Dear Commissioners,

Please excuse the incomplete format of the attached submission. You will note that both referencing and editing are still incomplete, the structure and format is not yet fully formed, and some issues that I want to address are still unfinished. The style of the paper is also somewhat unclear – since in my mind I am simultaneously addressing the Commission, preparing an academic paper and writing a semi-popular book.

I trust however that what I have written gives you a "feel" for my argument. My "agenda" is to help bridge what I perceive to be the wide gulf that exists between rational economics and social justice, efficiency and equity, Treasury-oriented policy makers and disability advocates, Right and Left.

I apologise for the lack of empirical work in the submission, and excuse myself on the grounds that the qualitative arguments attached are to provide me with the framework for the empirical work that I propose to research in due course.

I also apologise for the length of the following submission. It is disjointed because it has not been edited other than in a cursory manner. The main points are in my initial submission. In what follows today, I merely rationalise and draw out the logic and arguments in academic detail. I mean no disrespect in not writing a fully referenced and clearly edited submission, but I simply have not been able to find the time given my primary responsibilities to my students, to my university and to my family. I am sorry that I did not start my research earlier so that my work was finished, and that this Productivity Commission enquiry did not occur in a few years time.

There are three critical omissions from the enclosed attachment.

1. The first relates to "transactions costs". The distinction between disability and impairment highlights the fine lines that need to be drawn in practice when justifying policy. Distinguishing between a person with impairment and one with disability involves high administrative costs, particularly because of the heterogeneous and sometime uncertain nature of impairment and disability.

I am inclined to believe that Standards are an efficient policy instrument since I expect that it minimises bureaucratic transactions costs relative to other policy instruments and relative to doing nothing.

2. The second omission relates to government failure. I have argued above that the market does not service people with impairments satisfactorily, and that each of the traditional "market failure" issues is relevant to people with impairments. I am unaware of any other class of consumers as disadvantaged as people with significant and permanent impairments.

I have elsewhere also argued that there is also failure in the political market place where the median voter in the median electorate dominates the political agenda. People

with impairments are ignored because they are dispersed through all electorates, are marginal in every electorate, and are heterogeneous as a group and therefore do not have a single voice. This is in contrast to women (who are not a minority) and poor people, migrants and cultural groups (who are concentrated in electorates and therefore have some political "voice"). Furthermore, they generally impose a significant cost on particular interests that find it worthwhile to lobby against the people with impairments (developers, transport operators, education departments).

In the face of both market failure and political failure, I believe that the DDA provides a positive way forward in that it provides (i) incremental (ii) level playing field and (iii) prospective rules as opposed to (i) radical (ii) retrospective and (iii) inequitable rules.

3. The third omission relates to the need to integrate the various strands of disability policy. At present policy is a mix of direct goods provision, income support, and infrastructure/education policy using private market, public sector and NGO mechanisms financed by the States, Commonwealth and charities.

A mixture of organisations, financing mechanisms and policies is not necessarily either inefficient or inequitable. Such a mixture is likely to be inefficient and inequitable however if the institutions do not communicate with one another, and have policies which contradict and undermine one another instead of complementing one another.

I am predisposed to believe that there is a great deal of inefficiency and inequity, particularly in relation to employment participation where:

- the States' direct provision of goods and services subject to means tests imply a greater than 100% marginal tax on earned income
- the Disability Allowance does not distinguish between the additional cost of living due to disability and the additional cost of employment due to disability and a minimum safety net
- the employment test for the Disability Allowance does not sufficiently account for discriminatory criteria by employers and unions, for inaccessible design of public and private infrastructure and administration, or for the need for physical and social suppports
- impairment is not distinguished from disability in employment tests.

Some of these issues are not pertinent to the Disability Discrimination Act, but I believe they are pertinent to the Productivity Commission.

I believe that people with impairments are disabled by inefficient social institutions to a much greater extent than the community recognises. I believe that:

- the DDA is a policy instrument that needs to be strengthened by a less ambiguous definition of unjustifiable hardship,
- the justification for the DDA should be highlighted as an efficient way of improving the economic and social participation of people with impairments

- it will take a long-time for the benefit of the DDA to show through because of the complex multi-faceted and network and interdependency issues involved in enhancing the participation of citizens with a wide range of heterogeneous needs
- the Productivity Commission should see the DDA as an important component of a disability policy program which is inefficient because the various strands do not complement one another.

Yours sincerely,

Jack Frisch, 27 February 2005

What is the difference between disability, impairment and activity restriction?

An economic analysis of the all-encompassing "disability problem" must start by distinguishing between impairment, disability and activity restriction. The three concepts are generally viewed as synonyms despite the vast literature pointing out the difference between the three concepts, but the three are analytically separate though related. Distinguishing between the concepts at a theoretical level is critical for making judgements on efficient and equitable policy with respect to the "disability problem".

Thus, ***impairment*** reflects a medical condition which relates to the individual; an ***activity restriction*** reflects the impact of the impairment on the individual's ability to function without assistance and also relates to the person; while a ***disability*** reflects design characteristics which have the effect of excluding people with impairment from fully participating in the life of the community.

Thus for example, potential workforce participant who uses a wheelchair because they are unable to walk has:

- an impairment as a result of a medical condition which makes them unable to walk;
- an activity restriction if they need assistance in transferring out of bed into their wheelchair; and
- a disability if the bus they plan to catch is not designed to be accessible to wheelchair users.

If a person is able to transfer out of bed independently and also able to undertake all other activities without the assistance of another person, then s/he will be impaired but without activity restriction. If s/he is able to access the bus and also able to get into all buildings in much the same way as all other persons, then s/he is impaired but not disabled.

Impairment is a necessary but not sufficient condition for activity restriction and disability since although impairment is clearly a precondition, it will not lead to activity-restriction or social non-participation if sufficient resources are used to incorporate technologies and designs to overcome activity-restriction and to enable full social participation. The cost of overcoming particular activity-restrictions and disabilities ranges from "insignificantly low" for "minor impairments" to "exorbitantly high" to "profound impairments" but it in all cases, the issue of activity restriction and disability is economic.

In a economically backward society, the three concepts are in practice synonymous because neither individuals with impairment nor the social-economic institutions of the economy have access to the technologies and designs to overcome impairment. In advanced economies the distinctions are important however since the technologies are available.

In terms of the "medical model" versus "social model" debate, impairment is a medical concept while activity-restriction and disability are economic concepts. The distinction

between activity restriction and disability has not been fully spelled out in the disability literature, but in economic terms, the difference between them is one of cost incidence. In terms of outcome, both lead to less social participation and activity-restriction than would occur if more resources were spent on technologies and design, but in terms of cost incidence, it is useful to distinguish between participation-enhancing expenditures undertaken by the person with the impairment and participation-enhancing expenditures by other individuals and institutions. Thus, expenditure constraints on the part of individuals with impairment leads to activity-restriction and expenditure constraints on the part of others leads to disability and conversely. In terms of the products themselves, it may be useful to see activity-restrictions as being overcome by assistive devices, and disability as being overcome by public design features.

Thus for example, an individual with impairment can overcome what would otherwise be an activity-restriction by the purchase of a wheelchair, a hearing aid, eyeglasses, a computer or pharmaceutical drugs. In each of these cases, social participation can be enhanced by expenditure by the person with the impairment, and where it is not overcome because of a lack of resources, the person with impairment faces an activity restriction.

It is important to note that technological developments are dramatically expanding the range of available assistive devices, and in doing so, improve the potential participation prospects of people with impairments. But devices may be expensive and beyond the budgets of many people with impairment, and that without increased incomes, technological possibilities do not translate into an actual reduction in activity restrictions.

Similarly, businesses, government and households can ensure that building and equipment design is enabling rather than disabling; that information formats enable communication rather than filter it; and that schedules, policies and procedures are sufficiently flexible to enable greater participation by people who would otherwise be excluded from participation.

An increase in the number of people with impairments due to an ageing population and improved mortality-decreasing medical technology increase the community's awareness of the numbers of people with impairment, and thereby also improve the prospects of enabling social infrastructure. But impairment-oriented design involves re-directing resources from other uses, and there is nothing to ensure that such a re-direction is likely to be supplied by either autonomous individual actors in a market setting, or by government.

The distinction between impairment, activity-restriction and disability shifts the focus from a medical outlook which allocates resources to minimise impairment by medical technology to an economic outlook which allocates resources to minimising activity-restriction and disability by enabling rather than disabling design in goods, services, procedures and policies.

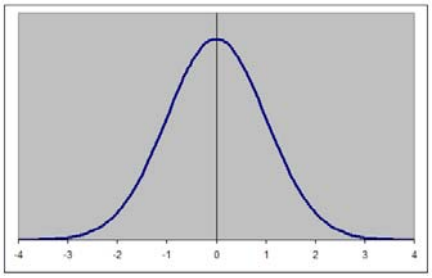
While activity-restriction and disability are often distinct, sometimes the distinction is blurred. Thus for example, a landing to a shop with four steps can technically be accessed either by a very expensive, unattractive, cumbersome and not overly reliable stair-climbing wheelchair (assistive device) or by a ramp (public design). Where a person owns a stair-climbing wheelchair, social participation has been enhanced at the expense of the individual with the impairment, but where there is a ramp, social participation has been enhanced at the expense of the shop-owner (public design).

