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"A Welfarist Approach to Disabilities"

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Abstract

This paper uses the tools of optimal tax theory to examine policy toward individuals with disabilities from a welfarist perspective. Policy toward the disabled depends on how a given disability affects welfare. Under reasonable assumptions, redistribution toward individuals with disabilities is desirable, but the extent and form depends on a variety of factors. If disabilities are observable, adjustments to the income tax schedule should be preferred. If disabilities are not observable, commodity taxes or in-kind provision of certain goods (such as accommodations) may be desirable to solve screening problems. In this case, inefficient over-supply of these goods is likely to be optimal. Finally, to the extent needs of the disabled are public goods, supply of such goods may be desirable (even if disabilities are observable).

A Welfarist Approach to Disabilities

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      This paper uses tools from the theory of optimal taxation and welfarist notions of distributive justice to examine policy toward the disabled. The goal of these theories is to develop policies that (1) ensure that people's contributions and the resulting distribution of resources are commensurate with their abilities, while (2) ensuring that people do not conceal their true level of ability to get more than their share. Both elements are, or should, be central to disability policy. Nevertheless, notwithstanding the massive literature on disabilities, there are few, if any, articles that take this approach, and none in the legal literature.[1]

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[1]Mark Stein argues for a utilitarian approach to disability but he does not explore any of the policy implications (other than in the loosest sense). *See* MARK S. STEIN, DISTRIBUTIVE JUSTICE AND DISABILITY (2006). *See also* Mark S. Stein, *Utilitarianism and the Disabled: Distribution of Resources*, 16 BIOETHICS 1 (2002). Peter Singer famously approaches disabilities from a utilitarian perspective. *See* Peter Singer, RETHINKING LIFE AND DEATH: THE COLLAPSE OF OUR TRADITIONAL ETHICS (1995). Singer's focus, however, is on beginning and end of life issues. The focus here is on "everyday" policies toward the disabled, such as cash transfers, antidiscrimination laws, accommodations, and the like. Deciding who does or does not count in social welfare considerations is, in an important sense, orthogonal to the considerations of the appropriate policy toward those who are part of the social welfare calculation.

      What little welfarist literature focusing on the appropriate treatment of individuals with disabilities can be found in the public economics literature. There are two distinct strands within this literature. The first is the literature examining optimal disability insurance, beginning with the work of Peter Diamond and James Mirrlees. *See* Peter Diamond & James Mirrlees, *Payroll-Tax Financed Social Insurance with Variable Retirement*, 88 SCANDINAVIAN J. ECON. 25 (1986); Peter Diamond & James Mirrlees, *A*

Most modern studies of disabilities used the so-called social model.[2]

Model of Social Insurance with Variable Retirement, 10 J. PUB. ECON. 295 (1978). This literature models the risk of disability as the risk of suddenly having a wage rate of zero and examines the optimal social insurance policy for this risk. An individual with a disability in these models is the same as any other individual except with respect to the wage rate.

The second, which is the focus of this paper, builds off of the optimal income tax literature, adding a second dimension of difference among individuals. This work is still in its infancy. For examples, see Robin Boadway & Pierre Pestieau, *Indirect Taxation and Redistribution: The Scope of the Atkinson-Stiglitz Theorem*, *in* ECONOMICS FOR AN IMPERFECT WORLD 387 (Richard Arnott et al eds., 2003); Robin Boadway et al, *Optimal Redistribution with Heterogeneous Preferences for Leisure*, 4 J. PUB. ECON. THEORY 475 (2002); Helmuth Cremer et al, *Direct Versus Indirect Taxation: The Design of the Tax Structure Revisited*, 42 INT'L ECON. REV. 781 (2001); Kaplow , Heterogeneity working paper (2006); Emmanuel Saez, *The Desirability of Commodity Taxation Under Non-Linear Income Taxation and Heterogeneous Tastes*, 83 J. PUB. ECON. 217-230 (2002). There is very little cross-fertilization of this literature with the broader disability literature. The public finance work is never cited in the usual disabilities literature and the public finance literature does not reference the disabilities literature.

[2]The literature on the social model is large and a short summary cannot do justice to the variety of subtleties and nuances in the model. The origins of the social model date back at least to Saad Nagi's work in the 1960's. *See* SAAD Z. NAGI, DISABILITY AND REHABILITATION: LEGAL, CLINICAL AND SELF-CONCEPTS AND MEASUREMENT (1969); Saad Z. Nagi, *Some Conceptual Issues in Disability and Rehabilitation*, *in* SOCIOLOGY AND REHABILITATION (Marvin B. Sussman ed., 1965). It was developed explicitly for the first time in UNION OF THE PHYSICALLY IMPAIRED AGAINST SEGREGATION, FUNDAMENTAL PRINCIPLES OF DISABILITY (1975). Michael Oliver is viewed as central in bringing the model to a wider audience. *See* MICHAEL OLIVER, THE POLITICS OF DISABLEMENT: A SOCIOLOGICAL APPROACH (1990). A forerunner in the legal literature is Jacobus tenBroek. *See* Jacobus tenBroek, *The Right to Live in the World: The Disabled in the Law of Torts*, 54 CAL. L. REV. 841 (1966). Mary Crossley was one of the first to use the social model in the legal literature. *See* Mary Crossley, *The Disability Kaleidoscope*, 74 NOTRE DAME L. REV. 621 (1999). For additional discussion of the social model in the legal literature, *see also* Samuel R. Bagenstos, *Subordination, Stigma, and "Disability,"* 86 VA. L. REV. 397 (2000) [hereinafter Bagenstos, *Subordination*]; Samuel R. Bagenstos, *The Future of Disability Law*, 114 YALE L.J. 1 (2004) [hereinafter Bagenstos, *Future*]; Mary Crossley, *Reasonable*

The social model combines a causal claim and a normative claim. The causal claim is that disability is caused by social arrangements rather than individual medical conditions. Individuals have impairments or traits of various sorts. The social model argues that it is the social environment, the organization of society, that causes the traits to limit functioning, thereby causing a disability. The example almost always used to illustrate the idea is an individual in a wheelchair who cannot access a building because of the stairs. The social model claims that it is the choice to construct the building with stairs rather than the individual impairment that causes the limited functioning or disability.

The normative claim is that disability should be addressed as a matter of discrimination. Disability is like race or sex, a difference that should not matter. Anything that causes a disability to matter is, therefore, defined as discrimination and, subject to certain limitations, society is said to have an obligation to eliminate it. The Americans with Disabilities Act (the ADA) is the crowning achievement of the social model and is the subject of most of the disabilities literature since its enactment in 1990.[3]

Although the focus on discrimination is important because of the real, and potentially subtle, effects of animus and statistical discrimination, the social model and discrimination theory are inadequate bases for a general theory of disability. The key problem is that these theories do not directly address scarcity and, therefore, conflate issues of distributive justice – how much society should allocate to individuals with different traits – with issues of biased or inappropriate behavior. Even if we were setting up society from a blank slate and entirely without

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Accommodations as Part and Parcel of Disability Law, 35 RUTGERS L. J. 861 (2004); Michael A. Stein, *Same Struggle, Different Difference: ADA Accommodations as Antidiscrimination*, 153 PENN L. REV. 579-673 (2004).

 [3]The literature studying the effects of the ADA is vast. *See* Bagenstos, *Future*, *supra* note 2, at 3 n.2, for a partial list of papers.

animus, bias, or other causes of discrimination, arrangements that eliminate the effect of impairments would be costly or in some cases, impossible.[4] Only in the most extravagantly imaginary world could we construct a transportation system that allowed a blind person to drive a truck or construct a method of scientific inquiry that allowed a merely average person to be a physicist. And even if we could, setting up a society that did so would mean fewer resources were available for other purposes. Although it is possible that spending resources this way is desirable, we need a theory of distributive justice to make this determination. The language and tools of discrimination policy are not sufficient for understanding this sort of problem. As the philosopher David Wasserman noted, an "injunction against discrimination does not, by itself, tell us the extent to which we must modify our physical and social environment to accommodate people with disabilities."[5]

The modern focus on discrimination also does not take into account the vast sums spent every year by the government and private actors to help the disabled.[6] For example, in the United States in 2003, there were almost 200 separate programs for the disabled, administered by more than 20 federal agencies.[7] Programs that solely or primarily targeted the disabled cost more than $120 billion in that year. Payments to individuals with disabilities from Medicare and Medicaid were an additional $132 billion in 2002. SSI spent another $26 billion on the disabled in 2002.[8] Combined, the total is approximately $275 billion per year in federal

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[4]Susan Wendell, a social model advocate, makes a similar point. *See* Susan Wendell, *The Rejected Body: Feminist Philosophical Reflections on Disability* (1996).

[5]*See* David Wasserman, *Philosophical Issues in the Definition and Social Response to Disability*, *in* HANDBOOK OF DISABILITY STUDIES 219, 241 (Gary L. Albrecht et al eds., 2001).

[6]Bagenstos also makes this observation about the social model. *See* Bagenstos, *Future*, *supra* note 2, at 4.

[7]*See* GOV'T ACCOUNTABILITY OFFICE, NO. 05-626, FEDERAL DISABILITY ASSISTANCE, (2005).

[8]*See id* at 16-17.

spending directly on the disabled. This excludes state and local spending (including worker's compensation programs), additional federal spending not captured in these numbers (such as the disability components of larger programs), safety precautions mandated by law or induced by the tort system, and mandated private spending because of the Americans with Disabilities Act, some of which is potentially unrelated to discrimination.[9] The number also excludes voluntary private spending on disability. The $275 billion per year number, therefore, is likely a significant underestimate of total resources spent on disabilities. By any measure, the numbers are large, and understanding how best to spend resources of this magnitude is important.

Discrimination theory has not shown that it can to resolve these problems in a convincing way. Regardless of whether discrimination theory is up to this task, given the size of the transfers being made, the problems of scarcity, and the deep overlap between tax policy and disabilities, it makes sense to see how disability is approached as a matter of tax theory and welfarist notions of distributive justice. In many cases, welfarist theories will buttress discrimination theories, sometimes solving puzzles that discrimination theories present. For example, welfarist theories can help explain why we might want to require costly accommodations when it would seem to be cheaper to write people a check, and it can do so without relying on contested notions of social

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[9]I have been unable to find reliable estimates of ADA compliance costs. In addition, there are major disputes about the extent to which mandated accommodations are remedies for discrimination and the extent to which they are transfers. *See* Samuel Issacharoff & Justin Nelson, *Discrimination with a Difference: Can Employment Discrimination Law Accommodate the Americans with Disabilities Act?*, 94 N.C. L. REV. 307 (2001); Christine Jolls, *Antidiscrimination and Accommodation*, 115 HARV. L. REV. 642 (2001); Pamela S. Karlan & George Rutherglen, *Disabilities, Discrimination, and Reasonable Accommodation*, 46 DUKE L. J. 1 (1996); Stein, *supra* note 2; J.H. Verkerke, *Is the ADA Efficient?*, 50 UCLA L. REV. 903 (2003). This senseless debate is example of the problem created by a focus on discrimination: whether policies are desirable become hostage to definitions rather than on the effects of the policies.

exclusion, status, or neutrality. Similarly, welfarists theories can help develop an appropriate definition of disability without recourse to notions such as typical human functioning. At other times, welfarist theories may part ways with claims of discrimination theorists, most often because of its attention to issues of scarcity, but also because distributive justice may impose duties beyond even a perfect meritocracracy or recompense for past harms.

The analysis will show that there are three key considerations in developing a disabilities policy. First, we must understand how disability affects individuals. If an individual with a disability is worse off than others or can make better use of limited resources, a welfarist will, in general, favor allocation of additional resources to the individual just like a welfarist favors redistribution of income. The precise nature of the disability may affect the desired policy. Disabilities of various sorts will affect individuals in many ways, and policy prescriptions should be sensitive to these factors. For example, one plausible effect of disability is that it increases needs. A person with a disability might need an assistive device, additional medical services, or a particular construction of public architecture, none of which a person without the disability would need, at least to the same extent. Someone with increased needs would have lower overall welfare (for the same income) and increased marginal utility, both of which mean a welfarist policy would allocate additional resources to such individuals. Disabilities, however, are likely to affect individuals in other ways (and may not increase needs), and the appropriate policies will depend exactly how a disability affects individuals.

A second factor is whether the disability can be observed. Different types of disability will be differently observable. Spinal cord injury might be easy to observe, but back pain and attention deficit disorder might not be. If disability can be accurately observed, we can base policies on this information. In particular, it will be optimal to use the income tax, adjusted to take into account observable disabilities, for redistribution.

If disabilities cannot be accurately observed, policies that favor the disabled will create incentives for the nondisabled to pretend to be disabled and claim the benefits. Policies must be designed to reduce these incentives. Simple adjustments to the income tax will no longer be desirable. Instead, we will want to direct resources toward the disabled through in-kind provision or taxes and subsidies for commodities that the disabled are more likely to value than are mimickers. Moreover, it may often be the case that inefficient, over-provision of these items is desirable to help target benefits. Thus, an important conclusion is that if accommodations for the disabled are a method of solving targeting problems, we should not measure whether they are desirable by whether they are efficient. We should, in fact, want to have inefficient over-provision.

Finally, goods can be provided in a variety of ways, such as through direct transfers of cash, through in-kind provision of particular goods, or through changes to public goods (architecture, legal rules, etc.) to help the disabled. It is here that welfarism meets the social model. The social model argues for in-kind provision of such goods as public architecture, workplace rules, status, and autonomy. Welfarism has a number of standard tools for determining the best method of provision. One possibility, mentioned above, is that in-kind provision can help with targeting problems. A second important consideration is whether the good has public goods aspects. The architectural rules found in the ADA can be seen in this light. The social model focuses on status and autonomy. I am not aware of significant writing within the welfarist tradition on providing status and autonomy as policy goals. Status might not be readily purchased in the market so transfers of money may not suffice to provide status. A welfarist may agree, therefore, that direct provision of status, if cheaper than providing an equally valued amount of money, would be desirable (although the issue might be complicated if status is zero sum). More generally, if the social model points to joint

causation of disability, welfarism allows consideration of the best method of helping the disabled among the various causes of disadvantage because it considers relative costs and benefits.

