare payments to be spent on food and clothing, not beer and drugs.

The basic-needs approach implies gifts in kind rather than cash transfers. If donors get benefits from seeing the poor better fed, then give them food. Most people would think a food-stamps program has failed if the recipients convert it to cash and spend it on drugs or gambling.

Harberger (1984) suggests that, judging by people's charitable giving, redistributions within their family and gambling behaviour, most seem to care about alleviating poverty. Genuine deprivation — an inability to afford the necessities of life — is what motivates most charity. Most people genuinely believe it is good for the sick to be healed, the homeless sheltered and so on.

Families step in to help fellow members meet basic needs, but seldom redistribute to equalise income (for example, bequests are usually divided equally rather than to offset income differences between children).

Further, the fact that a large proportion of the public participates willingly in lotteries suggests that many people do not value equality. Lotteries increase inequality — many people purchase tickets and make themselves poorer in order to make a few winners rich.

The basic-needs approach follows standard cost-benefit analysis techniques and assumes external benefits come from alleviating poverty and fulfilling basic needs. External benefits from giving can rationalise a role for government in redistributing income.

People may wish to transfer income to the disabled — and do so through charities — for a number of reasons. In these cases, government involvement in redistribution may be efficient. Charity may be a public good that is under-provided because of the free-rider problem. We all benefit when people with disabilities are helped.

That is, if one person gives to a disabled person, this benefits everyone who cares about the disabled person (giving can involve dollars or goods). It is a public good (non-rival and non-excludable). If givers do not take account of these positive externalities, they may under-provide private transfers.

It can be efficient for the government to redistribute. For example, if A is altruistic to B, taking a dollar off A and giving it to B is efficient (but not a potential Pareto improvement) — B gains a dollar, A loses less than a dollar (as A benefits somewhat if B gets a dollar).

It is possible for everyone, or most people, to be better off if the government forces extra giving to those in poverty. Although individuals lose by being forced to give more than they want, they benefit from the increased poverty alleviation from other people. The high degree of consensus about the need to adopt the PC's recommendations indicates it is a realistic possibility in the disability sector.

Although redistribution can be given an efficiency justification, equity and efficiency should still be separated because the externalities from redistribution are controversial and difficult to measure.

The basic-needs approach, then, says that 'society' is willing to pay a premium in order to meet more fully the basic needs of people with disabilities. This premium reflects a willingness to put up with certain amounts of extra cost, or of economic inefficiency, if this makes possible the fulfilment of some unmet basic needs of the disabled. The size of the premium assigned for a given basic need, and the definition of the base to which that premium applies, defines the precise trade-off involved — that is, how much society is willing to pay for what specific sign of improvement.

Although economists tend to mock ‘needs’ — which tend to expand when the user doesn’t pay — the basic-needs approach does better capture the underlying rationale for disability policy. Indeed the PC Disability report focuses on providing support to meet basic needs, such as self-care, mobility and communication, and increasing funding to ‘address the high level of unmet need’ (p.156). The PC recommends the program be limited to third-tier ‘people with support needs that would otherwise not be reasonably met without taxpayer funding’ (p.157).

That is why the transfers are in the form of services. In contrast, the distributional-weights approach is about maximising the utility of the recipients — which implies cash transfers.

A focus on basic needs rather than distributional weights is a better way to analyse the equity effects of disability policy than the PC’s distributional-weights approach.

The basic-needs approach focuses attention on the effectiveness of policies: to what extent they fulfil basic needs. In contrast the distributional-weights approach employed by the PC implies a large willingness to accept inefficiency and invites waste.

The basic-needs approach has the largest externalities from helping the worst-off groups. But the distributional-weights approach may consider the effects of a larger subsidy on less-poor groups to bring more social benefits, as it focuses on the income transfer implicit in the subsidy.

In the basic-needs approach, the social benefit of each incremental increase in subsidy is smaller, but this may not be true in the distributional-weights approach, where the benefits may increase with the size of the subsidy. With distributional weights, the greater the expenditure, the greater the benefits.

Conclusions

Although the PC uses the language of conventional cost-benefit analysis and concludes that the benefits of its proposed disability care reforms exceed their costs, the PC adopts an unconventional approach which focuses on benefits from ethical presumptions.

The PC’s cost-benefit analysis is not efficiency based and so cannot reap the benefits that such an evaluation allows: such as evaluating different options and helping develop policy. The PC considers only its recommended policy, which means it can only establish that its proposals are better than doing nothing, not

that they are the best amongst alternative approaches, or cannot be improved, or should be scaled up or down. Cost-benefit guidelines usually require a number of options be analysed.

The efficiency effects of a policy are worth knowing to inform decision-making. The process of trying to describe and measure costs and benefits is valuable in itself and encourages policymakers to come up with better ways to achieve their objectives. By examining what determines the costs and benefits and how they are likely to vary, policymakers are encouraged to consider different approaches and determine the best way to achieve objectives. Identifying and measuring costs and benefits encourages close examination of the factors that influence them and assists in minimising costs and maximising benefit, helping decision-makers increase net benefits to society. Is the policy the best way of producing them — or could a better outcome be produced by some alternative? An efficiency approach encourages analysts to think about where the costs and benefits come from and how to increase the benefits and decrease the costs.

Further, it is not even clear whether the PC's methodology for assessing the equity effects — a distributional-weights approach — is the best way to so. A basic-needs approach better captures the underlying preferences of citizens and the rationale for disability care and support policies.

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