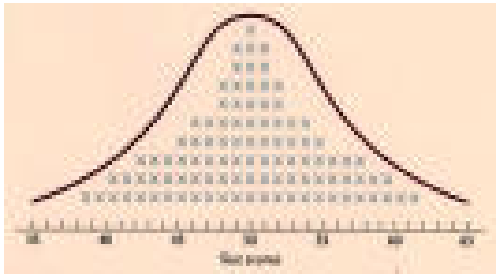
Impairment is a necessary condition for activity restriction and disability, but the relationship between changes in impairment, changes in activity restriction and changes disability is not as clear.

Thus, while reduced impairment may on average lead to a reduction in activity-restriction and disability, reduced impairment is not a sufficient condition for either. For example, more physiotherapy may reduce impairment but it will not necessarily reduce activity restriction if there is not enough money to buy assistive devices such as special cutlery, remote controls, pharmaceuticals or computers and it will not reduce disability if work and recreation facilities do not incorporate accessible design.

Indeed nor is reduced impairment a necessary condition for a reduction in either activity-restriction or disability. For example, resources spent on assistive devices such as cutlery, remote controls, pharmaceuticals or computers may reduce activity restriction and accessible design may reduce disability – without any expenditure on impairment reducing medical technologies.

If it were possible to measure, aggregate and compare impairments, activity restrictions and disability separately across individuals and impairments, it is more than likely that graphs showing the number of people with a given index value for each impairment, activity-restriction and disability would resemble bell-shaped (or normal) curves, or some transformation such as a log-normal curve. Individuals at one extreme of each curve would be classed as “unimpaired”, “activity-unrestricted” or “abled” while people at the other extreme would be classed as “impaired”, “activity-restricted” or “disabled”, and individuals in the middle would be classed as the norm. The threshold index values differentiating the difference from normal would necessarily be an arbitrary distance (number of standard deviations) from the centre (or average). To the extent that the distinction between impairment, activity restriction and disability is meaningful and significant, an individual would be located in one position on one curve and in another significantly different position on the other two curves.





This "hierarchical" perspective contrasts with both the "synonymous" view which defines the three concepts as equivalent, and with an "either-or" view which defines a person only in terms of whether they do or do not have an impairment, activity restriction or disability. From a policy perspective, the main problem with the synonymous view is that it leads to inefficiently targeted policy while the problem with the either-or view is that it is inequitable in failing to distinguish between degrees of impairment, activity restriction or disability, thus treating individuals who are a significant distance from the norm no differently from those closer to the norm but beyond the definitional threshold. For example, where each of the curves have been normalised to have an average of zero and standard deviation of 4, and where activity-restriction is defined in terms of being associated with an index value greater than say 7, and then:

- the either-or view does not distinguish between an individual with an activity-restriction index value of 7.3 and another individual associated with an index value of 11.5
- the synonymous view assumes that a person with an impairment index value of 7.3 also has an activity-restriction index value and disability index value of 7.3 and
- the hierarchy view suggests that a person may have an impairment index value of 11.2 (i.e. significantly impaired relative to the norm), an activity-restriction index value of 3.1 (if they can afford a wide range of assistive devices) and a disability index 7.1 (if the public design infrastructure is enabling and inclusive of people with impairments).

Implications

- The critical difference between impairment, disability and activity restriction is economic. A policy focus on impairment involves expenditure on research and development of medical technologies; a focus on activity-restriction involves enhancing purchasing power; and a focus on disability involves expenditure on enhancing the accessible design in the social environment.
- Policy makers, researchers and statisticians need to distinguish between impairment, activity restriction and disability. The confusion between the three terms is not only evident in common language and understanding, but also in the Australian Bureau of Statistics' *Survey of Disability, Ageing and Carers* where disability is treated as synonymous with activity restriction, as well as in much of the political debate over income support and workforce participation.
- A major difficulty in policy involves distinguishing between the three concepts. That one person with a particular impairment might face little activity restriction or disability in one area of life but significant activity restriction or disability in another is important for an efficient policy response. For example, a radio announcer with a missing arm may not need special assistance to facilitate employment participation, while a butcher with a missing arm will need assistance. Similarly, a courier with brain injury affecting vision-depth will not need help a photographer with the same brain injury will need it.
- The definition of impairment, activity-restriction and disability is a social construct which is fluid. In terms of the "hierarchy" perspective, these categories are defined in terms of threshold values which are an arbitrary number of standard

deviations away from the average. While there is probably a general common understanding relating to people at the extremes of each of the three thresholds, there is probably widespread confusion in classifying people who are closer to the norm. Thus for example, while there is probably a consensus in categorising an "extreme" impairment as impairment, there is little social agreement about people with impairment index number values close to the threshold. This disagreement is spills over into policy, where there is likely to be social consensus about the need to support people with index values significantly distant from the norm for all three categories, but little policy consensus on the need for support for people closer to the norm for one or more of the three concepts. Thus for example, there is policy confusion about how much support should be given to people with "significant" impairment but without activity restrictions or disability, as compared to persons only marginally beyond the threshold on each of the three indexes, as compared to persons significantly beyond the threshold for each of the three indexes.

- Efficient policy requires distinguishing between the three concepts in order to filter out impairment and to thereby target purchasing power policies to reduce activity restriction and accessible-design policies to reduce disability. Such fine-tuning comes at an administrative cost however, and therefore leads to a policy trade-off between policy costs and administration costs. Thus, efficient targeting of policy to distinguish between impairment, disability and activity-restriction comes with high transactions costs while low administrative transactions costs comes at the cost of less efficient policy targeting. Where administrative costs are minimised and impairment, disability and activity-restriction are treated as synonymous, policy will be inefficient insofar as policies will be incorrectly targeted. This will mean that there is likely to be over-expenditure of resources in some areas and under-expenditure in others.

    - **My personal predisposition is to hypothesise that there is over-expenditure on reducing impairment and under-expenditure on reducing disability and activity restriction. That is, there is too much spent on medical technologies which increase longevity and under-expenditure on both:**
        - **income-assistance to enable people with impairments to buy assistive devices and**
        - **design features that make social institutions enabling rather than disabling.**

      In other words, there is arguably an over-emphasis on prolonging life and under-emphasis on the quality of life.
    - Indirect evidence for this view comes from Michael Bittman's work on how people with activity restrictions spend their time; employment and recreation participation statistics; overseas work???

What sort of policies do governments undertake to offset some of the effects of impairment and disability? How can government intervention in support of people with impairments be justified?

Policy responses to impairment, activity restriction and disability can be classified into at least five types:

- income protection (e.g. Disability Support Pension);
- workplace wage subsidies and equipment grants to businesses that employ people with impairments who would not otherwise be employed;
- provision of goods and services either directly (e.g. Program of Appliances for Disabled People), indirectly (Attendant Care services), or by tied subsidies (e.g. Taxi Travel Scheme);
- anti-discrimination regulations prohibiting the attribution of irrelevant characteristics to employees or potential employees (e.g. Disability Discrimination Act with respect to employment) complemented by community education to promote the abilities and positive characteristics of people with impairments (e.g. Prime Minister's Access Award); and
- regulations providing for a seamless spatial, political, commercial, intellectual and social environment and infrastructure to all individuals in the community (e.g. Disability Discrimination Act with respect to buildings, transport, communication and education).

Theoretically, these government policies can be viewed as

- enhancing efficiency in the sense of the Pareto criterion (i.e. the benefits of a program to the beneficiaries are greater than the costs to the beneficiaries, while no other party (including taxpayers) bears any additional costs
- fairness-enhancing in the sense that a more "worthy" person or group gains at the expense of a less "worthy" person or group
- a combination of efficiency-enhancing and fairness-enhancing, where aggregate social benefits are greater than aggregate social costs and other parties (including non-benefiting consumers and/or taxpayers bear a cost).

In practice, it is impossible to classify actual policies into their efficiency/fairness impacts. Thus:

- although income protection, workplace subsidies, and provision of goods and services may be primarily fairness-enhancing, they may also be efficiency-enhancing;
- eliminating discrimination may primarily enhance efficiency but it is also likely to be redistributive; and
- provision of a seamless public infrastructure will necessarily be both efficiency enhancing and redistributive.

There is a clear case for government involvement only when a program is both efficiency-enhancing and fairness-enhancing in its redistributive effect. Traditional economics is predisposed to the view that there is unlikely to be a need for efficiency-enhancing policies under general (Arrow-Debreu) conditions, since self-interested

individuals will trade to an efficient state[1]. It is also predisposed to the view that there are unlikely to be a need for fairness-enhancing and efficiency-neutral government involvement either because such policies are likely to be undertaken voluntarily or because non-voluntary fairness-enhancement will generally have an unintended effect at an efficiency cost.

Where the necessary general (Arrow-Debreu) conditions suggesting market efficiency do not hold, the presumption for government involvement on the basis of impairment is strengthened, but not proved both because market inefficiency does not imply that government policies are more efficient than the less-than-efficient market, and because the Arrow-Debreu conditions are necessarily related to impairment. To justify government involvement on the basis of efficiency, it needs to be shown that government policies enhance efficiency and that non-fulfilment of the Arrow-Debreu conditions is related to impairment.

The Arrow-Debreu conditions which are relevant for people with impairments are that:

1. preferences are non-lexicographic i.e. there is no strict ordering of preferences such that some minimal quantity of one good or service is always preferred to another
2. outside parties are unaffected by either policy or absence of policy i.e. persons other the person with impairment are unaffected by their association with the person with impairment
3. information is unbiased and without cost i.e. all parties to all transactions have access to all relevant information relating to any transaction
4. markets are competitive i.e. there are many firms competing to supply a wide range of goods and services relevant to people with impairments.