This paper begins with a long wind up, with the first three sections providing background before getting to the analysis. There is no literature combining disabilities and welfarism, so it is necessary to provide some background in both areas. The disabilities literature is particularly lacking in discussions of welfarist distributive policies which are instead found in the technical literature on optimal taxation. Therefore, a review of this literature is necessary. Those familiar with these background materials should skip to Section IV.

Section I provides some stylized facts about disability in the United States. It is important to have a sense of the size and scope of the issue and Section I attempts to provide this background. The image we have in our heads when thinking about disability can influence what we think are appropriate outcomes, and some basic facts can help ensure that the image is accurate. In addition, a central variable in the analysis is whether a disability is observable (because inability to observe creates the targeting problem), and getting a sense of the types of disabilities gives a sense of the extent to which they are observable.

Section II describes the social model. Although I offer some criticisms, my main goal is to illustrate the welfarist approach rather than to argue that the social model is inadequate. Therefore, the discussion is relatively brief. A fuller discussion of the merits and problems with the social model and discrimination theory would require a separate paper.

Section III provides a brief review of the welfarist approach to social policy and redistribution (generally, not with respect to disabilities). The relevant literature is the literature on optimal taxation, a literature which gets almost no mention in the legal world. There are two results

from that literature that are important for understanding policy toward the disabled. Modern tax policy is about information. Individuals are assumed to vary by their ability to earn wages. In a first best world, where ability can be observed, transfers can be made from the more able to the less able, so that total or marginal utility (depending on the choice of social welfare function) is the same across all individuals. If ability cannot be observed, however, the government faces an incentives problem. If it raises taxes on high income individuals, there is an incentive to earn less. Similarly, if the government makes cash available for all "unable to work," many able individuals might claim the cash. The optimal tax problem is to determine the social welfare maximizing tax rate schedule subject to this incentives problem. The second important result, which also at its core is about screening, is the "income tax only" result. The claim is that we should tax only labor income (subject to some obscure qualifications related to complementarity with leisure). Understanding both results, how incentives affects redistribution and the conditions under which only redistribution of income is desirable, is central to understanding the treatment of disabilities.

With these results in mind, Section IV turns to disabilities. Disability adds a second dimension of difference among individuals: they differ with respect to their wage rates and with respect to disability. The nature of the optimal policy may correspondingly change. Section IV develops the three major considerations discussed above, focusing on how policy changes depending on whether disabilities are observable.

Section V provides further comments on the analysis in section IV. In particular, Section V discusses how a welfarist approach interacts with the social model, the possibility of private disability insurance, the changes to policy if the extent of disability is endogenous to policy, and the choice of public or private provision of accommodations.

I am not considering here several issues that may be important. First, I will not discuss animus or bias, the central focus of the modern disabilities literature. There are many things that can be and have been said about these issues from a welfarist perspective,[10] but the focus here is on distributive issues because so little work has been done on these issues (with respect to disabilities). I will, therefore, assume markets work reasonably well and without significant animus.

Second the focus here is on physical disabilities. Mental disabilities are also covered by the analysis, but some mental disabilities may raise additional issues (concerning preference formation and maximization) that are beyond the scope of this paper.

Third, I am not dealing with beginning of life or end of life issues, which is the focus of Peter Singer's application of utilitarianism to disabilities.[11] Without agreeing or disagreeing with his views, his approach does not seem to me to be distinctly utilitarian. All ethical theories will have similar issues of who counts.

Finally, some disabilities policies disregard or attempt to change preferences. Antidiscrimination laws, which outlaw acting on certain preferences, may be seen in this way, as attempts to change attitudes or norms. Many welfarists would not include animus or similar preferences in the social welfare function.[12] Thus, welfarism can be made consistent with this approach. Some policies, however, are sometimes justified as an

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[10]*See* KEVIN LANG, POVERTY AND DISCRIMINATION (2007) for a summary of the economics literature on discrimination.

[11]*See* Singer, *supra* note 1.

[12]*See, e.g.,* LOUIS KAPLOW & STEVEN SHAVELL, FAIRNESS VERSUS WELFARE (2002); John Harsanyi, *Morality and the Theory of Rational Behavior*, 44 SOC. RES. 623 (1977);

attempt to change preferences more generally.[13] Welfarism can incorporate learning which can result in changes in views, but attempting to change fully informed preferences is more problematic. Although there is much to say about this issue, I will not consider it here.

Before beginning the discussion, it is worth a few words about the use of language in this paper. It is standard in the taxation and public economics literature to refer to transfer payments and to redistribution. Whether something is a transfer or whether it redistributes, however, must be measured against a background of initial entitlements. The usual norm in the tax literature is to assume a purely laissez faire economy (with no taxes but somehow with everything else the same), and measure any payments against the amounts individuals would have had in such a world. Labels based on this approach, however, are potentially erroneous because it assumes there is some merit to the laissez faire world. The laissez faire world, however, plays no role in welfarist policy. A welfarist approach requires a behind the veil determination of the optimal set of rules with no preference given to one set of outcomes over another. Therefore, "transfer payments" to the disabled as measured against a laissez faire background might otherwise be viewed as rights or as part of a just or fair outcome.

Language in disability policy matters. One of the objections to many policies, including those that provided significant resources to the disabled, was that they viewed the disabled as somehow not fully human. For example, David Wasserman notes that disabilities scholars "argue that in seeking to compensate people for their 'natural' disadvantages, distributive justice inevitably denigrates those seen as disadvantaged."[14]

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[13]For example, the ADA is sometimes defended as illustrating to the nondisabled that the disabled can be more productive than previously thought.

[14]David Wasserman, *Disability, Capability, and Thresholds for Distributive Justice*, *in* CAPABILITIES EQUALITY: BASIC ISSUES AND PROBLEMS 214, 218 (Alexander Kaufman ed., 2006).

Similar expenditures to provide "equal access" might not. The disability community responded by adopting the language of civil rights and antidiscrimination.[15] It is important to keep in mind that notwithstanding the language of transfers and redistribution, welfarist policy toward the disabled might well be compatible with many policies advocated by disabilities advocates with a mere changing in how the policies are framed. Moreover, if the language used or the method that resources are delivered matters, a welfarist would want to take this into account. I will continue to use the standard language of public economics with the caveat that ultimately policy determinations need to take into account the social meaning and framing of policies.

I.   Stylized Facts about Disability in the United States

One of the important elements in determining appropriate policy toward the disabled is understanding how disability affects individuals. This should be true for any approach to disability but a welfarist particularly needs to know this as policy is based only on these facts. Understanding the exact extent and nature of disability in the United States is difficult, and understanding its effects around the world is an exercise in guesswork. This section offers some stylized facts about disability in the United States to help develop intuitions about the effects of disability.

One of the problems is that data can only be based on the current state of affairs, which may be suboptimal. The welfare of the disabled is likely to change with policies, so data about the current status of the disabled may not tell us likely status under various policies. For example, the social model of disability argues that society has unfairly arranged itself to exclude the disabled, say by requiring the use of stairs to access

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[15]*See, e.g.,* RICHARD K. SCOTCH, FROM GOOD WILL TO CIVIL RIGHTS: TRANSFORMING FEDERAL DISABILITY POLICY (2001).

many buildings. Data showing those in wheelchairs are more likely to be unemployed and poorer than others may reflect this social arrangement rather than anything inherent about disability.

Data on the disabled also depends on the definition of disability. Definitions vary because data is collected for a variety of different purposes; as a result, the main surveys of disability data estimate a broad range of disability prevalence in the United States.[16] Surveys collecting disability data differ according to population surveyed,[17] methodology,[18] survey date,[19] response rate,[20] and other factors. Even holding these

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[16]The major surveys collecting disability data are: Census, American Community Survey (ACS); Survey of Income and Program Participation (SIPP); Panel Study of Income Dynamics (PSID); Current Population Study—March Supplement (CPS); National Health Interview Survey (NHIS); and the National Health Interview Survey—Disability Supplement (NHIS-D). For summaries of each survey's data, see CORNELL UNIVERSITY, REHABILITATION RESEARCH AND TRAINING CENTER ON DISABILITY DEMOGRAPHICS AND STATISTICS, DISABILITY STATISTICS USER GUIDE SERIES, available online at http://www.digitalcommons.ilr.cornell.edu (last visited July 27, 2007).

[17]For example, Census and ACS collect disability data for the general population, *see* WILLIAM J. ERICKSON & ANDREW J. HOUTENVILLE, A GUIDE TO DISABILITY STATISTICS FROM THE 2000 DECENNIAL CENSUS 7 (2005) (Census); ROBERT R. WEATHERS, A GUIDE TO DISABILITY STATISTICS FROM THE AMERICAN COMMUNITY SURVEY 7 (2005) (ACS), while other surveys, such as PSID and CPS, collect disability data for the working-age population only, *see* RICHARD V. BURKHAUSER ET AL, A GUIDE TO DISABILITY STATISTICS FROM THE PANEL STUDY OF INCOME DYNAMICS 1 (2006) (PSID); ROBERT V. BURKHAUSER & ANDREW J. HOUTENVILLE, A GUIDE TO DISABILITY STATISTICS FROM THE CURRENT POPULATION STUDY 11 (2006) (CPS).

[18]For example, PSID and CPS offer longitudinal data, *see* BURKHAUSER ET AL, *supra* note 17, at 2 (PSID); BURKHAUSER & HOUTENVILLE, *supra* note 16, at 9 (CPS), whereas other surveys, such as NHIS and ACS, periodically survey a sample of the population, *see* HARRIS ET AL, A GUIDE TO DISABILITY STATISTICS FROM THE NATIONAL HEALTH INTERVIEW SURVEY 12 (2005) (NHIS); WEATHERS, *supra* note 16, at 8 (ACS).

[19]For example, the most recent readily available data is from the 2005 CPS, *see* BURKHAUSER & HOUTENVILLE, *supra* note 17, whereas the most recent version of NHIS-D dates from 1994-1995, *see* ELAINE MAAG, A GUIDE TO DISABILITY STATISTICS FROM THE NATIONAL HEALTH INTERVIEW SURVEY—DISABILITY SUPPLEMENT (2006).

factors constant, data on disability prevalence depends on whether disability is defined as a condition which prevents a person from working,[21] difficulty completing everyday activities (known as Activities of Daily Living, or ADLs),[22] sensory limitations, such as impaired vision, or some other definition For example, the Census Bureau defines disability as self-reported limitations in performing various activities. The Social Security Administration collects data on those who receive disability insurance, which requires complete inability to work for a long period of time. As one might expect, their numbers differ. There are no facts free of definitions, and the definitions vary. With these caveats in mind, the following are some rough ideas about the extent of disability and its nature.

A.   Prevalence

Surveys report a broad range of disability prevalence. At the high end, the Census Bureau's Survey of Income and Program Participation (SIPP) reports data on disability prevalence collected through interviews that question respondents about ability to complete ADLs, ability to work,

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[20]For example, the response rate for Census (2000) was 67%, *see* ERICKSON & HOUTENVILLE, *supra* note 17, at 11, whereas ACS (2003), which used a three-step process to follow up on targeted households, reports a response rate of 95–97%, *see* WEATHERS, *supra* note 17, at 9 (2005) (ACS).

[21]For example, CPS and SIPP question survey respondents about work limitations. *See* BURKHAUSER & HOUTENVILLE, *supra* note 17, at 11 (CPS); DAVID WITTENBURG & SANDI NELSON, A GUIDE TO DISABILITY STATISTICS FROM THE SURVEY OF INCOME AND PROGRAM PARTICIPATION 10–11 (2006) (SIPP).

[22]For example, Census, SIPP, and ACS ask respondents whether they experience difficulty in completing Activities of Daily Living (ADLs), such as bathing or dressing. *See* ERICKSON & HOUTENVILLE, *supra* note 17, at 36 tbl.1a (Census); WITTENBURG & NELSON, *supra* note 21, at 38 tbl.2 (SIPP); WEATHERS, *supra* note 17, at 35 tbl.1a (2005) (ACS).

and sensory limitations.[23] The Census Bureau finds that in 2002, 51.2 million people (18.1 percent) of the (non-institutionalized)[24] population reported having a disability.[25] Of this total, 32.5 million reported having a severe disability. At the low end, and within the working age population (18-64) the 2004 Current Population Study (CPS) estimates that around 14 million individuals are disabled; SIPP estimates over 31 million disabled for a similar population.[26]

The Social Security Administration assesses disability of working-age individuals for the purpose of awarding disability insurance benefits. By SSA's measure, individuals are eligible for benefits if they cannot engage in any substantial gainful activity because of a long-term disability. There are 8 million beneficiaries of disability insurance,[27] 6.2 of them disabled workers.[28]

It is not easy to find a breakdown of the types of disabilities. Few studies highlight this issue. For example, Census Bureau data lists type of

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[23]ERIKA STEINMETZ, U.S. CENSUS BUREAU, AMERICANS WITH DISABILITIES: 2002 2 fig.1 (2006).

[24]SIPP and Census reports on the disabled population do not include data on the institutionalized population. The institutionalized population includes the prison population, but also includes nursing home residents. *See* STEINMETZ, cited *supra* note 23, at 1 (SIPP); JUDITH WALDROP & SHARON M. STERN, U.S. CENSUS BUREAU, DISABILITY STATUS: 2000 1 (2003) (Census).

[25]STEINMETZ, cited *supra* note 23, at 3 tbl.A.

[26]*See* HARRIS ET AL, *supra* note 18, at 69 tbl.18.