Implications:

- The case for government involvement due to impairment must satisfy one or all of the following tests:
    - the social justice test under each of the four Arrow-Debreu conditions outlined above
    - the social justice test where preferences are lexicographic as a result of impairment
    - the efficiency test where preferences are lexicographic but the last three Arrow-Debreu conditions do not hold and where non-fulfilment of the Arrow-Debreu conditions is related to impairment

[1] Fully informed unbiased information, no transactions costs, competitive, no externalities, preferences non-lexicographic.

What is the economic case for government involvement to support the social and economic participation of people with impairments?

An economic analysis of the "disability problem" starts with a view that "nature" endows humanity with a normal distribution in terms of ability to participate with speed over space. It posits that individuals who are "much" faster in mind and body than the norm are "unimpaired" while those who are "much" slower in mind and body are "impaired". In itself, this says nothing about social rights or responsibilities and it abstracts impairment, activity restriction and disability.

Conventional economic analysis separates the resource allocation problem from the product distribution problem and argues that resources need to be allocated efficiently given nature's endowments and consumer tastes and that if society does not like the resulting distribution of products, it can through its elected politicians redistribute the product by means of taxes and subsidies. Many economists have sought to integrate the problems analytically, but the attempts have been by and large without success. This lack of success has led most economists to focus only on the efficiency question and to at best ignore the distribution problem, and at worst to discount it.

Yet policymaking is presumably about social justice, and social justice requires **both** an efficient allocation of resources and a fair distribution of society's goods and services i.e. it requires both efficiency and fairness. Many social scientists and philosophers have also sought to integrate the efficiency and fairness problems, and they too have had little success in integrating them satisfactorily.

The case for special consideration therefore can be analysed from two perspectives - the social justice level which focuses more on the distribution of product, and the economic level which focuses on the efficiency of resource allocation and resource use. The two perspectives intersect at many points, yet analytically the two approaches are separable.

Social Justice Approach

The social justice case for special consideration starts from a position which recognises that some people are endowed with impairments that make them "unable to choose among combinations of occupation and income that people without [impairments] are free to choose"[2]. In the extreme, some individuals with impairment would die without social support of one sort or another, and indeed, in some primitive pre-industrial societies, people with impairment are allowed to die at childbirth while others are sent into the wilderness to die. At a lesser extreme, many other individuals with impairment would lead lives of extreme deprivation as a result of their restricted choice of occupation. On the other hand, many individuals with impairment are unrestricted in their choice of occupation.

[2] Ronal Dworkin, Equality, Luck and Hierarchy, *Philosophy & Public Affairs* 31.2 (2003) 190-198.

Poverty caused by a lack of endowment of itself is not sufficient reason for government involvement. One form of this argument is based on a principled view that government redistribution of income involves an element of arbitrary compulsion which is immoral, while another form is based on the economic assertion that government redistribution is less efficient than voluntary redistributions.

Nozick[3] combines the two arguments in arguing that social justice is less about the equitable distribution of society's production and more about fair and transparent rules within an institutional framework of transferable private property rights. This view treats the poverty which results from impairment either as one of the myriad unexceptional unfortunate quirks of happenstance, or as something which is most effectively managed by voluntarism through charities rather than through governments.

An alternative perspective views social justice in terms of the distribution of production and argues a case for equalising the distribution of the economy's product either directly by redistributing income through taxes and subsidies or indirectly by equalising the opportunity to earn income by enhancing endowments through public investment in education and health.

The latter perspective has several variants but few have directly addressed the "disability" problem. The Rawlsian[4] social contract of individuals behind a veil of ignorance implicitly addresses disability in concluding that society is better off only if the least well off are made better off, subject to maintenance of maximum liberties for all. Nussbaum[5] argues that the Rawlsian position is problematical with respect to people with impairments who are not equal participants in the social contract because of the power imbalance which results from impairment. (In the extreme, there is nothing to preclude the possibility that risk loving social contractors could decide - without the acquiescence of excluded social contractors with impairments - that people with impairment should be left to die or to live in dire straits[6]). Nussbaum, together with Sen[7], puts people with impairment at the centre of the social justice question, and argues with Sen in favour of a "capabilities approach".

The capabilities approach "uses achievements (such as the ability to meet basic needs by converting goods) rather than actual goods or utilities as the means for comparing well-being. To focus upon an individual's opportunity to purse her/his objectives, one must consider not only those primary goods possessed by that individual but also the relevant personal characteristics governing the conversion of primary goods into the individual's ability to promote his/her ends[8].

Thus,

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[3] Nozick, Anarchy
[4] Rawls, Social Justice
[5] Nussbaum, Tanner Lectures
[6] Singer
[7] Amartya Sen pursues the capabilities approach partly as a result of his analysis of economic development, index number and aggregation and his consequent rejection of the utilitarian approach to social well-being.
[8] Welch

> "A person who has a disability may have a larger basket of primary goods and yet have less chance to lead a normal life (or to pursue her objectives) than an able-bodied person with a smaller basket of primary goods. Similarly, an older person or a person more prone to illness can be more disadvantaged in a generally accepted sense even with a larger bundle of primary goods"[9].

By this approach, a wheelchair user with a substantially higher income than another person can nevertheless be worse off in terms of material well-being if they need to pay for a wheelchair and personal assistance, taxi fares instead of a bus and if they pay more for goods and services than they other would. "The capabilities approach is concerned with evaluating an individual's advantage in terms of 'actual ability to achieve various valuable functions as a part of living'. Both Sen and Nussbaum use this approach to enable comparisons of well-being and inequality, and to begin to define a 'threshold of capabilities' to determine a citizen's entitlements from government. For Nussbaum and Sen, well-being is only increased when everyone has available to them a minimum basket consistent with their individuals characteristics to enable them to function as autonomous individuals.

Economics Approach

The traditional economic approach is predisposed to take endowments as given, and to allocate resources in a way which maximises utility subject to the given endowments, and to then redistribute the resulting allocation if the first round distribution is considered socially undesirable.

The "disability problem" is seen as one where individuals may have fewer products (lower incomes) as a result of any impairment which affects the actual or perceived speed and/or mobility with which tasks can be performed. Thus, economic analysis would expect that a person who is "medically" impaired would earn lower income than others if

- they take more time to achieve tasks than other workers and/or
- require more complementary inputs (including space, equipment and/or the time of other workers) to achieve the same task as other workers and/or
- they are discriminated against on the basis of their impairment and/or
- they are discriminated against because an employer believes that the person with a particular impairment is slower or involves greater expense than other workers.

The first two effects may be classified as **productivity effects** while the latter effects are **discrimination effects**. While the economist "as citizen" may accept that the lower income resulting from both productivity and discrimination effects may be "**unfair**" and may justify special consideration, the economist "as economist" has little in the way of unambiguous criteria for evaluating either the nature or the magnitude of the special consideration called, particularly when a redistribution program has undesirable "secondary" efficiency effects.

[9] Sen

The traditional economics approach does not consider the lower income resulting from productivity effects as "**inefficient**" even though they may be unfair. The traditional economics approach takes the view that:

- in the absence of transactions costs
- in the face of full and unbiased information
- subject to costs increasing as output increases and demand falling as price increases and
- in the absence of external effects on third parties

markets can be relied on to be efficient in the Pareto sense, and if the distribution of products is considered unfair, the unfairness can be considered separately.

Thus, while discrimination effect is considered inefficient because it is based on incorrect information, the productivity effect does not constitute economic inefficiency. Of course, an economic analysis does not preclude the possibility that the assumptions above may not hold and that markets might not be inefficient, but it needs to be demonstrated whether and how the inapplicability of the assumptions might relate to impairment.

The Sen-Nussbaum is a stark contrast with the usual approach taken by economists but it is nevertheless within the economics framework of defining the economic problem as one of resource allocation in the context of unlimited wants and limited resources. The usual approach taken by economists:

- uses the Pareto criterion to define efficiency
- treats production and consumption separately, and
- makes no distinction between primary wants and secondary wants.

From these limiting assumptions (as well as others which will be discussed below) economists are predisposed to conclude that starting from any arbitrary allocation of endowments, competitive markets tend towards a state where nobody can be made better off without making anyone worse off [10].

While it doesn't follow that relaxing these assumptions and the efficiency criterion will necessarily lead to a change in conclusions about the efficiency of competitive markets or the efficiency of contestable markets relative to regulated markets, the Sen-Nussbaum approach and an analysis of impairment ought to lead to more circumspection.

The Pareto criterion and usual assumptions might be useful approximations for the general population, but they are not useful insofar as people with impairment are

[10] Arrow-Debreu

concerned. Thus, it could be argued that in general the impossibility of comparing idiosyncratic and unpredictable personal tastes across individuals makes anything stronger than a Pareto criterion impractical - *but the argument is not strong insofar as it is easier to compare needs by objectively measurable impairments*. Similarly, one could argue that in relatively developed economies, subsistence is not an issue for most people, and therefore the distinction between primary and secondary needs/goods is not meaningful - *but the argument is not strong insofar as people with impairments need a critical minimum of primary goods in order to be able to function.* Finally, it could be argued that consumption and production is separable for most people who have access to primary goods and for whom the social and built infrastructure is relatively seamless - *but the argument is not strong insofar as people with impairments who are excluded from schooling, travel, buildings and communication are concerned by an inaccessible infrastructure and poverty.*

Implications

- Development involves expanding the freedoms enjoyed by individuals and removing the sources of unfreedoms such as poverty and poor economic opportunity. Impairments may be seen as a source of unfreedoms due to its restrictive nature on individual functioning. If so, then development in this context involves alleviating or removing disability while promoting capabilities.[11]
- Recognition of impairment and the ensuing poverty implies that there is a prior ordering of wants as between primary wants to satisfy the ability to function and secondary wants which satisfy tastes, and that increased well-being involves allocating resources in such a way that some sort of priority is given to primary wants. The economic case for minimalist government assumes these issues away and is therefore not as general as is sometimes supposed.
- The Rawlsian argument for greater income equality consistent with maximum personal liberties also has weaknesses when confronted with impairment. It appears to account for impairment in its argument that society is better off only when individuals with the lowest income are made better off, but its prescriptions appear to go both too far and not far enough. The Rawls logic 'over-redistributes' insofar as it assumes that individuals behind the 'veil of ignorance' are highly risk. To the extent that they might love risk, they might not contract to redistribute income to low-income individuals with impairments and in extreme cases may seek to let them die as is done in social contracts in some primitive pre-industrial economies. On the other hand, Rawls under-redistributes insofar as even for highly risk averse individuals, income equality does not guarantee that individuals with impairments will have that threshold of primary goods that would enable them to undertake the various functions necessary for well-being.
- The Sen-Nussbaum capabilities approach:
    - provides an alternative criterion (ensuring satisfaction of primary needs) to the Pareto criterion (ensuring a state where no individual's position is improved except at the expense of another individual)

[11] Welch

- treats production and consumption as interdependent rather than independent, and
- distinguishes between primary and secondary /goods.

- **My personal predisposition is to hypothesise that the Sen-Nussbaum approach is more relevant to people with impairments and therefore to analysis of the Disability Discrimination Act than the usual economics general equilibrium approach.**
  - By distinguishing between primary and secondary goods, the Sen-Nussbaum approach is consistent with a human rights approach and by treating production and consumption as interdependent, their approach integrates the distribution of consumption issue with the allocation of resources issue. It thereby integrating the social justice/equity agenda with the economics/efficiency agenda.

Externalities/Public Goods: Inadequate Supply of Design Features

Design features that ignore the needs of people with impairments mean that considerable time is wasted overcoming design obstacles. When a person spends time looking for an entrance, or using an indirect path of travel, or negotiating the quality of a service, they would presumably prefer spending their time in some leisure activity or in employment. In the extreme, design features that ignore the needs of people with impairments may mean non-participation in the workforce. For when a person misses a job interview because their assistant or taxi is late or because an advertisement is not advertised in accessible format or because the employment criteria have ignored disability issues, the probability of finding a job is reduced.

Design features may be physical or administrative. Examples of inaccessible physical design features are obvious enough and relate particularly to people with visible disabilities e.g. lack of an access ramp, non-Braille buttons, lack of a hearing loop in a public address system etc. Inaccessible administrative design is less obvious, but it can be as disabling as inaccessible physical design. Administrative design features can relate to methods (e.g. allocating queues into a cinema with a limited number of well-located accessible seats on a 'first-come first-served' basis) or rules (e.g. inflexible schedules and rosters that do not account for disability episodes).

Cost minimising firms and organisations will only incorporate accessibility design features into their goods and services if they believe the cost of the specific additional design is less than the expected revenue they derive from the design. This is consistent with a socially efficient outcome only if the design feature produces no external effects. Where the lack of a design feature leads to a loss of valuable time by a person with a disability or an assistant, there is an external effect which in general the supplier of the design feature does not take into account when deciding whether or not to incorporate the design feature into their product. Thus for example, a cinema proprietor will ensure access into the cinema only if they expect that the expected capitalised profit to be made from wheelchair users is likely to be greater than the cost of ensuring access. The time saved in not having to go to a less preferred cinema location, or in not having to have an assistant pull the wheelchair up the stairs is ignored by the cinema proprietor even though the time saved by the ramp are social benefits.

There are three types of externalities relevant to people with disabilities and the DDA:

- '*direct externalities*' affect people with disabilities;
- '*network externalities*' are due to the interdependence of demand for various types of goods and services of interest to people with disabilities.
- '*associate externalities*' affect the associates of people with disabilities; and

These three types of externalities can be illustrated by considering an access ramp for wheelchair users and a wheelchair-accessible transport system:

- without a ramp, a wheelchair user might not be able to attend an interview for a job or might have to spend time overcoming an obstacle (*direct externality*);

- without a reliable accessible transport system, an accessible ramp to an amenity is less valuable because of the difficulties of getting to where the ramp is located (*network externality*);
- in the absence of either a ramp or an accessible transport system, an associate will need to assist the person with the disability and thereby spend time which could be better used in employment (*associate externality*).

Standard economic analysis recognises the opportunity cost of leisure time as the wage rate, and that the time wasted because of inadequate design is thus a negative externality due to inadequate design. The converse is that in a cost-benefit analysis, design features that enhance accessibility should be counted as an economic benefit, with the value of the benefit being a product of the time wasted due to inadequate design and the wage rate.

Where the lack of adequate design is directly responsible for unemployment, the benefit of accessible design features should include not only the time wasted due to inadequate access, but it should also incorporate the income lost due to poor access.

Disentangling the "causes" of unemployment is always a complex task fraught with methodological difficulties, and particularly so given the many heterogeneous design issues relevant to the employment of a person with an impairment, and given the networked nature of the various design features.

Direct Externalities

As outlined above, people with disabilities are often excluded from or poorly serviced by design features which overlook the needs of people with disability. As a result, when they get out into the community, they both miss opportunities and they spend time overcoming obstacles.

The most critical example of missed opportunities involves employment - where a job is missed because job advertisements are not accessible; or an interview is missed because of inadequate design (of transport, building, or administration of personal care); or a workplace is not accommodative as a result of inadequate poor design.

Examples of the extra time spent overcoming obstacles due to inadequate design include the time spent looking for an entrance when there is no sign; the time spent on the phone seeking to ascertain whether a particular venue is accessible; the extra time spent waiting for an accessible taxi or waiting for unreliable personal care; the time spent taking a longer alternative route because the main entrance is inaccessible; the time spent in a queue because the automatic machine is not accessible, the time spent waiting for assistance; the time wasted going to a venue that advertises itself as accessible and is not accessible.

Perfect design is of course expensive both in terms of resource use and in terms of the transaction costs involved in trying to seek perfection. While it is impossible to create

'perfect', it is important at least to create efficient access – i.e. at least up to the point where the marginal cost of not creating access equates with the marginal cost of providing access[12].

Associate Externalities

People associated with people with impairments (colleagues, family and service personnel such as retailers) sometimes assist with transport, communication, shopping and daily management activities because of the lack of accessible design features in the basic social infrastructure. In economic term, such assistance is a substitution of labour for capital. In general, the technology of capital to labour relationship that is adopted in a particular state depends on the cost of labour and the cost of capital so that where the cost of labour is low, the efficient technology will be more labour intensive than where it is high.

For people who assist only occasionally, the assistance is generally trivial, uncommon and insignificant. For people who offer more regular assistance, the additional help may involve time helping with transport/shopping, reading a book to a person with sight/hearing impairment, etc. For family and close friends, the help may be extensive and may be full-time. In any case, the economic issue is that the time is generally unpaid and therefore the market signal in the market is of a zero of the opportunity cost of the assistance. This necessarily results in a technology bias against accessible design and towards unpaid labour, and therefore an inefficient excess use of such labour and an inefficient inadequate use of accommodative designs.
While the wage rate is usually the measure of the opportunity cost of time, complexities arise because of emotional motivational issues involved in 'assistance". The emotional elements can't be ignored since they influence the signal put to the market, and therefore impact on the nature of the adopted design technology. Where the associate enjoys assisting, the time spent assisting is a benefit rather than an opportunity cost, unless the person being assisted resents the sense of objectification implied by this. Where the associate assists in the normal sense of social intercourse, or social trade, it would not be legitimate to consider the time spent assisting as an opportunity cost since such time is a freely chosen leisure or commercial activity. Only when assistance is out of a sense of duty or guilt is it appropriate to measure time assisting at the wage rate, for only then would the associate prefer undertaking some other activity.

Clearly, it is impossible to know what motivates the assistant or how the person being assisted feels about being assisted. This makes accurate estimation of the time cost of assistance impossible. Traditionally where the time saving from a project has ambiguities

[12] This is not the place to discuss the complexities involved in measuring the opportunity cost of time. It suffices to point out that it is the time spent that would not be spent if the person did not have the disability. Such counterfactual modeling is complex, as can be illustrated by estimating the opportunity cost of waiting for a taxi because of the inadequate design of a taxi booking service. The time lost waiting needs to be balanced against the time gained in using a taxi instead of a train, and this in turn would need to account for the resource costs and amenity gains or losses of using a taxi relative to a train or car.

such as above, the time cost is arbitrarily set at a fraction of the wage rate, generally at 50%.