[27]SOCIAL SECURITY ADMINISTRATION, ANNUAL STATISTICAL SUPPLEMENT TO THE SOCIAL SECURITY BULLETIN, 2005 (2005). The cost of providing disability insurance to these beneficiaries was $78.2 billion in 2004, making up just under 16 percent of the total Social Security payments. *Id.* This number also represents an increase of 10.3 percent from the 2003 numbers, making disability insurance the fastest growing part of Social Security. *Id.*

[28]*Id.* The non-workers are disabled adult children, widows, widowers, spouses or minor children of disabled workers. Therefore, some but not all of the non-workers are disabled under the SSA definitions.

disabilities only when studying the effect of disability on employment, not as something interesting on its own. Distilling their data, the top ten disabilities are:[29]

1. Back/spine: 8.1 million (does not include spinal cord injury or paralysis)
2. Arthritis   5.6 million
3. Diabetes: 2.3 million
4. High blood pressure: 1.6 million
5. Heart/arteries: 2 million
6. Respiratory: 1.7 million
7. Mental: 1.7 million (not including 462 thousand with retardation)
8. Deafness: 1.6 million
9. Stiffness/deformity: 1.6 million
10. Vision/Blindness: 1 million

Chronic health problems rather than what many might have thought of as disabilities (such as blindness, deafness, and spinal cord injuries)

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[29] *See* STEINMETZ, cited *supra* note 23, at 25 tbl.5. STEPHEN H. KAYE, DISABILITY STATISTICS CENTER, INSTITUTE FOR HEALTH AND AGING, IMPROVED EMPLOYMENT OPPORTUNITIES FOR PEOPLE WITH DISABILITIES, DISABILITY STATISTICS CENTER, INSTITUTE FOR HEALTH AND AGING tbl.19 (2003) uses NHIS data from 1988 to 1996 to create a similar list. Back problems and heart disease dominate the Disability Statistics Center list. Diabetes is much less prevalent, perhaps reflecting the increase in diabetes over the last decade. And, the overall numbers on this Disability Statistics Center list are lower.

Robert Haveman & Barbara Wolfe, *The Economics of Disability and Disability Policy*, *in* HANDBOOK OF HEALTH ECONOMICS, 996, 1007 tbl.4 (A.J. Culyer & J.P. Newhouse eds., 2000), provides a list of the causes of disability around the world and for developed countries. The list is similar but not identical because it gives causes of impairment rather than impairments themselves. For example, the list includes road traffic accidents, a cause of impairment but not an impairment. The Census data reproduced in the text focuses instead on impairments.

make up the vast majority of the total and the six largest categories. Of the top ten items, about 80 percent of individuals have chronic health problems (comprised of the first six items on the list – it is not clear how to count stiffness and deformity of the arms and legs). Backaches are by far the largest single item. The items also vary dramatically in how preventable they are: diabetes, high blood pressure, and cardiovascular disease may all be preventable, while mental problems, some forms of deafness, and vision problems may be much more difficult to prevent.

B.   *Income and work*

Disability is strongly associated with low income. According to the SIPP data, the poverty rate for people aged 25 to 64 with no disability was 7.7 percent. The rate for individuals with a nonsevere disability was 11.2 percent and for individuals with a severe disability, was 25.9 percent.[30] Also, individuals with a chronic disability experience, on average, a 20 percent drop in hourly earnings.[31] For the disabled, a byproduct of poverty is a decrease in food and housing consumption; those with a severe disability report a 22 percent drop in housing and food consumption ten years after onset of disability.[32]

Disability leads to a decrease in hours worked annually; an effect that is most severe for the chronically disabled.[33] Almost 53 percent of the nondisabled were employed full-time, year-round. Around 44 percent of individuals with a nonsevere disability and 13 percent of individuals with a severe disability were employed full-time year around. Almost 58

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[30]STEINMETZ, cited *supra* note 23, at 3 tbl.A.

[31]Bruce D. Meyer & Wallace K.C. Mok, *Disability, Earnings, and Consumption* (Harris Sch. of Pub. Policy, Working Paper No. 06.10, 2006). The authors draw on panel data from PSID in assembling their findings.

[32]*Id.* at 88, tbl.12.

[33]*Id.* at 75, tbl.4b.

percent of individuals with a severe disability were unemployed, year-round. SIPP breaks down these numbers by type of disability, and their data shows significant variance by type.[34]

C.   *Needs/Expenditures*

Another important aspect of disability that might affect utility is basic needs. There is considerable evidence that individuals with disabilities have higher basic needs than others. The Census Bureau reports that 10.7 million individuals with disabilities ages 6 and over needed personal assistance with one or more activities of daily living or instrumental activities of daily living.[35] (They do not report the comparable figures for the nondisabled but it is likely to be close to zero because disability is defined in their report as having an impairment that limits such activities.)

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[34]STEINMETZ, cited *supra* note 23, at 25 tbl.5. SIPP reports the highest rates of employment, for the population 21 to 64, for those whose underlying health problem is deafness or difficulty hearing (95.6%), thyroid problems (73.6%), and hernia (71.6%). *Id.* SIPP reports the lowest rates of employment for those whose underlying health problem is paralysis (23.4%), mental retardation (34.7%), and cerebral palsy (36.25). *Id.*

According to 2003 data from ACS, for people with disabilities aged 25 and 61, those with a sensory disability have the highest rate of employment (49.9%), and those an outside the home disability have the lowest rate of employment (17.9%). *See* WEATHERS, *supra* note 17, at 41 tbl.4.

I have been unable to find good data on the number of individuals affected by the ADA. The EEOC collects some data on the number of complaints, but this does not tell us the number of affected individuals. Studies of the effect of the ADA on employment, for example, typically use Census data. *See, e.g.*, Jolls and Prescott (date).

[35]STEINMETZ, cited *supra* note 23. Also, according to 2002 data from NHIS, 34.7 percent of individuals over 64 and 16.7 percent of individuals 18 to 64 reported currently using a special assistive device, including hearing aids. HARRIS ET AL, *supra* note 18, at 67–68, tbls.16–17.

Two econometric studies have attempted to quantify the additional needs of the disabled, controlling for income and other factors.[36] Both studies find that there are substantial consumption costs associated with disability. For example, one of the studies compared the standard of living for the individuals with and without disability at a given level of income. The authors conclude "disability generates significant additional costs."[37]

Disability is also likely to be associated with higher health care expenditures, particularly for individuals with chronic illness.[38] Diabetes and cardiovascular problems (together comprising four of the top ten disabilities) are a major source of health care spending. The National Medical Expenditures Survey (NMES), conducted in 1987 and 1988, shows that the disabled (defined as individuals with an activity limitation) were 17 percent of the population but accounted for 47 percent of national medical expenditures.[39]

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[36]Andrew Jones & Owen O'Donnell, *Equivalence Scales and the Costs of Disability*, 56 J. PUB. ECON. 273 (1995); Ashgar Zaidi & Tania Burchardt, *Comparing Incomes When Needs Differ: Equivalization for the Extra Costs of Disability in the U.K.*, 51 REV. INCOME & WEALTH 89 (2005).

[37]Zaidi and Burchardt, *supra* note 36.

[38]Expenditures include assistive technology and frequent doctor visits. According to 2002 data from NHIS, 34.7% of individuals over 64 and 16.7% of individuals 18 to 64 report using a special assistive device, including hearing aids. HARRIS ET AL, *supra* note 18, at 67–68, tbls.16–17.

[39]National Medical Expenditures Survey (1995; Table E). Also, according to 2002 data from NHIS, individuals with disabilities reported consulting with a health care professional within the last year at a higher rate than nondisabled individuals. Among disabled respondents, 77.9 percent in the 18 to 64 age group, and 88.5% in the 65 and older age group, reported consulting a general practitioner in the last year. HARRIS ET AL, *supra* note 18, at 57–62, tbl.16–17. By contrast, among nondisabled respondents, 61.5 percent in the 18 to 64 age group, and 79.3 percent in the 65 and older age group, reported consulting a general practitioner. *Id.*

D.   Happiness

A different way to try to understand the effect of disability is through self-reported levels of happiness. The field of hedonic psychology takes this approach. The relationship of happiness to well-being is not clear, but at a minimum, it is an important component. A common take on this literature is that disability does not reduce happiness, at least after an initial period of adaptation.[40] A closer examination of the studies shows evidence of some but incomplete adaptation.

The most famous study of the effects of disability on happiness is the Brickman, Coates, and Janoff-Bulman study of spinal cord injuries and lottery winners.[41] They asked eleven paraplegics and 18 quadriplegics to rate their own happiness on a scale of one to five and compared them to a control group (as well as a group of lottery winners). The controls reported an average happiness of 3.82 while those with spinal cord injuries reported happiness of 2.96, a lower number (they do not perform a significance test). For some reason, the authors view this as evidence of adaptation by the disabled, but such a claim may merely reflect the priors of the authors that those with spinal cord injuries should have been more unhappy. It is not clear that this interpretation is valid, particularly given the difficulty with interpreting scales in these sorts of studies. It is only clear that the happiness number of lower. Moreover, when asked about past happiness, those with spinal cord injuries reported a mean of 4.41, indicating that they thought of themselves as significantly less happy now

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[40]DANIEL GILBERT, STUMBLING ON HAPPINESS (2006).

[41]Philip Brickman, Dan Coates, and Ronnie Janoff-Bulman, *Lottery Winners and accident Victims: Is Happiness Relative*, 36 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 917 (1978).

than before their injury. (The controls reported the opposite: higher current happiness than past happiness.)[42]

There have been a wide variety of studies that attempted to replicate the Brickman paper.[43] The studies vary in methodology and precise question being addressed and come to mixed conclusions The most recent and thorough of these is a longitudinal study by Andrew Oswald and Nattavudh Powdthavee in 2006.[44] They exploit the British Household Panel Survey, which is a representative sample of more than 10,000 adults conducted each year. Data from 1996 to 2002 includes information on psychological well-being. They examine the effects of severe disabilities (disabilities that make it impossible to work) on well being over time. Their conclusions are mixed. They find clear evidence of adaptation to disability but also that individuals do not always return to their pre-disability happiness level. The level of adaptation appears to be correlated with the degree of disability (table 5 and summary on p. 14).[45]

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[42]As noted in Andrew J. Oswald & Nattavudh Powdthavee, *Does Happiness Adapt? A Longitudinal Study of Disability with Implications for Economists and Judges* (Inst. for the Study of Labor (IZA), Discussion Paper No. 2208, 2006), the Brickman paper "reports data in which disabled people do have lower life-satisfaction scores than the able-bodied, and this difference, when compared to a control group, is statistically significant at conventional levels. *Id.* at 2.

[43]For a summary, see Shane Frederick & George Loewenstein, *Hedonic Adaptation*, *in* WELL BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY 302 (Daniel Kahneman et al. eds., 1999). For more recent papers, see Jason Riis et al., *Ignorance of Hedonic Adaptation to Hemodialysis: A Study Using Ecological Momentary Assessment*, 134 J.EXPERIMENTAL PSYCHOL.: GEN. 3 (2005); I. Ville & J.F. Ravaud, *Subjective Wellbeing and Severe Motor Impairments: The Tetrafigap Survey and the Long-Term Outcome of Tetraplegic Spinal Cord Injured Persons*, 52 SOC. SCI. & MED. 369-384 (2001).

[44]Oswald & Powdthavee, *supra* note 42.

[45]In Dylan M. Smith et al., *Health, Wealth, and Happiness*, 16 PSYCHOL. SCI. 663-666 (2005), the authors report that the extent that disability reduces subjective well-being is correlated with income: higher income individuals report smaller reductions in well being because of health problems than do lower income individuals.

Welfarists care about marginal utility as well as utility, and it is even more difficult to get a handle on this factor. Lower income and higher needs point to higher marginal utility. Beyond this, it is not clear what more we can say. The hedonic studies tell us nothing about marginal utility. (Most do not control for income.) Many disabled are likely to have a higher marginal utility from consuming certain items, such as medical care. Someone with a back problem or arthritis might gain more utility from a pain killer than someone without these problems. On the other hand, disabilities might reduce the marginal utility from other items: the blind are unlikely to benefit from visual arts. Other than that needs are higher and income lower, it is not clear that we can draw any conclusions about marginal utility. Nevertheless, knowing that needs are higher and income lower may be sufficient to support a general presupposition that disability increases marginal utility, although this will vary by disability.

II.   The Social Model

The dominant approach to disability is known as the social model. This section will discuss the social model and argue that it has significant limitations as the sole model for addressing disability. As noted, this paper is not intended to be primarily a criticism of the social model, so the discussion is brief. Nevertheless, an understanding of some of its limitations is important for understanding the merits of an approach based on distributive justice and tax policy.

Discussions of the social model invariably begin by describing a foil, known as the medical model.[46] It is not easy to define the medical model

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[46]*See, e.g.*, Bagenstos, *Future*, *supra* note 2; Crossley, *supra* note 2; For a detailed history, see David L. Braddock & Susan L. Parish, *An Institutional History of Disability*, *in* HANDBOOK OF DISABILITY STUDIES 11 (Gary L. Albrecht et al. eds., 2001).

precisely because it is not a coherent view laid out by a particular set of commentators.[47] Instead, it is a distillation of the normally unarticulated views that seem to underlie many of the social policies toward the disabled. To the extent it can be defined, the medical model approaches disabilities as physical or psychological limitations of an individual that affect functioning and that should, if possible be prevented or repaired.[48] Social policy under the medical model is focused on the disabled individual and on curing or preventing the impairment. Disabilities in this model are primarily a medical condition.

Although not intrinsic in this view, the medical model is associated with a set of social practices that were viewed as deeply undesirable by the disabled. In particular, the medical model is associated with institutionalization of the disabled along with a lack of say about treatments. As tenbroek and Matson famously argued, the disabled were required to obey sometimes oppressive institutional rules as a condition of getting aid; in their words, the disabled were faced with a choice of "obedience or starvation."[49] The medical model is also associated with demeaning attitudes toward the disabled, treating the disabled as objects of pity or disgust rather than as individuals.[50]

While these practices were undesirable, social model advocates argued that the medical approach suffered from a more fundamental

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[47]For example, despite reading numerous descriptions of the medical view as a foil for the social model, I have been unable to find a cite for anyone actually taking this view.