For associates (usually family) who give extensive assistance and therefore give up employment, the opportunity cost is between the income they would earn in full employment and the risk-adjusted and quality-adjusted expense[13] of hiring assistance externally. From an efficiency perspective, where an associate gives up an income substantially greater than the adjusted expense of outsourced labour, higher social point ofWhere the associate tant earns a substantially higher income than the outsourced labour, the margin over the yet nevertheless chooses to

[13] There is an adjustment for risk, uncertainty, transaction costs and capital expenses because outsourced labour will generally be less efficient than the assistance of a family member or friend. This will mainly be due to the additional tacit knowledge that family members are likely to have about the specific needs of the person with the disability. It is inefficient to re-convey such knowledge with each new outsourced assistant. The difference between outsourced assistants and family assistants will vary from case to case however, and in some family situations, an other-oriented, careful outsourced assistant may be more rather than less efficient than an a resentful abusive associate assistant.

Networked Externalities: Interdependence of Products and Systems

Where the demand for separate products depends on the quantity produced of the other product and there are many producers and consumers of the interdependent products, each is likely to be under-supplied. The under-supply will occur in a market environment and it is also likely to occur in a social accounting environment if the social accounting is done on a partial basis rather than a general one.

The accessible transport-building network can be taken as illustrative of network externalities because accessible buildings make accessible transport more valuable and accessible transport makes accessible buildings more valuable. Conversely, accessible buildings are of minimal value if the transport to the building does not exist or is very expensive or unreliable; and accessible transport is of little value if there is nowhere to go at the end of the line because the buildings are inaccessible.

Transport and buildings are taken as illustrative of network effects, but for people with disability the issues span education, income support, personal care support and employment opportunities. Thus resources spent breaking down employment barriers are wasted without an accessible education system and without safety net incentives which encourage rather than discourage workforce participation; and conversely, an accessible education system is of little use without employment opportunities available at the end of the education. Similarly, for people with disabilities, the incentive to participate in employment depends on a complex inter-relationship of cost, reliability and quantity of personal care service and personal equipment; accessible and reliable building and transport service; and wages levels and tax rates relative to income support payments and taper rates. Clearly these issues span Federal- State-Local Government jurisdictions and they also span portfolios within jurisdictions (care, equipment, education and employment, transport at the state level; income support and employment at the Federal level; buildings and transport at the local level). Each jurisdiction and department is inclined to adopt a partial approach rather than the general approach that is appropriate for a legitimate cost-benefit analysis.

Market Environment:
In the market environment, the situation is a classic spillover that might be resolved if there were only a small number of producers and consumers (of buildings and transport) who could negotiate a Coasian resolution. But because there are many independent people with disabilities interested in transport and buildings, and many independent producers of access to buildings and transport, negotiations between building and transport producers and consumers are unlikely given the high cost and relatively negligible private benefit to negotiations. Without negotiated compensating payments however, no individual producer will have incentive to account for the benefit they confer on others, and none will therefore supply efficiently.

Subsidies, government production and mandated regulations have been the traditional means of overcoming the problem of under-supply due to positive externalities. Disability policy has used each of these methods in one area or another, and the DDA

should be seen as one critical element of the mandatory regulatory framework. As such the DDA deserves strong support in principle – even if parts are problematical.

Partial versus General Social Accounting

In a cost-benefit analysis of accessible transport infrastructure and accessible building infrastructure, the benefits measures must be treated interdependently. As outlined above, the two infrastructures are jointly valuable and contingent on the other being supplied.

Take an accessible building plan that costs 4 and an accessible transport plan that costs 3. Suppose that the social benefit of an accessible building is 7 if there is accessible transport and 3 if transport is inaccessible, and that the social benefit of accessible transport is 5 if buildings are accessible and 2 if buildings are not accessible. It can easily be shown within a simple game theoretic structure that if both departments seek to maximise net benefit, then either both departments will create access or neither will do so - even though both should do so. Both accessible transport and accessible building should be created because net social benefits are thus maximised.

Thus, social accounting methodology will lead to under-supply of access unless all jurisdictions and departments jointly provide access. This last point is critical to disability policy, because it calls for an integrated policy approach instead of the usual partial approach.

Australia's political institutional structure is not well placed for this sort of integrated planning approach, and in any case, the high transactions costs in such an approach more than likely make it inefficient. The DDA's interaction of Access Plans, Standards, mandated access, and conciliated complaints is probably an efficient second-best solution.

Asymmetric Information – Insuring Against the Addition Costs due to Permanent and Significant Disability

There is no market for insuring against the additional costs of living due to permanent and significant disability even though risk-averse individual would undoubtedly be willing pay a fair premium for such insurance. There are markets for insurance to offset the additional costs of short-term disability but such policies are capped either in terms of dollars or time or both, and therefore do not cover large and permanent costs over a lifetime. As a result, if a person does acquire an impairment, s/he is forced to bear most of the additional costs of the disability. If the market for such insurance existed, some of the financial disadvantages faced by people with disabilities would be offset.

It is not surprising that there is no market for this sort of insurance since the market is prone to the same asymmetric information problems which plague health and employment insurance markets generally. Asymmetric information occurs when one party to a transaction has more information about the goods or services being traded than the other party i.e. the seller knows more than the buyer or the buyer knows more than the seller. Asymmetric information before a contract is struck leads to *adverse selection* because buyers and sellers anticipate the dynamics of the market and thereby set up a negative bias to the nature of the market. Asymmetric information after a contract is struck leads to *moral hazard* as buyers and sellers take advantage of the costs of monitoring the details of a contract and follow their personal interest at the expense of the other party.

Adverse Selection

Insurance markets which are prone to asymmetric information will tend to break down when individuals who believe they feel themselves to be at low risk don't buy insurance and thereby compel insurers to increase premiums because only people who perceive themselves as being at relatively high risk buy the policies. The increased premiums resulting from this dynamic further dampen demand by the lowest risk cohort of those that have not withdrawn from the insurance market, leading to a tendency for further premium increases. The dynamic negative feedback leads to a market breakdown or non-appearance of a market, obliging governments to intervene in markets so affected. Asymmetric information is not as much of a problem in life, fire or burglary insurance where the buyer of insurance does not have significantly better information about the chances of death, fire or burglary than the insurer. It is however of a problem with health and unemployment insurance because the buyer of insurance knows more about their own family history, general state of health, ability to hold down a job etc. than does the insurer.

Long-term significant disability insurance is prone to similar asymmetric information issues which characterise both health and unemployment insurance i.e. relating to probability and period. The more significant asymmetry of information however probably relates to the expenses involved if disability were to occur rather than to the probability of disability. The individual is more likely to know whether personal services,

modifications and adaptations will be purchased in the open market or supplied informally through family, friends and acquaintances. As a result, only people who would purchase most of the required disability goods/services in the open market would tend to buy insurance while people who believe they can depend on informal channels will buy such insurance only if they are very risk averse.

Moral Hazard

Moral hazard occurs when behaviour changes after a contract is struck, with the insured party likely to take risks that they would not take if they were not insured. Insurers mitigate the hazard by requiring co-payments in the event of loss together with maximum limits on the insurer's obligation.

In the context of long-term uncapped disability insurance, moral hazard would occur as insured individuals with disabilities overstate their losses by overstating their needs - asserting that certain items (e.g. an air conditioner or mobile phone) are needed because of their disability, even if they are not "needed". Thus, if the items are claimable because they are assessed on a schedule as sometimes necessary for people with similar disabilities, and they provide desirable services, they are likely to be claimed even though they might not be 'necessary' for the disability of the particular claimant.

The asymmetry of information has a number of implications.

Firstly, it suggests that institutional arrangements may be an efficient response to fill the vacuum left by the missing private insurance market, and that such an institutional response need not be only based on social justice distribution concerns. Thus, the Disability Support Pension, and legislation that minimises the additional costs of living due to disability may be seen as efficiency enhancing because if fills the vacuum of the missing market, as well as distribution-enhancing. To the extent that a well-designed DDA discourages discrimination and thereby helps contain increases the additional cost of living due to disability, the DDA may enhance economic efficiency.

Secondly, insurance market methodology may be used for measuring some of the benefits of the DDA in a cost-benefit framework. Regulatory Impact Statements continually grapple with the methodological problem of measuring the benefits of DDA standards, but have yet to come to a satisfactory resolution of the issue. The insurance methodology suggests that the insurance premium which risk-averse individuals without disability would be willing to pay, but which they don't pay because of the missing market, may be used as a starting point for measuring benefit where the a regulation reduces the additional cost associated with disability. This premium may be estimated as a function of the probability that a person will acquire an impairment (from epidemiological data) and the financial loss associated with the disability (from budget data). Since everyone stands some finite change of acquiring an impairment, or having a child be born with an impairment, there seems ample justification for aggregating the implicit premium as a measure of willingness to pay.

The willingness to pay measure also provides a benchmark for height of the impost that people without disability may be willing to pay if the impost was used to finance projects that reduce the future costs associated with disability. Such projects may be associated with DDA projects such as infrastructure development to provide equal access to buildings, transport, education, etc… Whether the impost is better paid through taxes or the prices of goods and services is an empirical[14] and political issue that is best determined on a case by case basis, while noting that the ultimate burden of a tax is always born by consumers in the form of higher prices, or producers in the form of lower wages and profits.

Thirdly, it should perhaps be recognised that in economies with low work-force participation, the additional cost due to disability may be lower than in economies with high work-force participation, because the more assistance is provided though informal community channels and the family. This suggests that in economies such as Australia's, with high levels of urbanisation, work-force participation (and consequently specialisation of labour) and high income, the inefficiency caused by the missing market increases.

[14] It is an empirical issue because the ultimate burden of a tax depends on elasticities of demand and supply, and are independent of the nominal burden of the tax.

Non-Contestable Markets: Low Supply and High Price

The goods and services which are needed to assist people with disabilities offset ordinary day to day obstacles are higher in price and supplied in lower quantity than they would be if the goods were produced in competitive markets. This is because many of the goods and services, such as wheelchairs, hearing and seeing devices, personal care provision, education services etc. are supplied by only one or a small number of firms and therefore take place in markets where there is little competition.

In the popular mind, monopolies and oligopolies are associated with large multinational or government-owned business. This is of course a misconception since even small firms can have 100% of the market and therefore be a monopoly. The monopoly may be through ownership of a valuable patent or secret technique, or it may result from the size of the market being small relative to the output level that would enable the firm to produce at minimum cost. Single small firms in small rural communities are monopolies.

Arguably patents, market size and geography are all pertinent to disability goods and services. Technical advances in accessibility goods such as hearing and seeing aids, wheelchairs and computer programs often have patents associated with them. Furthermore, even when there are no patents, the size of the markets are small relative to the lowest-cost-production technique because of the relatively small number of people with the specific needs addressed by specific products. Finally, even when there is a degree of homogeneity in a market, there may be monopoly if geographical distance between the consumer and supplier is important and the person with the disability lives in a small distant community. For some products, each of the three issues may be present – e.g. a patented electric wheelchair with person-specific modifications owned by a person in a rural town.

It is widely accepted that where markets are not contested, the price premium over the marginal cost of production will be greater the less elastic the demand for the good or service. As a corollary, the inefficiency will be greater the fewer the availability of substitutes and substitution possibilities. For many disability goods and services, demand is highly inelastic because there are few substitutes to the highly specific functional need provided by the good or service. Often the alternative to having the good is to not have it at all.

The lack of substitution possibilities contrasts with many everyday monopoly goods and services, where the alternative is some other product or service, or some other way of having the service provided. Thus, a postal company may enjoy a monopoly in the delivery mail, but Email, phone/fax, couriers, or personal delivery are alternatives that make the demand for mail elastic.

The fewness of close substitutes follows partly from the high degree of heterogeneous nature of impairments. Given highly specialised modifications and adaptations often required to accommodate specific impairment characteristics, each final product is almost unique in the supply of a servicing characteristic. Products which may be substitutes for

some people will not be substitutes for others – e.g. a hand-powered wheelchair will not be substitute for an electronically-powered wheelchair to a person without hand-power but it will be for a person with hand-power.
All this suggests that the degree of inefficiency will be higher in non-contestable disability markets, and that the size of the price premium over marginal cost will be greater in such monopolies than for other monopolies.

The higher cost of living due to monopoly and limited contestability is pertinent in a number of respects. Firstly, it compounds the income disadvantage faced by people with disabilities, thereby reducing the real income or purchasing power of the already limited nominal income of people with disabilities. This is not directly relevant to the DDA but it is directly relevant for the Productivity Commission, and to income support policies that seek to reduce poverty. It is relevant to the Productivity Commission's understanding of the inefficiency of disability goods and services markets, and for recommendations it may make for products that serve that market. It is also relevant for poverty-alleviation policy since it suggests that people with disability are more materially disadvantaged than nominal income statistics imply.

It is also relevant to the DDA insofar as it is important to recognise that policies that reduce the additional cost of living of people with disability are to some extent offsets to inefficiencies in product markets. As outlined above, offsetting the additional cost of living due to disability is one component of the measurement of the benefits of the DDA.

Unjustifiable Hardship

Unjustifiable Hardship as Defined by DDA and HREOC

Section 11 of the DDA explains that in determining what constitutes unjustifiable hardship, all relevant circumstances of the particular case are to be taken into account including:

- The nature of the benefit or detriment likely to accrue or be suffered by any persons concerned; and
- The effect of the disability of a person concerned; and
- The financial circumstances and the estimated amount of expenditure required to be made by the person claiming unjustifiable hardship; and
- In the case of the provision of services, or the making available of facilities - an action plan given to the Commission under section 64.

HREOC suggests that circumstances relevant to unjustifiable hardship may include:

- Technical limits;
- Topographical restrictions;
- The effect, both positive and negative, on other people of providing the required level of access, for example, people delivering goods, people with prams or trolleys and the staff;
- Safety, design and construction issues;
- The benefit for people with disabilities; and
- The costs involved in providing access.

From an economics perspective, 'technical limits', 'topographical restrictions' and 'safety/design/construction' are really only relevant insofar as they affect costs, and the HREOC Advisory Note is therefore a statement to the effect that *unjustifiable hardship* needs to be looked at in terms of a social cost-benefit analysis where costs and benefits to all parties are relevant. This interpretation of the HREOC perspective is consistent with the cost-benefit perspective of conventional economics, but at odds with the Act which specifies the need to account for "*financial circumstances*". Such financial circumstances are generally irrelevant from the conventional economics perspective which makes a clear distinction between accounting cost and economic or opportunity cost, and between economic effects and pecuniary effects.

Uncertainties in Definition

While the HREOC statement purports to clarify how unjustifiable hardship should be interpreted, it leaves some critical issues unresolved so that neither suppliers of goods and services nor people with disabilities know how a court is likely to interpret a case. Because of the uncertainty, some suppliers are likely to not comply with the DDA where they are discriminating 'unjustifiably', some people with disabilities are as likely to refrain from making 'justifiable' complaints as they are of making 'unjustifiable' complaints at great cost to themselves, and some suppliers may enhance access where

there is no demand for access (e.g. wheelchair accessible toilet in an spot which is inaccessible to a wheelchair user)[15].

Some unresolved questions raised by the Act and the HREOC Notes include the following.

- The DDA's use of the word "hardship" implies a threshold, below which some level of cost to a respondent is presumably justifiable but above which the cost is presumably not justifiable. The word *hardship* is defined in the Oxford Dictionary as "extreme privation" and contrasts with a weaker concept of 'loss' but the Act gives no indication of where this threshold lies, and therefore makes one of the key defences against the charge of discrimination vague and uncertain.

  Furthermore, while the Act is clear on the need to account for the effects on complainant and respondent, as well as "*any persons concerned*", it gives no guidance on how to balance these costs and benefits or how to define "*any persons*". Thus, is the impact on non-respondents and non-complainants given the same weight as the impact on respondents and complainants? In using the stronger term "*hardship*" as opposed to the weaker term "*loss*", does the Act suggest that the aggregate benefits to people with impairments have greater weight than the costs born by the community as whole?

- Economic analysis suggests that in the long-run the incidence of a tax depends on the degree of substitution in the demand for a good or service, the nature and structure of competition in the industry, and the degree to which marginal costs increase as output increases. The real incidence differs from the nominal immediate incidence because the burden of the tax may be shifted fully or partly forward onto consumers or backward onto suppliers. Similarly, the cost of accommodating a complaint may be shifted forward onto consumers or backward onto property owners, co-workers, or product designers.

  Currently neither the complainant nor respondent can know the extent to which the court will or can anticipate cost-shifting. It may be that Act's emphasis on 'financial circumstance' and 'amount of expenditure' suggests that only immediate financial incidence is relevant and that economic cost-benefit analysis is beside the point.

  It is important to note that a narrow pecuniary interpretation of cost which emphasises nominal cost narrows the scope of the DDA considerably in contrast to a broader economic cost-benefit approach.

- The Act specifies the need to account for "*financial circumstance*" but it is unclear whether this refers to short-term liquid cash flow, long-term financial capacity, or some other measure of cost. Thus, a respondent's short-term liquid cash financial may be due to temporary factors such as interest rates, level of debt, capital needs, and changes in macroeconomic conditions, etc… Such factors are unrelated to long-term financial capacity to accommodate a disability complaint, yet without clarification, a court may give greater force to such irrelevant factors than to long-term financial viability.

[15] Coase Theorem.

While a narrow short-term liquid cash flow interpretation of "financial circumstance" narrows the scope of the DDA considerably in contrast to a financial capacity definition which would examine long-term balance sheets, borrowing capacity, and competitive conditions, it is unclear whether a court has either the capacity or the judicial right to speculate about what are ultimately entrepreneurial judgements.

- While the Act specifies that the court needs to account for the '*amount of expenditure*', the Act is silent in specifying the criteria for defining what constitutes a large or small amount. Presumably large and small have some relationship to capacity to pay, but outcomes will vary depending on whether capacity to pay is defined in terms of turnover, accounting profits, or excess profits for example. Thus, it is possible for a firm with large turnover to have little capacity pay, just as it is possible for a firm with small turnover which enjoys a monopoly in its local market to have a capacity to pay.

These issues are critical and the answers are complex in a dynamic economy where a firm's organisational, ownership and financial structure are fluid and continually changing. Without clear criteria, outcomes are likely to be inefficient and inequitable. Thus, a firm might on the one hand be able to claim unjustifiable hardship simply because it faces financial difficulties and despite there being a social benefit to providing access, while another firm might not be able to able to use the defence simply because it is large, and even though it may be socially inefficient to require the firm to provide access.

Three Alternative Views of Cost Incidence

These ambiguities can be illustrated by a simple example. Sandra, a wheelchair user, is excluded from Jaxxjazz, the only nightclub of its type in the city because it has no ramp. She complains that the Jaxxjazz is discriminating against her because of her impairment. Assume that:

- Sandra would be willing to pay an $125 more per year than wheelchair-nonusers to get into the Jaxxjazz;
- Eight other wheelchair users would also be willing to pay $125 premium per year if the club had a ramp;
- Jaxxjazz has 1,000 clients who do not use wheelchairs.
- The capital cost of a ramp is $10,000, and it has a useful "life" of 10 years, implying an annualised rate of $1,000 per year.
- Jaxxjazz has 2 years left on its lease with the property owner, ZLK Life, a large international insurance company whose share price has fallen by 75% in the previous 6 months
- Jaxxjazz makes an accounting profit of $60,000 p.a. and an economic profit of $15,000 p.a. on a turnover of $500,000 p.a.