[48]John Harris offers a good summary of this view. John Harris, *Is Gene Therapy a Form of Eugenics?*, 7 BIOETHICS 178 (1993); John Harris, *Is There a Coherent Social Conception of Disability?*, 6 J. MED. ETHICS 95-101 (2000).

[49]Jacobus tenBroek & Floyd W. Matson, *The Disabled and the Law of Welfare*, 54 CAL. L. REV. 809, 831 (1966).

[50]JOSEPH SHAPIRO, NO PITY (1993) provides numerous illustrations of demeaning behavior toward the disabled.

problem: it located the source of functional limitations in the impaired individual. For example, the medical approach viewed the inability to use one's legs as the reason a paraplegic cannot enter a building with stairs. Social model advocates argued that if the building had ramps instead of stairs, the paraplegic would have equivalent mobility to those who can walk. The impairment would not cause a functional limitation under a different set of social arrangements. The medical approach misses the key causal link in the creation of a disability.

Following this logic, the social model separates the notions of impairment and disability. Impairment is a medical condition such as arthritis, blindness, or spinal cord injury. More generally, one might think of individuals as having traits that follow natural human variation. Disability is the functional limitation. The key claim of the social model is that disability depends on the interaction of social arrangements and impairments. It takes both the stairs and the spinal cord injury to create the limitation. Disabilities, therefore, have social causes. As described by Sam Bagenstos "disability is not an essentially medical condition that inheres in the disabled person; it is a social condition caused by the interaction between a person's physical or mental traits and social institutions that are structured in a way that makes them inaccessible to people with those traits."[51]

At this level of generality, the model is surely correct but it is also mundane. If it said no more, it would be a modest modification to the traditional approach. Pointing out that there are multiple causes of functional limitations merely shows that there might be multiple solutions. Nothing in the medical model would argue against using the cheaper method to solve the problem. Eyeglasses are likely cheaper than making all signs in large print, changing traffic rules, making other accommodations to the environment to accommodate the near and far-

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[51]Bagenstos, *Future, supra* note 2, at 12.

sighted, so the best response to vision problems is medical, not social. Ramps may be cheaper than other methods of helping those with spinal cord injuries, so changes to the social environment may be the best social policy. The medical model can incorporate these ideas. Advocates for the social model, however, took the arguments two large steps beyond this point.

The first of the two steps is a claim that the sole source of functional limitations is the set of social arrangements. Although counter-intuitive, the argument can be illustrated through analogy to racism. It takes both race and prejudice to create racism, but we do not say that because a person is black, he is a partially responsible for the consequences of racism. Prejudice is viewed as the sole cause. Advocates argue that disability is similar. Individuals vary in many ways. Social practices that cause functional limitations or exclusion given that variation are the cause of disability. Arguing that physical impairments cause functional limitations is like arguing that race causes Jim Crow. As one of the social model founders, Michael Oliver, put it, "disability is wholly and exclusively social."[52]

The second step followed naturally. If social policies prevent equal access to desired goods – jobs, wealth, status, access to buildings, treatment as a human being, or whatever – to a set of individuals based on physical impairment, it is the obligation of society to eliminate those policies just like it is the obligation of society to eliminate policies that deny people opportunities based on race or sex. The problem is one of discrimination, and civil rights are the appropriate response.

The social view is sufficiently dominant that it can now be described as "the" approach to disabilities. Like any large school of thought, there are subtle variations on what various commentators think is

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[52]OLIVER, *supra* note 2.

discrimination and what remedies are owed. Not every social model
advocate adapts the strongest version of the arguments, such as that social
arrangements are the sole cause of every disability.[53] In fact, most social
model advocates likely accept some limitation to this claim. Nevertheless,
even for individuals who back away from the strongest claims of the
model, disability is approached as a problem of discrimination to be
solved using the tools of antidiscrimination theory and law. The
Americans with Disabilities Act is the crowning achieving of the social
model, putting the antidiscrimination approach at the forefront of
disability policy.

Notwithstanding its broad acceptance, there are a number of serious
problems with the core ideas in social model. Adam Samaha has recently
pointed out that, as a pure model of causation, the social model does not
entail any particular policy results.[54] One has to have a theory of desirable
social policies to determine what one does with the brute fact of causation.
A libertarian, for example, might fully agree that disability is caused by
the interaction of individual variation and the social environment but
conclude that no consequences should follow unless disadvantage was
created through force or fraud. A utilitarian is not likely to care as a first
order matter about causation, instead focusing on consequences of
policies. Most social model advocates have an underlying, if unstated,
egalitarian norm that social arrangements should give all individuals
equal opportunities, resources, or some other good. Without detailed
specification, however, it is not clear exactly what the policy implications

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[53]For example, Wendell rejects the view that social arrangements are the sole
cause of disability. *See* Wendell, *supra* note 4.

[54]Adam Samaha, *What Good is the Social Model of Disability?*, 74 U. CHI. L. REV.
(forthcoming 2007).   See also Wasserman, *supra* note 5, at 229 ("As long as those
disadvantages were not voluntarily chosen or risked, their source of locus will have no
direct relevance on most plausible accounts of distributive justice.").

are from the various subtle variations in egalitarian norms.[55] As Samaha argues, the social model without more has no policy implications.

Second, it is simply not the case that social arrangements are the sole cause of disability. Other than in an extravagantly imaginary future world, social arrangements are not even a cause of some disabilities. A blind person cannot drive a truck. Someone with an abnormally low IQ cannot be a physicist. Someone in a persistent vegetative state would not make an effective teacher. These limitations are not caused by social arrangements under any reasonable notion of potential social arrangements. They are also not caused by animus, bias, ignorance, or any other source of discrimination. Unlike with Jim Crow, there are sensible reasons for the social practices that cause these impairments to have these functional limitations. By arguing that all disabilities are socially caused, the social model conflates ordinary and rational policies with those caused by animus or discrimination more generally.

Third, and related, the discrimination model, by treating all disadvantage as caused by animus or ignorance, ignores important distributive questions. Accommodations can be costly, particularly the extravagant kinds envisioned by the purer versions of the social model. We need to understand what resources should be used to provide these accommodations. The issue is essentially distributive. To provide

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[55]One argument for an antidiscrimination approach to disabilities is that discrimination arises from bad information, say, about the ability of someone with an impairment to perform a job or about the cost and benefits of an accommodation. This might arise from ill-considered fear or rational ignorance. Antidiscrimination laws in such a case act as information devices. The relevant question is why the information is not known, particularly for policies aimed at profit-maximizing businesses, which have strong incentives to employ value-maximizing workers. To the extent that we can cast discrimination as a problem of information notwithstanding market incentives, it fits within a welfarist framework. Verkerke, *supra* note 9, makes a related argument, that informational inefficiencies in the job market make a legal accommodation requirement efficient.

accommodations, we have to take from some to give to others. Sometimes we will be justified in doing so, but sometimes we will not be, and we must distinguish these cases. The tools of discrimination, however, are not up to this task. The social model ignores the brute fact of scarcity and, therefore, is unable to address distributional questions.

Even in a world without wrongful discrimination, disability policy would be necessary. As Richard Arneson argued, "what we owe to one another by way of social justice requirements goes beyond meritocractic nondiscrimination."[56] Wealth transfers, such as SSI, SSDI, Medicaid and Medicare, are enormous and enormously important, possibly live-saving, to most recipients, and would continue to be so even in a world entirely cured of discrimination defined in the broadest possible sense. Any analysis of disability that does not account for these types of programs is insufficient. The discrimination view has strong political valence because of our history with the civil rights movement. There are undoubtedly deep pools of animus against individuals with certain (but not all) disabilities. The basis of the discrimination view is appealingly meritocractic; it simply seeks to open up opportunities to those with talent. Modest changes in social arrangements may bring large benefits. Nevertheless, as an approach to studying the broader issue of disability, it is too narrow, and, in its broadest forms, implausible.

As a final note, a pure social model does not work well merely on pragmatic grounds, as a way of articulating problems and finding common ground for solutions. There are two core problems. The first is in the definition of discrimination. In many cases, disability can affect one's ability to perform a job. Yet an antidiscrimination view seeks to eliminate the effect of disability from that consideration. If all effects of

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[56]Richard Arneson, *Disability, Discrimination and Priority*, *in* AMERICANS WITH DISABILITIES: EXPLORING THE IMPLICATIONS OF THE LAW FOR INDIVIDUALS AND INSTITUTIONS 18 (Leslie P. Francis & Anita Silvers eds., 2000).

disability are eliminated, however, the meritocractic ideal which underlies antidiscrimination policies is also eliminated. We cannot ask a blind person to drive a truck, even if he is otherwise fully qualified. Unlike with race and to a far greater extent than with gender, the underlying goal of meritocracy and the antidiscrimination cure of eliminating factors from decision making are often at odds. To be sure, they are not always at odds – there has been and no doubt continues to be significant pure animus against the disabled. Moreover, one can balance competing considerations, trying to find factors that affect job performance that are not affected by diability, as the ADA attempts to do. There is, however, a deep level of tension in applying antidiscrimination norms to disabilities, a tension that moves to the surface once one moves away from the easy cases.

Second, questions of desirable social policies become hostage to debates about whether a particular arrangement is discrimination and whether a particular remedy can be classified as a solution to discrimination. The most important example is the mandate for reasonable accommodations found in the ADA. There is a substantial debate about whether the accommodation requirement is properly viewed as a transfer or as antidiscrimination.[57] Under a discrimination view, the outcome of this debate determines the appropriate social policy because society only owes it to individuals to give them an equal chance. The debate then becomes a debate about what it means to have an equal chance when individuals have different starting points. At this point, at least to me, the debate becomes unenlightening because it is essentially an argument about resource allocation being forced into antidiscrimination language. The tools of discrimination policy are inadequate to answering these sorts of questions.

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[57]*E.g.*, Issacharoff and Nelson, *supra* note 9; Joll, *supra* note 9; Karlan and Rutherglen, *supra* note 9; Stein, *supra* note 2; Verkerke, *supra* note 9.

It is time to move beyond the social model. This fact is starting to be recognized. Sam Bagenstos has argued that disabilities advocates on the ground have moved their focus to enforcing existing social welfare laws and that advocates should consider "direct and sustained government interventions such as the public funding and provision of benefits."[58] Martha Nussbaum has advocated for an approach to disabilities based on the capabilities theory of social welfare.[59] Below, I illustrate how a welfarist theory using the tools of tax policy would address the issue.

III.   Welfare and Optimal Taxation

In the next three sections, I will illustrate a welfarist approach to disabilities. This section provides general background discussion on welfarism. The next section presents a welfarist analysis of disability. The final section discusses extensions and implementation issues.

Much of the discussion in this section is of the tax literature, and it is worth pausing to motivate this discussion. There are two key connections to disability policy. First, tax policy is focused on distribution. If we were not worried about the distribution of income, we could simply have a head tax. Because this would be unfair – paupers would pay the same as

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[58]Bagenstos, *Future*, *supra* note 2 at 4.

[59]MARTHA NUSSBAUM, FRONTIERS OF JUSTICE (2006). A full exploration of the capabilities theory as applied to disabilities is beyond the scope of this paper. The capabilities theory can be thought of as an objective approach to welfarism. *See* AMARTYA SEN, COMMODITIES AND CAPABILITIES (1985); AMARTYA SEN, ON ETHICS AND ECONOMICS (1987); Amartya Sen, *Equality of What?*, *in* TANNER LECTURES ON HUMAN VALUES (S.M. McMurrin ed., 1982). The goal of social policy, it is argued, should be provide individuals with the basic capabilities to achieve the functionings that are central to human flourishing. The theory remains in its early stages and there are a number of problems that need to be worked out, such as the possibility of capabilities monsters (akin to the utility monster problem in welfarism), determining the list of capabilities, and determining how trade offs are to be made among items in the list and with respect to transfers among individuals.

billionaires – we use a tax that has better distributive properties. We want those with higher ability to pay more. The distribution of resources is the central issue in tax policy. Disability, I have argued above, is also very much a problem of distribution and, therefore, is deeply connected to taxation. Second, the reason distribution is difficult is that we cannot tell who has high ability and who does not. There is a targeting problem. We are left relying on proxies like income. Thus, the central problem in taxation is to determine the best distributive policy subject to the targeting problem. Similarly, if disabilities are not observable and we redistribute toward the disabled, we will very soon discover we have a targeting problem as individuals masquerade as disabled to get the benefits. Thus, the problems are parallel, and in fact I will argue that they are intricately linked. Thus, to understand disability policy we must understand the key features of tax policy.

A.   Background on Welfarism

There is a huge literature on welfarism, exploring its merits and problems, as well as the many subtleties, such as whether the object of welfarism is preference satisfaction or some other measure of the good. I will not review this literature here. There is, however, one point that sometimes gets lost in this literature that is central to understanding disability policy. We want to know the change in social welfare from giving an additional dollar to an individual. We want to know this because we want to know whether there are benefits to tributing toward the disabled.

To explore this issue, note that a welfarist will choose a policy to maximize a function of individual utilities:

$$W(x) = W(U_1(x), U_2(x) \ldots U_n(x)) \qquad \textbf{(1)}$$

where x describes the relevant state of the world (consumption for each individual, their work effort, the set of legal rules under which they operate, etc.), and W is a method of aggregating utilities. For example, W might be equal to the sum of utilities, the product of utilities, or the lowest utility of any member of society.

The aggregation method reflects how egalitarian or averse to inequality we are because it can weight individuals differently depending on their circumstances. For example, the utilitarian social welfare function defines social welfare as the sum of individual utilities. Everyone is weighted equally: a given increase in utility of an individual increases social welfare the same amount regardless of whether the individual is rich or poor.[60] The so-called Rawlsian maximin social welfare function is equal to the utility of the least well-off individual in society.[61] Increases in utility matter only for the worst off individual.

Most public economics models do not take a position on the optimal degree of aversion to inequality. Instead, welfare economists use a general version of the social welfare function that allows aversion to inequality to vary with a parameter. There are a variety of forms, but a common version is:

$$
\begin{aligned}
W &= \sum_i \frac{u_i^{1-\beta}}{1-\beta} \quad \beta \neq 1 \\
&= \sum_i \ln(u_i) \quad \beta = 1
\end{aligned}
\tag{2}
$$

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[60]Giving a dollar to a rich person, however, will not be the same as giving a dollar to a poor person because the resulting change in utility will not be the same.

[61]Rawls cared about primary goods rather than utility, so the function is Rawlsian only in a loose interpretation. See JOHN RAWLS, A THEORY OF JUSTICE (Revised edition 1999)This terminology, however faulty, is standard in the public economics literature.

where β ranges from zero to infinity. When β is equal to zero, this function becomes utilitarianism. As β approaches infinity, the function approaches maximin. The analyst can then examine how policy changes as β changes without taking a particular position on the appropriate level of β.

The question is how much social welfare increases if we give an individual an additional dollar.[62] If we give an individual an additional dollar, the individual will be better off. We measure how much better off he is by his marginal utility of consumption. Social welfare then goes up based on the change in social welfare for the change in that individual's utility. That is, we need to know the marginal change in social welfare for an individual of a given utility level. For any given social welfare function, therefore, the two factors that matter are marginal utility and absolute utility of that individual. Different social welfare functions will weigh these differently. A utilitarian social welfare function weighs all individuals equally, regardless of wealth. Therefore, it looks only to marginal utility, ignoring the level of utility. A Rawlsian social welfare function looks only to the level of utility (of the worst off individual), ignoring marginal utility. Social welfare functions between these extremes will weight both factors.

It is important to isolate these two factors because we can imagine disability affecting them differently. For example, Amartya Sen considers a case where a disability causes someone to be worse off in a way that makes it difficult for them to become better off.[63] Both the utility level and

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[62]In mathematical terms, we take the partial derivative of the social welfare function with respect to an increment of consumption for an individual. This produces $W`(u_i)u_c$, The two factors in the text are $W`(u_i)$ and u_c.

[63]AMARTYA SEN, ON ECONOMIC INEQUALITY (1997). Sen used this example to argue against utilitarianism. His argument depends on $W'(u) = 1$, and does not apply to welfarism more generally. Unfortunately, use uses his argument to reject not just utilitarianism but also welfarism more generally, which does not follow.

marginal utility are low for this individual because of the disability. The reduction in utility level would point to allocating more resources to the individual, but the reduction in marginal utility, his ability to use the resources, would point to allocating less. A different disability might make someone worse off, but the individual might be able to be much better off with additional resources. In this case, utility level decreased but marginal utility increased. Both factors would point to allocating more resources to the individual. Other cases are possible as well. Welfarists will differ in how they treat these cases, depending on their choice of the social welfare function.

B.   *Optimal taxation and screening*

Although barely mentioned in the legal literature, it is now standard in the economics literature to view taxation as an information or screening problem.[64] This section briefly reviews how the tax literature models the screening problem. To avoid repetition of standard economics texts, this section merely touches on the highlights.

In standard tax models, individuals are assumed to vary by their ability to earn income. The government wants to redistribute to those with lower ability but cannot directly observe who they are. It can, however, observe labor income, but this is a function of both ability

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[64]For good summaries, see MATTI TUOMALA, OPTIMAL INCOME TAX AND REDISTRIBUTION (1990); Joseph Stiglitz. *Pareto Efficient and Optimal Taxation and the New New Welfare Economics*, in HANDBOOK OF PUBLIC ECONOMICS 91 (Alan J. Auerbach and Martin Feldstein ed.,1987). Strnad (forthcoming) is the first article aimed at a legal audience that explains the tax problem this way. Stiglitz introduced the two-type model used here. Joseph Stiglitz, *Self-Selection and Pareto Efficient Taxation*, 17 J. PUB. ECON. 213-240 (1982). Joseph Bankman and Thomas Griffith introduced the optimal tax literature to the legal community but did not explain it as a screening problem. Joseph Bankman & Thomas Griffith, *Social Welfare and the Rate Structure: A New Look at Progressive Taxation*, 75 CAL. L. REV. 1905 (1987).

(represented by the wage rate) and effort (hours worked and also actual effort during those hours). If a high tax is imposed on those with high income on the theory that they are more likely to have high ability, those individuals can work less and reduce their income, thereby mimicking someone with low ability. The trick is to find a set of tax rates that best deal with this trade off, the desire to redistribute toward those with lower ability and the problem of high ability individuals mimicking.

If we view the problem from behind the veil of ignorance, we can view it as a trade off between insurance and incentives. Behind the veil, we would not know which individual in society we would be. Redistribution toward those with lower abilities can be seen as insurance against randomly being selected to be a low ability individual. Too much insurance, however, distorts incentives. That is, just like with other types of insurance, insurance against having low ability through redistributive taxation creates moral hazard. Designing a tax system, therefore, is very much like designing an optimal insurance policy.[65]

It easiest to understand the nature of the problem by examining a simplified example, involving a society with only two types of individuals, those with a high wage and those with a low wage. Imagine also that their utility is based solely on their consumption and how hard they work, with marginal utility decreasing with consumption (each additional unit of consumption brings less and less utility) and increasing with hours worked If we assume that marginal utility is inversely proportion to consumption and hours worked, we can use the following commonly used utility function to represent the individuals:

$$u_i = ln(c_i) + ln(1-e_i) \tag{3}$$

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[65]There are, therefore, very close affinities between optimal tax policy and Ronald Dworkin's insurance approach. *See* Ronald Dworkin, *What is Equality? Part 2: Equality of Resources*, 10 PHIL. & PUB. AFF. 283 (1981).

where c_i is consumption and e_i is hours worked, indexed by individuals in society. If wages per hour are w_i, consumption $c_i = w_i e_i$. Note that both individuals are identical except with respect to their wage rates.

Absent taxation, individuals will balance the costs of work with the benefits of additional consumption. Because the costs of work increase with each hour and the benefits of consumption decrease with additional consumption, there will be a point at which they balance. With this simple utility function, that point will be to work half the available hours. This is true for both high wage types and low wage types: they each work the same number of hours but high-wage individuals consume more because of their higher wages.

If the government could observe ability types, it could impose a set of taxes and transfers that could not be avoided. It would simply announce that high-ability types and low-ability types pay or receive some amount. The government's maximization problem in this case is to maximize a function of utilities subject to the constraint that the sum of taxes and transfers cannot be less than zero – it cannot give transfers without taxes to pay for them.

To be concrete, suppose that individuals have 24 hours in a day, that high-ability individuals can earn $50 per hour, low-ability individuals can earn $10 per hour, and there are equal numbers of high and low-ability individuals (for simplicity, one of each). Without taxes, each individual would work 12 hours. High-ability individuals would earn $600 per day ($50 x 12) and have utility of 8.9. Low-ability individuals would earn $120 per day and have a utility of 7.3. Total utility, the sum of the utilities of the two types, would be 16.2.

Suppose the government can observe abilities and that it maximizes a utilitarian social welfare function. In this case, it can (and

would) inform high-ability individuals that they must pay $400 to the government, regardless of their earnings, and inform low-ability individuals that they will receive $400 regardless of earnings. We plug these taxes and subsidies into the utility functions to determine work effort and utility levels. The high-ability person will now work 16 hours a day and have a utility of 8.1. The low-ability person will not work but, because of the $400 transfer, will have a utility of 9.2. Total utility would go up to 17.2, which means that the policy is an improvement over the no-tax world.[66] Note, however, that the high ability individual now has lower utility than the low ability individual, a fact which will make this plan problematic, as we will see below.

Suppose alternatively, the government uses the Rawlsian or minimax utility function, so that it maximizes min(u_i). The best the government can do in this case is to require the high ability individual to pay $205. The two individuals' utilities are each 8.5. The numbers are summarized in Table 1.

Table 1: First Best Utilitarian and Rawlsian Taxes						
	Transfer	Incomes		Utility		
		High	Low	High	Low	Sum
No tax	0	$600	$120	<u>8.9</u>	7.3	16.2
Utilitarian Tax	$400	$800	$0	8.1	<u>9.2</u>	17.2

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[66]More technically, in the utilitarian case, the government's problem is to maximize $\sum u_i$ subject to $\sum x_i - \sum w_i e_i = 0$. We set up a standard Lagrange multiplier and determine the first order conditions by differentiating. In the case of the log utility function defined above (equation 3), we can calculate that consumption for each individual equals $1/\lambda$, where λ is the Lagrange multiplier on the resource constraint. Labor supply is equal to *$1-1/\lambda w_i$*. This means that as wages go up, labor supply goes up.

Rawlsian tax	$205	$702	$18	8.5	17.0

Note that the low-ability person is worse off under the Rawlsian approach than under a utilitarian approach – redistribution is more restricted under the Rawlsian approach then under utilitarianism in this example. The reason why was alluded to above: in the utilitarian case, we are willing to make the high ability person worse off than the low ability person because he is so much more productive. (Compare the utilities of High and Low in the two rows. I have underlined the higher utility. As can be seen, they switch rank order.) To maximize total utility, the high ability individuals need to work more hours to generate income used to subsidize the low-ability (and therefore low productivity) individuals. In the Rawlsian case, we are not willing to make this trade-off.

This fact, the reversal of utility levels, is what creates the screening problem. Suppose that the government cannot determine who is a high-type individual and who is a low-type individual but it attempts to impose the tax/transfer scheme just described. A high-type individual will, in this case, simply pretend to be a low-type individual. Rather than working 16 hours a day and having half his earnings confiscated, the high-type individual will not work at all and claim a $400/day transfer. His utility from this strategy would be the same as the low-type (9.2), which is higher than his utility from working 16 hours a day. At this point, the tax scheme falls apart because nobody is working and there is no money to transfer to low-ability individuals. We have tried to offer too much insurance against having low wages and created a moral hazard problem.

The solution to the incentive problem is to limit the redistribution away from high earners by ensuring that high ability individuals are not better off if they masquerade as low ability individuals than if they work

hard. In technical jargon, we have to solve the utility maximization problem subject to self-selection constraints. We want to offer a set of taxes and transfers that maximizes the amount of redistribution while ensuring that the high ability individuals do not masquerade as low ability individuals.[67]

The solution under our numbers is to impose a tax of approximately \$192 on those with high incomes and give a subsidy of the same amount to those with low incomes. Utility for high-ability/income individuals is 8.53 and the utility of low-ability/income individuals is 8.49. Total utility is 17, which is less than in the unconstrained case. The inability to observe wages or ability types, and the corresponding self-selection constraints reduces redistribution. Total social welfare is correspondingly reduced from the potential of 17.2 to 17.[68]

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[67]Mathematically, we solve the problem subject to the constraint that the utility of the high wage individuals is at least as high if they choose to work hard as if they choose to mimic the low-wage individuals. In symbols:

$$ln(c_H) + ln(1-e_H) \geq ln(c_L) + ln(1-w_L e_L/w_H) \qquad \textbf{(4)}$$

The left hand side is utility of a high wage individual if he works the high number of hours, e_H. The right hand side is utility of a high wage individual if he earns the same income as L. Note that on the right hand side, the labor provided is equal to the hours needed by the high-ability individual to produce the income of the low-ability individual. We then maximize social welfare subject to the two constraints, net revenue and the incentive constraint.

[68]Note that the information problem also has the potential to confound social policies based on non-welfarist objectives. Suppose, for example, that we have an egalitarian norm of providing equality of opportunity, resources, or some other goal. Unless identical resources are provided for all individuals, we will need information to sort individuals into different categories. For example, if we think equality of resources means that we must take into account differential starting points or some other criteria that differentiates individuals, we must have information about the relevant criteria. Absent policies that are consistent with self-selection constraints, there will be a mimicking problem.

Table 2: First Best and Second Best Utilitarian Taxes						
	Transfer	Pre-tax Incomes		Utility		
		High	Low	High	Low	Sum
No tax	0	$600	$120	<u>8.9</u>	7.3	16.2
First Best Tax	$400	$800	$0	8.1	<u>9.2</u>	17.2
Second Best	$192	$696	$24	8.53	8.49	17

The real world has more than two types of individuals. We can extend the example by adding a third, middle type. The analysis is similar. We continue to want to redistribute downward, from high to middle and low, and from middle to low. The incentive constraint on the high-ability individuals, however, is now relative to the after-tax wages of middle-income earners. Thus, it binds at a higher level; we cannot reduce the high-type individuals' after-tax wages to below a higher number, restricting redistribution more than in the two-type case. That is, with only low types and high types, the package offered to the high type could be pretty bad and they still might not want to mimic low types. With middle types, the package cannot be as bad, restricting the ability to redistribute from the high type.

The most difficult case is where there are a very large number of individuals, approximated by a continuous distribution. This was the case originally analyzed by Mirrlees.[69] There is no closed-form solution for the optimal tax rates, and even the first order conditions for the

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[69]James Mirrlees, *An Exploration in the Theory of Optimum Income Taxation*, 38 REV. ECON. STUD. 175-208 (1971).

optimal tax rates are sufficiently ugly that it is not worth replicating them here.[70] A standard approach to determining the optimal tax schedule is to use simulations. There are two factors that we can isolate from the formulas that are worth mentioning here.