In this example, the project would be justified in a purist economic cost-benefit analysis with the benefits of $1,125 p.a. (125 * 9) greater than the $1,000 p.a. depreciation cost

and with Kaldor-Hicks-Scitovsky potential compensation criteria satisfied[16]. The DDA does not accept "potential compensation" as a sufficient criterion however, so the issue revolves around the more narrow financial issue of whether or not expenditure on the ramp would or would not constitute "extreme privation".

Three alternative viewpoints on the nature of cost-incidence may be distinguished:

1. Jaxxjazz passes the cost of the ramp forward onto consumers and the impact on consumers is viewed as minimal
2. Jaxxjazz bears the total cost of the ramp
3. Jaxxjazz passes part of the cost of the ramp backward onto ZLK Life.

Viewpoint 1: Costs passed forward to consumers

Where the court accepts that the $10,000 capital cost can be passed forward onto consumers, the $1 p.a. per consumer impact is considered minimal, and the $125 impact on the eight other people with impairments is accounted for, the court would rule in favour of Sandra.

The likelihood of Case 1 is small in competitive industries where competition ensures that economic profits are generally only temporary. Increases in costs are passed forward to consumers only where all firms in the industry face the same cost increases. Due to the differential costs that would be faced by firms facing different topographical, design, technical and safety features, in competitive industries firms will generally not be able to pass the cost impost forward onto consumers, and will therefore have to bear the cost impost themselves.

Case 1 is more likely in cases involving government organisations, firms that are naturally or artificially protected from competitive pressure, and cartels in uncontested markets. This is because such firms are freer to pass cost increases forward onto consumers. It is important to note that in an increasingly globalised and corporatised economy, the ability to pass costs forward onto consumers is decreasing.

Viewpoint 2: Costs Born Fully by JaxxJazz:

When Jaxxjazz is unable to pass the cost of the ramp either forward to consumers or backward onto ZLK Life, the ramp needs to be depreciated over the 2 years left before rent renewal instead of the 10 years of the ramp's life. For this particular case, the hurdle for justification would be the $5,000 p.a. financial expenditure instead of the $1,000 p.a. economic cost.

Whether the court rules in favour of Sandra or Jaxxjazz depends on whether the $5,000 is considered unjustifiably high not. The answer to that question in turn depends on
i) whether the cost is compared to the $15,000 economic profit (i.e. 33.3%), the $60,000 accounting profit (8.3%) or the $500,000 turnover (1%) and
ii) on the threshold between justifiable cost and unjustifiable hardship.

[16] Pareto welfare criteria with compensation.

From an analytical economics perspective, the only meaningful benchmark is economic profit, and the only issue relevant to whether a cost impost is likely to cause hardship is whether the firm nets or does not net an economic profit. The percentage of economic profit would be irrelevant, since the existence of economic profit would be enough to suggest capacity to afford a cost impost. In practice, however, economic cost is difficult to estimate since by definition, economic cost seeks to estimate 'next best alternatives', which necessarily involve speculation, and makes the estimate an art rather than science.

Practical standard accounting benchmarks such as turnover, accounting profits, cash flow etc… are less speculative estimates, but using these benchmarks raises other problem. Firstly, benchmarks for thresholds which show hardship will vary across industries and organisational types. Thus, in low margin industries 1% of turnover may be an unjustifiably high cost while in high margin industries, 1% may not be considered high. This implies that it would be inappropriate to use a single benchmark across all industries. More critically, the purpose of profit/loss and balance sheet statements are only indicative estimates of financial position and hardship, implying that no single accounting ratio would suffice as an indicator of hardship, and that the interpretation of these estimates also involve art rather than science. Finally, accounting ratios are backward looking, whereas economic hardship is more a matter of future opportunities than of past performance.

The above suggests that any single standardardised threshold measure involves an element of arbitrary "art", and that it is therefore impossible to create a single benchmark which a court could follow and which would eliminate the uncertainties faced by complainants and respondents.

It does not follow that a range of benchmarks and criteria for the court to take into account in a flexible manner would not reduce uncertainty. It is more than likely that this is the approach that has been taken by the Federal Court on a case by case basis. The problem then is one of transparency and accountability, where the current inadequate guidelines and legislative direction creates excess uncertainty.

Viewpoint 3: Cost Passed Backward to the Property Owner

Economic analysis suggests that Jaxxjazz is unlikely to bear that portion of the capital cost that accrues outside the period of its tenancy. The ramp would presumably have value to a future tenant, so Jaxxjazz would be able to "sell" the ramp to ZLK Life, which in turn could pass the cost of the ramp on to next tenant in the form of a higher rent. With the $10,000 cost capitalised at $1,000 p.a., it would not be unreasonable to suggest that JaxxJazz would bear $2,000 over the two years remaining of the lease and while ZLK Life would bear $8,000 over the balance of the ramp's useful life.

This case is relevant if the court recognises that costs can be passed on by the respondent claiming unjustifiable hardship. By recognising that the costs can be passed on to the ZLK Life, there is a greater likelihood that the court will find for Sandra rather than JaxxJazz unless the court also accounts for the cost to be born by ZLK Life.

If the court accepts that costs can be passed on, it would presumably have to account for the cost impact on ZLK, and given the 75% fall in ZLK's share price, an 'extraordinary' cost impost could be viewed as involving 'unjustifiable hardship'. An economic perspective would not find the historical share price fall as relevant to the value of building a new ramp, but arguably the DDA requires the court to account for the impact on ZLK even though it is not a direct party in the dispute between Sandra and JaxxJazz, and if it does, the court could conceivably find that the construction of the ramp to involve 'unjustifiable hardship'.

The three viewpoints above highlight a number of issues which need to be clarified to minimise uncertainty and to enhance fairness, and they also highlight how a project may be frustrated by the details of the DDA and how a focus on financial expenditures and valuations instead of economic costs and benefit can discourage economically efficient projects.

Economic analysis suggests that the incidence of a tax or cost impost varies according to the capacity of consumers, producers and assets owners to find alternatives to the 'taxed' good or service. This suggests that the incidence of a cost impost varies on a case by case basis, and therefore for different types of complaints. Thus, while the nominal immediate incidence of improved access to buildings and transport may lie with transport operators, the long-term incidence is likely to be born by asset owners and consumers as well as operators; and similarly, the long-term incidence of anti-discrimination measures in employment is likely to be shared by both employers and persons with disability (in the form of lower wage) and the long-term incidence of education access is likely to be born by taxpayers and parents.

Implications

Ideally, the DDA needs to be explicit in:

- defining unjustifiable hardship as a cost-benefit exercise
- defining the parameters of unjustifiable hardship
- specifying that the ultimate long-term (as opposed to immediate nominal) incidence of expenditure should be considered as the relevant criterion for defining hardship
- specifying how the gains of people with disabilities should be weighted against the costs born by consumers, producers, taxpayers
- specifying how consumer benefit is to be measured.

Without refinement of the concept of unjustifiable hardship along the lines outlined above, the DDA will continue to be flawed ineffective legislation which raises the hopes of people with disability and gives the appearance of enhancing the rights of people with disability without doing so. It will continue to be flawed because of the uncertainties in definition, and it will continue to offer little advance because of the narrow immediate (as opposed to ultimate) financial (as opposed to economic) perspective that is likely to be taken in defining the cost burden.

Inefficiency of Enforcement through Complaints

Enforcement in disability discrimination is by way of complaints by people with disability who face discrimination. A service provider, business or employer can continue to discriminate until there is a complaint, at which point the matter is initially subject to conciliation in HREOC. If there is no resolution in HREOC, the complainant can either take the matter to court or drop it.

Rational economic analysis suggests that a discriminator will weigh comply with the DDA only if the cost of not complying are greater than the expected costs of complying. The expected cost of not complying will depend on a host of factors, but critical amongst these factors will be the likelihood of a complaint being lodged, and the likelihood of a complaint going to court. If the likelihood of a complaint being lodged and pursued in court is small, it will not be rational to comply with the DDA.

Rational economic analysis also suggests that a person facing discrimination will only complain if the expected benefits of a complaint are likely to be greater than the expected costs of making a complaint.

This submission contends that the likelihood of an individual making a complaint in most cases is low, and that the likelihood of a complaint being taken to court is even lower. This suggests that even when the aggregate social cost of the discrimination is high and at least as great as the cost of overcoming the discrimination, the discrimination will not be eliminated because in most cases the DDA will not provide a sufficient mechanism for eliminating the discrimination so long as its only mechanism is complaint-based.

Transactions costs of making a complaint

The economic costs of making a complaint include not only financial out of pocket expenses, but also time costs and out of pocket expenses associated with making a complaint, as well as the stress and anxiety associated with pursing a complaint. The legal expenses involved in conciliation are low, but the other costs including time taken from work, out of pocket expenses in travelling to conciliation conferences (perhaps requiring taxis because of the lack or unreliability of accessible public transport), and the emotional costs may be quite substantial[17].