The first is the trade-off between inframarginal and marginal rates. Suppose that the tax schedule is set optimally and consider a small increase in the marginal tax rate (from optimal) at some income level. For example, suppose that the tax schedule is set optimally, and we consider raising the marginal tax rate on income between $50,000 and $51,000. There will be two offsetting effects. First, individuals at that income level will face an increased tax rate at the margin, and, therefore, there will be an additional distortion of their labor effort. Second, individuals above that income level will face no additional distortion (the marginal rates they face stay the same) but will pay additional taxes because of the higher rates that apply at lower income. (Individuals below that income level are unaffected.) To illustrate, think about an increase in the current 15 percent tax bracket. Those in that bracket face an increased marginal rate. Those above it face the same marginal rate but pay more taxes. The optimal structure balances these two effects. The reason this matters for disability is that it means that the shape of the income distribution matters; when consider the tax rate at a given income level, we need to know how many individuals are at that level and how many are above that level. I will below consider the possibility of a separate tax schedule for the disabled. If the distribution of income is different, the shape of the schedule will be different.

Second, the marginal tax rate depends on the marginal contribution of an individual's consumption to social welfare. This is the same notion discussed above, the product of an individual's marginal utility of

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[70]*See* Louis Kaplow, [insert chapter title], *in* HANDBOOK OF LAW AND ECONOMICS ([insert editor name], forthcoming) equation 3.9.

consumption and the weight given in social welfare for an increase in that individual's utility. The higher this term, all else equal, the lower the marginal tax rates. Thus, if an individual has high marginal utility of consumption or a low absolute level of utility, marginal tax rates will, all else equal, be lower.

C. *The Atkinson/Stiglitz income tax only result*

There is one additional important aspect of the optimal tax literature we need to review before adding disabilities. An important question in examining the tax structure is whether commodities as well as income should be taxed.[71] For example, might we want a tax on luxury goods on the theory that such a tax would be progressive? Or might we want to follow "Ramsey" tax formulas and impose taxes on highly inelastic goods?

The standard answer, due to Anthony Atkinson and Joseph Stiglitz is that a tax on commodities is not generally a good idea.[72] Their argument was technical, but the intuition for the result, developed most extensively by Louis Kaplow, is straightforward.[73] Suppose that there is a tax on income (labor income, not Haig-Simons income) and consider a luxury tax. The luxury tax will have three effects. First, it will have a distributive effect – the wealthier who purchase luxuries will pay more tax. Second, it will have an effect on the incentives to become wealthy (i.e., to work hard). Becoming wealthy will be less beneficial because the

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[71]Once again, it is important to remember that "income" here means labor income, not Haig-Simons income. Indeed, the Atkinson/Stiglitz result implies that Haig-Simons income tax is not desirable. *See* Joseph Bankman & David A. Weisbach, *The Superiority of an Ideal Consumption Tax over an Ideal Income Tax*, 58 STAN. L. REV. 1413 (2006).

[72]Anthony B. Atkinson & Joseph Stiglitz, *The Design of Tax Structure: Direct Versus Indirect Taxation*, 6 J. PUB. ECON. 55 (1976).

[73]Kaplow (2006).

things a wealthy person might do with their money are now more limited. Finally it will distort the choice of purchases made by those considering buying luxuries.

Compare that to an increase in the progressivity of the income tax that raises the same amount of money from the wealthy. There would be the same distributive effect and the same reduction in the incentives to become wealthy, but we would eliminate the distortion in the choice of goods purchased by the wealthy. The increase in the progressivity of the income tax is a superior option. Legal readers will be familiar with this result as the Kaplow and Shavell claim that legal rules should be efficient.[74] The claim that legal rules should be efficient is a direct implication of the tax result: an inefficient legal rule is much like an excise tax on the activity subject to the legal rule.

To see how this might apply to disabilities, suppose that individuals with disabilities are identical to all other individuals except that their income is, on average, lower. The right way to approach disabilities in this case would be through the income tax. Because the differences among individuals are related to the ability to earn income, redistribution should be along this dimension.

George Akerlof famously studied an example of this sort, giving it the label "tagging."[75] The idea was that the government can identify some

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[74]Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667 (1994).

[75]George A. Akerloff, *The Economics of "Tagging" as Applied to the Optimal Income Tax, Welfare Programs, and Manpower Training*, 68 AM. ECON. REV. 8 (1978). *See also* Charles Blackorby & D. Donaldson, *Information and Intergroup Transfers*, 84 AM. ECON. REV. PAPERS & PROC. 440 (1994); Ritva Immonen, Ravi Kanbur, Michael Keen & Matti Tuomala, *Tagging and Taxing: The Optimal Uses of Categorical and Income Information in Designing Tax/Transfer Schemes*, 65 ECONOMICA 179 (1998); Michael Keen, *Needs and Targeting,* 102 ECON. J. 67-79 (1992); Robin Boadway & Pierre Pestieau, *Tagging and*

trait of an individual that indicates that earnings ability is lower. This "tag" helps differentiate individuals with low ability from mimickers with high-ability. The tag, in other words, can help solve the incentive constraint by adding additional information. We should, therefore, use the tag to set tax schedules. Thus, we might imagine, in this case, having a separate tax schedule or something similar, such as a deduction or credit. Based on the Mirrlees-type considerations described above, the shape of the separate tax schedule will be different because, by assumption, the distribution of ability is different for the tagged groups.[76]

We can summarize this conclusion with:

Result #1: If disability affects only the ability to earn income, the optimal result is to adjust the income tax schedule, possibly by having a separate schedule based on observable features (tags).

The underlying reason that Atkinson and Stiglitz find that it is best to use a pure income tax to redistribute is that individuals in their model vary only along a single dimension, the ability to produce income. That is, their utility function looks like the ones used in the example above: individuals vary by their wage rate but are otherwise identical. A natural implication of this is that we can only differentiate individuals on the basis of earnings, and, therefore, no commodity tax is desirable. Adding disability is akin to allow individuals to vary in a second way: people vary in the ability to earn wages and with respect to the disability (say to walk, hear, etc.) Once individuals vary in more than one dimension, the optimal tax is likely to involve more than one dimension as well.[77] It is this

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Redistributive Taxation, (Queen's Econ. Dep't, Working Paper No. 1071, 2006). Kaplow (2006) provides a summary of this literature.

[76]Kaplow, *supra* note 70, at ch.7.C.1 provides an extensive discussion how the shape of the tax schedules in this case.

[77]There is a modest but growing literature examining the case where there is more than one dimension of difference. *See* Robin Boadway & Michael Keen, *Public*

problem that I turn to now.

IV. A Welfarist Approach to Disability

The key factor in the analysis is the extent to which disability is observable. I will argue that the Atkinson-Stiglitz result applies to disabilities that are observable, and, absent other reasons for in-kind redistribution, to the extent disability is observable, disability policy should be done through the income tax. If disability is not observable, disability status cannot be used to make adjustments to the income tax schedule. Instead, if redistribution toward the disabled is desirable, we need to do so through a screening mechanism that allows us to sort the disabled and those would mimic the disabled. This section illustrates these points, first describing the reasoning generally and then using a simple example to illustrate.

Goods, Self-Selection and Optimal Income Taxation, 34 INT'L ECON. REV. 463 (1993); Boadway et al, *supra* note 1; Cremer et al, *supra* note 1; Kaplow (2006); Maurice Marchand, Pierre Pestieau & Maria Racionero, *Optimal Redistribution when Workers are Indistinguishable*, 36 CAN. J. ECON. 911-922 (2003); James A. Mirrlees, *Optimal Tax Theory: A Synthesis*, 6 J. PUB. ECON. 327-358 (1976); Saez, *supra* note 1.

One of the problems the economics literature has had in dealing with exceptions to the Atkinson and Stiglitz result is that if people vary in more than dimension, the math becomes intractable. The reason for this is that the incentive constraints can run in many directions. Consider a simple society with two types along each of two dimensions, wage and disability. There are four types of individuals (high wage not disabled, high wage disabled, low wage not disabled, and low wage disabled). We cannot tell whether redistribution should go from high wage disabled to low wage not disabled and we cannot tell who will mimic who. Even in this simple, four-type case, the math is difficult. *See* Cremer et al, *supra* note 1. More general cases have yet to be solved.

I will generally ignore this issue for now. That is, I will assume that disability policy does not alter the incentive constraints for the income tax. This is not likely to be true: special treatment of disabilities probably would alter the incentive constraints.

A.   *Disability is Observable*

If disability can be observed, policy toward the disabled is best implemented through adjustments to the income tax schedule. To see why this is so, recall the basic Atkinson-Stiglitz intuition: if individuals vary only by their ability to earn wages, the best way to differentiate individuals is through taxes on wages. The key to the argument was the assumption that individuals vary only by their ability to earn wages.

Suppose that individuals vary in two ways: the ability to earn wages and by disability, which affects utility in some other way, such as increasing needs (and may also affect wage rates). Suppose further that disability can be observed. Because disability can be observed, we can divide the population into categories, such as disabled or not, or into various categories of disability. Within each category, all individuals would be the same other than with respect to the ability to earn wages. Therefore, within each category, the Atkinson-Stiglitz result returns, and within each category, redistribution should happen only with an income tax. But if each category only uses an income tax, the entire system also only uses an income tax, and hence the result: to the extent if disability is observable, the best way to redistribute is solely with an income tax.[78]

Redistribution happens among the categories through the relative tax rate schedules (including grants or negative taxes). For example, we might have deductions or credits for various observable disabilities or potentially, a separate tax schedule altogether. Thus, suppose that the identified category of the disabled were the same as the nondisabled except that they had higher needs. At a given level of income, their marginal utility would be higher and, therefore, we would expect to see lower tax rates on the disabled, thereby taking into account the higher

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[78]This point has been made in a general context by Boadway & Pestieau, *supra* note 1; Kaplow, *supra* note 1.

needs. Within each category, the income tax is pure, measuring only income, but across categories tax rates will vary by disability status. Note that this means that traditional tax-focused horizontal equity norms would be violated; individuals with the same income would be treated differently depending on disability status. Note also that while the income tax looks pure within each category, overall there will be deductions, credits, or alternative tax schedules for different categories of individuals, so that overall, the tax system will not look like a pure income tax.

The nature of the tax adjustments will depend on the effects of a given disability. There are (at least) three relevant effects. First, disability might affect income. As noted, the disabled tend to have lower income than the rest of the population. The tax rate schedule for a given category would reflect the relative income distribution within that category.[79]

Second, disability might affect marginal utility at a given level of income. For example, if disability increases marginal utility by, say, increasing needs, tax rates will tend to be lower for the disabled. Third and finally, it might change absolute levels of utility. If disability lowers absolute utility, the tax system will, to the extent the social welfare function cares about absolute utility, have lower rates.[80] A reasonable reading of the stylized facts given above is that disability lowers overall utility and increases marginal utility by increasing needs. To the extent this is true, the relative tax schedules will favor the disabled.

It is not clear the extent to which disabilities will be observable. To

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[79]Thus, high marginal tax rates on low income disabled will be less desirable than high marginal tax rates on non-disabled low income individuals because those rates will be inframarginal with respect to a smaller population.

[80]In particular, we want to know $W`(u)u_c$. Social welfare functions will weight the two factors differently, depending on their curvature.

be observable in the relevant sense, we have to know the effect of the disability on an individual's utility. Medical diagnoses, even if accurate, may not give enough information. For example, if individuals with a given diagnoses have dramatically different needs, we need to be able to observe these needs and not merely the gross diagnoses.

Without taking any strong views about whether particular conditions can be observed, we can see rough divisions from a perusal of the list of major disabilities. Backaches, by far the most prevalent disability, may be very hard to observe in many cases. Diabetes will be easier to observe, although the extent that it imposes limitations or increases needs may be harder to observe, which means that detailed tax adjustments may not be feasible. Similar issues arise with various forms of cardiovascular disease (numbers 3, 4, and 5 on the list). Mental health conditions will vary dramatically in how hard they are to observe with the type of condition and also with the state of medical technology. Vision and hearing problems, however, are likely to be relatively easy to observe.

There is an important caveat to the conclusion that the income tax system is the best way to implement disability policy for observable disabilities. As discussed in more detail in Section V, if a good desired by the disabled has public goods aspects, in-kind provision of that good may be optimal. Thus, for example, a single individual would not purchase curb cuts or other elements of public architecture because they benefit many. Discrimination laws, status, and respect may have public goods aspects. Similarly, some accommodations may act as public goods. To the extent these items are public goods, direct provision rather than redistribution through the tax system may be desirable, even in the case of observable disabilities. Section V discusses some of these issues.

We can summarize this discussion with:

Result #2: To the extent disability is observable, the appropriate policy is to

use a separate income tax schedule for the disabled. Redistribution is implicit in the relative tax rates. This conclusion will not hold to the extent in-kind redistribution is otherwise desirable, say, because there are public goods aspects to certain items.

B.   *Disability is not Observable*

Many disabilities (or more precisely, the effects of many disabilities) will not be observable. This means that providing a separate tax schedule that implicitly redistributes towards the disabled will not work. If we cannot tell who is who, individuals would be able to choose the more favorable tax schedule. For example, suppose we allowed individuals with back pain to deduct expenses associated with their pain, such as taking cabs, having groceries delivered, or purchasing expensive, more supportive furniture. If we cannot accurately determine who actually has back pain (and the needs associated with back pain), healthy individuals who would like these items will claim to have back problems and take unjustified deductions. In economic terms, if we cannot observe disability, providing additional resources will not be incentive compatible. Just like in the basic income tax case where we had to derive a tax schedule that screened by income, we need to come up with a screening mechanism for disabilities that are not observable.

An initial question is whether this is a serious problem. Will the nondisabled claim to be disabled to gain benefits? This is a difficult issue to get a handle on because if disability is unobservable, we cannot easily tell who is truly disabled and who is mimicking. By definition, the problem is hard to study. We have to look for indirect evidence. Moreover, the answer will depend on the type of disability and the size of the benefits.

The evidence that I have found indicates that mimicking will often be a problem. Evidence from the United States is not clear because the

major disability programs tend to be national, which means that there is little regional variation to exploit in a study. Nevertheless, there is a high correspondence between the growth of disability insurance and withdrawal from the labor force for prime-age men.[81] In addition, litigation over disability claims is substantial.[82] Absent other explanations, this data is indicative of mimicking. In another study, an economist used a change in Quebec's disability insurance scheme relative to the rest of Canada to measure the effect disability benefits on work, finding a modest but real effect.[83] Mark Kelman and Gillian Lester provide extensive but anecdotal evidence of mimicking of learning disabilities.[84] Perhaps the most famous example is largely anecdotal, the so-called Dutch disease. The Netherlands had Europe's most generous disability policy and also, by far, the highest percentage of disabled in the EU. Growth rates of the disability roles in the 1970's were unsustainable. Although we do not have a good event study to determine the exact effects reforms of the program appear to have led to reduced rates of

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[81]*See* Donald O. Parsons, *Disability Insurance and Male Labor Force Participation: A Response*, 92 J. POL. ECON. 542 fig.1 (1984) (concluding "substantial evidence has accumulated that the labor force participation of middle-aged males is sensitive to both the characteristics of the social security disability system and to labor market alternatives). Alan B. Krueger and Bruce Myer, Labor Supply Effects of Social Insurance *in* HANDBOOK OF PUBLIC ECONOMICS, 2327, 2380 (Alan J. Auerbach and Martin Feldstein editors 2002), summarize similar evidence and draw similar conclusions.

[82]*See* THE DYNAMICS OF DISABILITY: MEASURING AND MONITORING DISABILITY FOR SOCIAL SECURITY PROGRAMS (Gooloo S. Wunderlich, Dorothy P. Rice and Nicole L. Amado eds., 2002); Frank S. Block, *Medical Proof, Social Policy, and Social Security's Medically Centered Definition of Disability*, 92 CORNELL L. REV. 189 (2007).

[83]Jonathan Gruber, *Disability Insurance Benefits and Labor Supply*, 108 J. POL. ECON. 1162 (2000) (finding an elasticity of 0.3).

[84]MARK KELMAN & GILLIAN LESTER, JUMPING THE QUEUE 2 (1997). Kelman and Lester discuss the difficulties in classifying children with learning disabilities, *see id.* at 17–36, and the interesting case of mimicking to get extra time for law school exams, *see id.* at 193.

growth.[85]   Although it would be nice to know more about this issue, ignoring mimicking would, I believe, be naive.

To screen, we need to find items that will be used more by the truly disabled than by mimickers. For example, suppose that there is a drug that costs $100 that only helps individuals with a particular, unobservable disability. If we tried to give individuals with that disability $100 of cash (so that they could purchase the drug), mimickers would also ask for the money, and we would be faced with the choice of giving nobody the money or giving both the disabled and the mimickers the money. With a limited budget and everyone claiming the money, there would be less for those who actually need it. If alternatively, we redistribute using the drug, there would be no advantage to mimickers, and we could target the redistribution more effectively.

To screen through the provision of particular goods, we can either provide the goods directly (in-kind provision) or we can use commodity taxes and subsidies. In-kind provision is simply equal to a 100 percent subsidy. In either case, direct in-kind provision or taxes and subsidies, it has to be the case that you cannot resell the good absent the subsidy. Thus, if the government provides a free widget worth $100 to the disabled and those who receive the widget can resell it for $100, the effect is the same as giving cash. Mimickers who otherwise would not want widgets would claim them and resell them. Thus, in-kind provision to promote screening must look paternalistic in the sense that the government insists on consumption of a certain good. In reality it is not paternalistic: the government is not insisting on consumption of the good because of a claim about superior knowledge or inappropriate behavior.

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[85]For articles examining the Dutch disability program, see CURING THE DUTCH DISEASE: AN INTERNATIONAL PERSPECTIVE ON DISABILITY POLICY REFORM (Leo J. M. Aarts, Richard V. Burkhauser & Philip R. de Jong eds., 1996).

The interesting thing about use of in-kind provision for screening is that it will often be desirable to provide more of the good than individuals would choose freely (making it look even more paternalistic). That is, there will generally be inefficiently high consumption of screening goods.

To see why inefficiently high consumption of screening devices is desirable, I have reproduced a graph used Albert Nichols and Richard Zeckhauser to illustrate the point.[86]

Quantity of In-Kind Good
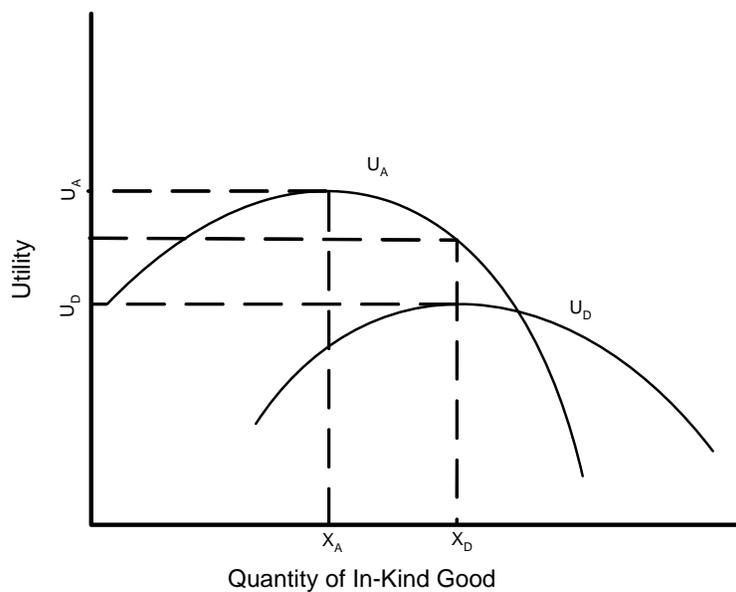
The graph charts the utility functions of two individuals, A and D, D being disabled. Their utility is graphed as a function of the consumption of some good X. Absent any government intervention, the disabled individual would choose to consume more of the good than the

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[86] Albert Nichols & Richard Zeckhauser, *Targeting Transfers through Restrictions on Recipients*, 72 AM. ECON. REV. PAPERS & PROC. 372 (1982).

nondisabled – X_D is higher than X_A. Suppose that we attempt to use in-kind distribution of the good to redistribute toward the disabled. Provision of any amount up to X_D would be efficient as it would not change the disabled individual's behavior. Suppose, however, that if we provide X_D of the good, the non-disabled would choose to mimic. Although A's utility is lower when consuming that amount rather than X_A, free provision might make it worthwhile. Consider what happens, however, if we increase the in-kind provision beyond X_D. D's utility goes down, but at least initially by very little. This is a consequence of D being near his optimum amount. A's utility, however, goes down by a lot. Thus, by increasing the provision of X by some amount beyond the efficient amount, we can hurt the mimicker more than the target. If A is sufficiently deterred and ceases mimicking because of the change, resources are freed up which can be used to redistribute further. In effect, efficiency is lost but targeting is improved, creating a net improvement in overall welfare.

There are at least three legal implications. First, the accommodation requirement in the ADA is an in-kind provision of goods and, therefore, might be viewed as a screening device.[87] An implication would be that we should be more willing to provide accommodations that have the right attributes to act as a screening device: accommodations that are unlikely to be desired by the non-disabled should be preferred. This is common sense. If an individual claims to have a disability that cannot be observed and also desires an accommodation that someone without the disability would want, we are likely to be suspicious. Thus, if someone claims to have a backache and asked for a luxurious and expensive chair, we might worry that the individual is a mimicker. If either the disability can be observed or the accommodation indicates that the person truly has

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[87]This is not an explanation for private as opposed to public funding of the accommodation, an issue not discussed here. There may also be alternative explanations for accommodation mandates.

the disability, we are likely to feel more comfortable. Moreover, given the choice among accommodations, employers should be allowed to choose the one that acts as a better screening device.

A second implication is that we should want over-consumption of accommodations because this can enhance screening. Thus, many commentators have attempted to determine whether accommodations of various sorts are efficient.[88] Although it might be relevant information, efficiency is not the appropriate test for whether they are socially desirable. Inefficient oversupply of accommodations might often be appropriate.

Finally, when we consider direct subsidizes for certain goods rather than accommodations, we need to try to understand what types of goods or activities are good candidates to be used as screening devices. They need to be goods that are differentially consumed by individuals with a given disability. For example, certain types of medical care may be far more beneficial to the disabled than to others, so subsidizing this care may be desirable.

We can summarize the discussion in this section with the following:

Result #3: If disability cannot be observed, redistribution toward the disabled is limited because of screening problems. Redistribution can take place through subsidies or direct provision of goods that are more likely to be consumed by the disabled.

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[88]Sherwin Rosen, *Disablity Accommodation and the Labor Market*, in Disability and Work: Incentives, Rights, and Opportunities 18 (Carolyn L. Weaver ed., 1991). See also the discussions in Issacharoff and Nelson, *supra* note 9; Jolls, *supra* note 9; Karlan and Rutherglen, *supra* note 9; Stein, *supra* note 2; Verkerke, *supra* note 9.

Result #4: Inefficiently high consumption of screening goods may be desirable. If the accommodation mandate of the ADA is a screening mechanism, evaluation of the mandate should not be based solely on efficiency.

C. *Example*

This section works through the above analysis using a simple example. To keep things as simple as possible, I will assume that there are only two types of individuals, the disabled and the non-disabled. Moreover, I will assume that the income tax is primarily responsible for redistributing among different levels of income so that the relevant individuals for our purposes can be considered to have the same levels of income. This eliminates some important aspects of the problem but also greatly simplifies the presentation. Finally, I will assume that disability increases needs for certain types of consumption. In particular, I will assume that utility takes the form:

$$U = ln(c_i) + ln(d_i - \delta_i) \tag{5}$$

where d and δ represents consumption of a class of items that individuals with some type of disability are more likely to consume than the general population, such as various assistive devices or services. For ease of discussion, I will refer to this class of items generically as medical services with the understanding that this term is both too broad and too narrow.[89]

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[89]For example, the blind may consume more Braille books, which are not medical services. The non-disabled may consume many medical services. The term is merely a placeholder and has no particular implication about the particular items that is equivalent to d in the real world.

Marchand, Pestieau & Racionero, *supra* note 77, use a similar form of utility to model disability. They model utility (using the symbols used here), as

The variable δ represents additional need for that type of item. Thus, an individual with a disability will have a higher δ than other individuals. That is, disability is modeled here as solely an additional need for a particular type of consumption. Otherwise all individuals are alike. Note in particular that there is no income and no work effort in the utility function – I am assuming the relevant individuals being analyzed have the same income and wage rates.[90]

With this utility function, individuals will set c = d - δ. That is, they satisfy their needs and then split their consumption between the two items. For example, if total resources are $100 and δ is $20, they would spend the $20 on that item and then split the remaining $80 in half. The result would be $60 on d (consisting of the $20 for needs and half of the remaining $80) and $40 on c. As δ increases, utility decreases and marginal utility increases, holding income constant. Thus, regardless of the social welfare function chosen, a welfarist would want to redistribute toward the disabled.[91]

$$U = c + v(d\text{-}\delta) \text{ - } \lambda\ \phi(e)$$

The major difference is that utility is quasi-linear in consumption. Linearity in nonmedical consumption means that they cannot use a utilitarian social welfare function without eliminating the distributional component of policy. They weight the disutility of labor higher for disabled individuals by a factor of λ, which I omit as non-welfarist.

[90]This is very stylized. If we can observe both δ and income, we could make inferences about wage rates and, therefore, we would not want to treat individuals with the same income and different δ's the same purely along the income dimension.

[91]One criticism of this utility function is that it also reflects individuals with expensive tastes. Someone with expensive tastes would, with the same income as others, have lower utility – their "needs" are higher. Unless we recognize expensive tastes, which we normally do not, we should not be willing to use this form of the utility function for the disabled.

One possible answer is that ideally we would take all differences into account but there is no easy way to identify expensive tastes: if we were to subsidize meals at fancy restaurants for gourmands, everyone would claim to be a gourmand. Another

Disability is observable

Assume that the government can perfectly observe disability, say through medical examinations or similar procedures. Note that with the assumed utility function, this means that the government can observe δ. If the government can observe δ, it can achieve a first best solution.

Consider a utilitarian government. It wants to maximize the sum of utilities subject to the budget constraint (that total consumption equals a fixed amount). This means that the government will set post-needs consumption the same for all individuals. Thus, for any i and j, the government will set $c_i = c_j$, and $d_i - \delta_i = d_j - \delta_j$. As δ_i increases relative to δ_j, the government would allocate more to individual i. That is, the government, if it could, would allocate relatively more consumption to the disabled, satisfying their relatively higher needs first and then equalizing post-needs consumption.

To illustrate, suppose that the two types of individuals are H and L, with H having higher needs (i.e., is disabled). Assume that each individual has 100 of resources (say, each earning the same after-income tax wages). Suppose that $\delta_H = 75$ and $\delta_L = 5$. Absent any intervention, each individual would spend their first dollars on their needs and then split their post-needs dollars between the two types of consumption. Thus, L would spend 47.50 on c and 52.50 (47.50 + 5.00) on d. H would spend 12.50 on c and the rest on d. Total utility would be 12.77, consisting of 7.72 of utility to L and 5.05 utility to H.

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answer is that we can make a prior judgment to recognize the needs of the disabled and not gourmands. We do not recognize all differences, and there will always be a judgment about which ones to include. A claim that needs related to disability should be recognized is no different than recognizing wage differentials as relevant, an assumption widely adopted in the literature.