The expected benefits of making a complaint will vary from case to case. Where a complaint may lead to increased income earning potential - as is likely to be the case with education and employment complaints, the expected benefit may be substantial, particularly if the alternative to discrimination is unemployment or an inferior education which leads to few prospects of future employment. In other cases, the benefit in a particular case to a particular complainant may be relatively small - as for example,

[17] Assuming the opportunity cost of time at $20 per hour, out of pocket expenses (including transport) of $100, and emotional costs of $150, the economic cost of a complaint taking 15 hours of time (making the complaint, travelling to and in conciliation) would be $550 ([15*20+250]).

discrimination due to lack of a ramp into a nightclub[18], even though the same person may face many similar "small" acts of discrimination continually, and even though many people may face the same discrimination.

Where many people may be affected in the same way, the enforcement/complaint dynamic described above resembles the classic public goods problem of economics. Thus, the aggregate social benefit of enforcing the anti-discrimination legislation through a complaint may be greater than the aggregate social cost, yet the complaint is unlikely to go ahead if it is in no single individual's interest to complaint. Class action complaints are allowed under the DDA, but if the cost of co-ordinating complaints across many independent individuals is high, class action is unlikely to resolve the issue.

The uncertainty surrounding the definition of the unjustifiable hardship clause effectively increases the risk of pursuing a complaint and thus increases the economic cost of making a complaint. There was initially an expectation that case law would over time clarify the meaning of unjustifiable hardship, but this has not occurred except perhaps in education and employment. The reasons for the slow development of case law clarifying the unjustifiable hardship clause is open to debate, but it would not be unreasonable to believe that one of the main reasons is likely to be because of the ambiguity of the clause itself.

Cost of Pursuing a Complaint to Court

Where there is no resolution in conciliation at HREOC, complainants can either withdraw the complaint or pursue it through the courts. Once again, the likelihood of a complainant pursuing a case through the courts depends on the relative costs and benefit of pursuing a case in court. The lodgement costs are relatively low (albeit high to a person who is unemployed and/or faces the high additional costs due to impairment), and many (but by no means all) complainants have free legal advice, but the non-financial time and stress/emotion costs are likely to be high.

The main disincentive for a complainant to proceed to court is however the expected cost of being required to pay the respondents' legal expenses if the complaint fails. While costs are not always awarded against a complainant whose case fails, the possibility of such an award cannot be ruled out and is therefore an a priori cost that a complainant must include in a cost-benefit accounting. It is furthermore a cost which the complainant cannot control, since it will be determined by the respondent. This uncontrollable legal expense will be substantial where the respondent has a large legal team.

While in principal, the Federal Court is unbiased, in practice there are several sources of economic bias against complainants (who are in general likely to be individuals) and in favour of respondents (who are likely to be organisations). Thus,

[18] In the case study above, the benefit was estimated to be $125 per year. Assuming an interest rate of 10% and a 50% probability of making a successful complaint, the expected benefit of a complaint would be $625. (0.5*125/0.1).

- respondents are likely to have greater financial capacity in defending their case both because organisations are likely to have greater borrowing power and greater liquid cash flow than individuals
- an organisation's costs are likely to be tax deductible or able to be passed forward to consumers or spread over a large number of shareholders while a complainant's costs will not be tax deductible and will not be able to be passed on
- organisations are more likely to view the costs of a single defence as a test case, and therefore an investment aimed at containing the overall and "second-round" cost implications of a case whereas the costs to an individual complainant will generally be restricted to the case itself e.g. a complaint against an Education Department by a parent whose child has an intellectual impairment is likely to be seen as a test case by the Department but as a one-off complaint by a parent
- respondents are likely to be more familiar with court proceedings and culture, and more acculturated to have expensive legal teams.

Where a discriminator anticipates that a person with a disability is unlikely to pursue a matter through the courts, a discriminator has little incentive to negotiate in good faith before a HREOC conciliation proceeding. Respondents are likely to claim unjustifiable hardship at the HREOC resolution stage even where the costs are not large, and where a court would most likely rule in the complainant's favour. This in turn reduces the likelihood of a successful conciliation, and thereby serves to further reduce the likelihood of a person with a disability making a complaint.

It would not be an overstatement to suggest that for most cases of discrimination as defined in Commonwealth legislation, DDA is of little use in helping to prevent and reduce discrimination against people with disabilities. The main reasons for this are:

- complaints are the only means of enforcing the DDA
- persons with disability are unlikely to make complaints because in most cases the expected benefit to the person making the complaint is less than the expected economic cost of doing so, even if a successful outcome is likely in a HREOC conciliation proceeding
- persons with disability are unlikely to proceed to court action both because of the risks of having costs awarded against them

respondents in a HREOC conciliation proceeding are unlikely to negotiate in good faith because they can reasonably expect that in general persons with disability are unlikely to proceed to the Federal Court, and the discrimination is therefore unlikely to be struck down.

Indicators of Progress

The impact of the DDA cannot be expected to be obvious for years, maybe even decades because of the inter-relatedness of the various parts of the DDA and the general disability policy framework. The network issue discussed above gives an example of how, for a wheelchair user, i) the value of an accessible transport infrastructure may be of little use until all the critical nodes of the transport system are accessible and ii) how even a fully accessible transport infrastructure will be of little without an accessible building infrastructure. The transport-building inter-relationship is only one of many relationships which will impact on the ability of a wheelchair user to seamlessly participate in the work force on the same terms as a person without an impairment. Other necessary components of a person's ability to get to work and stay in work, on the same terms as a person with an impairment include:

- reliable and timely quality assistance in getting out of bed and out the door in the morning with a fair breakfast;
- the availability and reliability of the equipment and modifications used to ensure an acceptable level of independence in getting to and from work and in work;
- a social security system which does not penalise workforce participation
- a workplace environment with non-discriminatory supervisors, colleagues, clients and suppliers.

These various factors are all interdependent but all fall under different jurisdictions in different situations, and the delivery of services is subject to the responsibility of different authorities and institutions. Thus the demand for buildings, transport, equipment services, income support and assistance supports are mutually interdependent on the demand side, yet separately independent on the supply side, with the delivery of product and service depending variously on inter-related Commonwealth, State and Local Government laws and regulations and financial accountability depending variously on public sector, private sector and/or non-profit sector constraints and obligations.

The above suggests the need for increased integration of demand and supply, but it also explains why without increased integration of demand and supply, progress toward increased employment and social integration, progress is and will continue to be slow.

While an ideal full integration supply and demand may be postulated, in practice a full integration would be impossible to implement given current institutional arrangements in Australia, and perhaps impossible to implement under any institutional arrangements except at extraordinarily high transaction costs. The impossibility or high cost of perfect integration does not mean that more integration ought not be attempted, and to this end, the DDA and HREOC potentially provide parts of a necessary integration.

The discordance between demand and supply suggests that employment and social participation rates, and other macro indicators are unlikely to increase significantly towards parity with the rest of the community except over decades. It further suggests

that when there is improvement, the source of the improvement may not be the DDA but of some other institutional aspect. Thus for example, increased participation in the workforce might be due to either improved transport or it may be to improved access to equipment as a result of a State government initiative, or it may be due to increased incentives to work via the Commonwealth society security system.

Macro indicators such as participation rates, are subject to various interpretations of cause and effect even when data are continuous and where institutional arrangement are relatively simple, with single and relatively static points of reference. They are more difficult to interpret where there are several legal jurisdictions and institutions, and where needs are widely disparate.

Indicators such as % of new buildings, % of transport etc….add up to a picture however. This suggests that as ABS surveys increasingly ask questions with an impairment component, a picture will emerge. Thus for example, building surveys, transport surveys, etc…..cost of living …income and household expenditures…. satisfaction and expectations….

In distinguishing across the wide range of needs of people with disability, it is particularly important note that the data extremes are particularly important. In most parametric survey work, extremes are often excluded or truncated because they are assumed to be involve exceptional situations i.e. very different from the average. In analysing disability data however, the critical issues involve exactly people who are in some respect very different from the average. This suggests that parametric studies which tend to measure the average are inappropriate. Thus for example, measuring the additional cost of living of persons with “average” disabilities will significantly underestimate the additional cost of living of a person with multiple disabilities, or with significant more disability than the NITS

A policy basing itself on the average will thereby significantly underestimate the needs of those with greatest need, and thereby run counter to the Rawlsian principle of ensuring that the most disadvantages are assisted most or before those of lesser disadvantage.

Questions to be answered:

Is there a case, within the orthodox economics paradigm, for believing markets fail people with impairments?

Can the political market-place be expected to fill the vacuum that is not filled by private markets?

Can there be too much expenditure on supporting the participation of people with impairments?

Is there a limit to how much government should spend on supporting the participation of people with impairments?

In what ways does the allocation of resource through the market system support the social participation of people with impairments?

In the absence of market failure, can government be expected to allocate resources more efficiently?

In the absence of market failure, can government be expected to allocate resources in a way which is consistent with social justice?

In what ways can government support the social participation of people with impairments?

Is the Disability Discrimination Act a necessary instrument for supporting the participation of people with impairment?

Is the Disability Discrimination Act a sufficient instrument for supporting the participation of people with impairment?

What are the strengths and weaknesses of the DDA?

How does the unjustifiable hardship clause limit the scope of the DDA?

In what ways is the unjustifiable hardship clause ambiguous?

Should the scope of the DDA be limited by cost?

Is the DDA neutral between complainants and respondents?

Are people with impairments likely to complain when faced with an overt act of discrimination?