Suppose that the government set post-needs consumption equal. It would use $80 to satisfy needs, giving 75 to H and 5 to L, and then split the rest evenly. Thus, it would give 60 of the remaining 120 to each. Overall, L would get 65 and H would get 135. The utility of each would be 6.80 and total utility would be 13.60, a significant improvement. The following table summarizes:

Table 3: First Best Redistribution to the Disabled			
	L	H	Total
Needs	5	75	
Laissez faire			
Consumption of c	47.5	12.5	
Consumption of d	52.5	87.5	
Utility	7.72	5.05	12.77
Disability is Observable			
Consumption of c	30	30	
Consumption of d	35	105	
Utility	6.80	6.80	13.60

Disability is unobservable

If the government cannot tell who is disabled, the nondisabled would benefit by claiming to be disabled. In the example, both types of individual consume 30 of c but the disabled got 105 of d compared to 35 for the non-disabled. By claiming to be disabled, an individual can keep the 30 of c but increase d to 105. The same holds in the more general case

of the differing tax schedules. As long as more consumption of d increases utility, claiming to be disabled is an attractive strategy. Therefore, the allocation is not incentive compatible.

The optimal policy depends on the information available to government. To illustrate the importance of information, I will consider two cases. In the first case, the government can offer incentive compatible packages of c and d. For example, the disabled will prefer more of d and less of c. Because there are two types of individuals, the government will offer two packages: one that offers relatively more of d and one that relatively offers more of c. The disabled will, all things equal, prefer the former, the nondisabled the latter. This difference can be used to separate the different types of individuals. This policy, however, requires the government to base the price of c on purchases of d (and vice versa). If only anonymous purchases can be observed or if individuals can cheat the system by using surrogate buyers, the policy may not be feasible. I will consider a second case, therefore, in which the government's only option is anonymous commodity taxes, which means that the tax or subsidy on a particular good is independent of purchases of other goods. In both cases, the government can do better than laissez faire but not nearly as well as in the first best case. The "packages" case does better than commodity tax case, as should not be surprising, because the government is assumed to have access to more information.

Begin with the case where the government can offer two packages. Continue to assume that there are two types, H and L (with H having higher needs for d). One package will be intended for H and one for L. We want to offer a package to H that makes him better off but is not as attractive to L as the other package. This will allow some limited redistribution toward H.

Suppose that the government were to offer individuals two choices: individuals can either consume 16 units of c and 100 units of d or they can

consume 39 units of c and 44 units of d. The total is still 200 units of consumption, thereby staying within the resource constraint. The first package has more total consumption (116 compared to 84) but is far more skewed toward d.

A disabled person strongly prefers the first package. (Indeed, he could not live on the second package as basic needs for d exceed the amount offered.) A nondisabled person is indifferent: utility is 7.35 for either package. Thus, the nondisabled person has no incentive to mimic the disabled and the set of packages is incentive compatible. (To eliminate the case of exact indifference, we can shift a penny more to the nondisabled.)

Total utility under this allocation is 13.36, which is far better than the laissez faire case (total utility 12.77) but not as good as when disability was observable (total utility 13.6). Note also that in the observable disability case, total consumption by the disabled was 135, while in this case, the total is only 116. Information constraints restrict the ability to redistribute. The table below summarizes:

Table 4: Second Best Redistribution Toward the Disabled using Packages		
Package	1	2
c	16.3	39.4
d	100	44.4
U_L	7.345	7.345
U_H	6.01	n/a
Total (H picks 1, L picks 2)	13.36	

Note a subtlety in the example. We started by assuming equal
incomes, so H and L each had 100. We offered a set of packages to L,
however, such that he would prefer only 84 rather than 116. Thus, we
were able to redistribute from L to H, improving welfare. Also, the note
that the package designed for the disabled had more of d and less of c
than he would choose were he given a cash grant of the same value. That
is, the disabled person was given a total of 116. With needs of 75 and total
income of 116, that person would have split consumption into 21 of c and
96 of d. We force him to consume more of d but by doing so, we are able
to redistribute more in total, increasing his welfare. Thus, if the same total
wealth of 116 were offered in a more natural split of 21 and 96, the
package would not be incentive compatible because the nondisabled
person would also prefer the package. Inefficiently high consumption of
medical services is desirable in this case.

As noted, the information requirements on the government in this
case are strong. The government must be able to base the price of c on
amounts of d purchased (and vice versa). This may be possible. The
variable c stands for total nonmedical consumption. The government then
need only give a subsidy for d based on purchases of d and total
consumption. If there is more than one type of subsidized consumption,
however, the schedule would be more complex. The subsidy for d would
depend not only on c but on consumption other items, d`, d``, etc.

The second case requires a much less elaborate tax structure. In
this case, the government merely sets a general tax or subsidy on each
commodity that is available to anyone who purchases the commodity,
regardless of income or of consumption of other items. The government's
problem is to set taxes and subsidies for c and d to maximize total utility
subject to a constraint that the sum of taxes and subsidies equal zero (in a
world where people set their behavior based on the taxes and subsidies).
There is no incentive constraint here because the same package of prices is
offered to everyone. Therefore, L cannot mimic H. Instead, L just

maximizes given the prices.

Intuitively, what we will want to do is to subsidize medical services (d) and tax everything else (c) because doing so will help those with higher needs. This will distort behavior, creating inefficient choices between c and d. Doing so, however, helps H because medical services are cheaper.

Consider the running example, where H and L each have 100 of resources and the only difference is that H has needs of 75 and L has needs of only 5. Recall that without any taxes or transfers, total utility as 12.77 and with full information and direct transfers, we could get total utility up to 13.60.

Suppose we impose a tax of 40 percent on the price of c and use the money raised to subsidize d. The revenue neutral subsidy for d, given that both H and L will choose their allocations based on prices, is 12 percent. Because L purchases more of c than H does (and correspondingly less of d than H does), this scheme hurts L and helps H. In particular, L's utility goes down but H's goes up by more. Total utility in fact goes up from 12.77 to 13. This an improvement over the base case with no taxes, but not nearly as good as the case with full information (where total utility was 13.6). It is also not as good as the "packages" case (where taxes on one item were allowed to be based on purchases of other items) – in that case, we managed to get total utility up to about 13.36. The table below summarizes.

Table 5: Redistribution Through Commodity Taxes			
	c	d	Totals
Tax/Subsidy	40%	-12%	0 (in revenue)

L	47.8 (after-tax spending)	52.2	u_L = 7.53 (-0.2 over laissez faire)
H	17	83	u_H = 5.46 (0.41 over laissez faire)
Utility (sum of L and H using standard utility function)			**12.99** (0.214 over laissez faire)

The examples illustrate how the ability to observe disability is a key variable. The total utility in each of the cases considered are as follows:

Laissez Faire:	12.77
Simple commodity taxes:	12.99
Complex commodity taxes:	13.36
Full information	13.60

Information constraints significantly reduce the ability of the government to get to the best case. Thus, moving from the simple commodity taxes to either the more complex schedule or to full information allows a large improvement in social welfare.

V.   Comments

This section provides additional comments and extensions of the discussion in Section IV above. It discusses how the analysis interacts with the social model, how the possibility of private disability insurance affects the analysis, and the issue of observation of disabilities.

A.   *The interaction with the social model*

Policy prescriptions based on the social model tend to have two attributes. First, they tend to focus on changing the social environment to

make it more accessible to individuals with various impairments or traits. Second, they often focus on issues of autonomy and status – tenbroek and Matson's rejection of obedience or starvation. Both can be viewed as distribution of goods in kind (keeping in mind the caveat in the introduction about the use of the terms "redistribution" or "transfers" – it is not *re*distribution to give someone equal status).

The usual presumption in welfarism is that cash transfers are preferred because individuals have better knowledge of their preferences than do the policy designers. There are, however, a number of standard reasons to favor in-kind distribution. First, as noted above, if disability is not observable, in-kind provision can act as a screening device because accommodations can be designed to target particular disabilities. We should, therefore, be more willing to provide accommodations that would help someone who truly has a disability but not be desired by potential mimickers.

Second, some goods have public goods aspects in the sense that they have benefits that are not excludible. That is, they may generate positive externalities. The easiest case is curb cuts – one person pays for a curb cut, others will get benefits. Other goods may have similar effects. If so, cash transfers would mean under-provision of these goods. In-kind provision or subsidies for these goods would be desirable.

It is not clear which goods have these features.[92] Public architecture is the most obvious case. Changes to private architecture may not because the owner of the structure might be able to capture the benefits. There might, however, be network effects to changing private architecture, which would create some positive externalities not captured by the owners. Imagine a row of stores, each considering making

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[92]Elizabeth Emens, *The Sympathetic Discriminator: Mental Illness, Hedonic Costs, and the ADA*, 93 GEO. L.J. 39 (2006), explores this issue in the mental health context.

adjustments to become accessible to the disabled. If only a single store makes adjustments, but there are fixed costs to the disabled to visiting the row of stores, the adjustments might not attract new customers. If, however, the whole row were accessible, the changes might be cost beneficial. It is important to understand the extent to which goods have public goods aspects or these types of externalities as it bears in whether they should be provided in kind.

Third, there may be goods that are relatively inexpensive to provide that cannot be readily purchased in the market (or only purchased at a very high cost). In particular, the social model is concerned with stigma. Stigma may reduce welfare, and provision of its near opposite, status, may improve welfare. Although status can sometimes be purchased, it is difficult or expensive to do so. Provision in-kind, through mere treatment of the disabled as having equal status as others may be inexpensive and yet improve welfare dramatically. If so, a welfarist would support such a policy. Thus, if we were going to redistribute $100 to someone and they got more value out of $90 spent on reducing stigma or increasing status, spending the $90 would save resources.

In many cases, therefore, welfarist policies will coincide with those associated with the social model. Unlike in the social model, however, there would be no presumption that in-kind provision is more desirable. If helping someone through a direct transfer or by providing medical care that reduces an impairment is cheaper than in-kind provision (all costs and benefits included, including stigma, screening, and other considerations), we should choose the cheaper option. That is, a welfarist approach can take the social model as making an empirical claim that in-kind provision is the cheaper method of redistribution.

   B. *Private Disability Insurance*

If individuals can privately insure against disability, it might be the case that the programs discussed here are not necessary. Individuals could, based on their risk preferences, decide to insure or not. If they become disabled, private insurance would provide the transfer mechanism instead of a government program. One might argue that the possibility of private insurance makes much of the discussion moot. While I cannot include a complete discussion of the issue, there are three comments worth making here.

First, the issue of public or private provision of social insurance goes well beyond disability and includes retirement, income, and health insurance. One can argue in all these cases that public provision is not necessary. Nevertheless, public provision is pervasive in developed countries. It is entirely appropriate to discuss the design of a public program for disability without answering such a fundamental question.

Second, private purchase of insurance might be insufficient for a welfarist. The reason is that individuals would only purchase insurance if their marginal utility of income is expected to be higher when disabled. A welfarist (other than a utilitarian), however, might care about absolute levels of welfare. Thus, a welfarist might want to provide transfers to the disabled to reduce inequality in absolute utility levels even if individuals would not privately purchase insurance.

Finally, we do not have sufficient data to understand how a private market would work. The data reflect some, but by no means universal or particularly generous insurance coverage.[93] The key problem is that

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[93]The data we have is collected by the Department of Labor. U.S. DEP'T OF LABOR, BUREAU OF LABOR STATISTICS, SUMMARY 04-04, NATIONAL COMPENSATION SURVEY: EMPLOYEE BENEFITS IN PRIVATE INDUSTRY IN THE UNITED STATES, MARCH 2004 (2004). In 2003, approximately 40 percent of workers were covered by a short-term disability plan and 30 percent by a long-term disability plan. *Id.* The numbers vary by wage rate, type of job (service, while collar, or blue collar), and whether there was a union. *Id.*

because of the numerous public programs, any data reflects the existence of the programs. Private insurance might be crowded out. Thus, we cannot look at current disability insurance programs to determine whether pure private provision could work.

C. *Additional Considerations*

1. *Observation v. autonomy*

As illustrated, observing a disability will often significantly increase our ability to promote social policy toward the disabled because it eliminates mimicking. Observation, therefore, is valuable, and investments in observation technology (such as diagnostic tools) may be socially worthwhile.

An opposing intuition is that government categorization is intrusive, particularly to those concerned about autonomy. Potentially significant benefits could depend on correct categorization, giving bureaucrats real power. Similarly, one of the main goals of the disability movement was for the disabled to be treated as equals. Increased expenditures on observations may be contrary to that goal.

A welfarist would value any reductions in autonomy only to the extent individuals themselves are harmed. Autonomy has no independent value. Therefore, we would try to trade off the loss of utility due to the government imposing a classification scheme with the benefit of better targeting of benefits. The government classifies all the time now – most benefits and burdens imposed by the government have rules for

According to earlier (1987) data, the benefits were relatively low, with four-fifths of the plans providing 50 to 60 percent replacement of earnings. Diane Hill, *Employer-Sponsored Long-Term Disability Insurance*, 110 Monthly Lab. Rev. 16 (1987). These plans, however, may also be complemented by health plans which would cover some of the costs of disability.

qualifying, and it is not clear that classifying the disabled would be more intrusive. Current disability insurance benefits rely on elaborate classificaiton procedures. Nevertheless, it is possible that something less than the otherwise optimal investment in observation technology would be optimal.[94]

2   *Defining disabilities*

One of the features of a welfarist approach is that it allows policy to be sensitive to differences among disabilities. There may be administrative reasons for limiting policy to a few categories, but as a matter of pure theory, policy would be tailored to different types of disabilities. That is, policy depends on precisely how a disability affects utility, and if different disabilities affect utility differently, different policies would be desirable. More generally, a welfarist approach looks directly at utility functions and uses disability as an intermediate category only as a cost saving or administrability feature. There is no inherent definition of disablities.

The relevant question in defining disability or different types of disability is one of the precision of legal rules. If there were no cost to administering the rules, disability policy would be perfectly tailored. Given that there are costs, the question is one of weighing an increase in precision against the increase in costs. An important factor in such a balance is how different the policies would be, which depends on how different disabilities affect welfare.

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[94]One response to the problem is that individuals who object to classification could always choose not to get the relevant benefits. There is an aggregation problem. Suppose that the government, with a classification scheme could deliver one of two amounts $0 or $100, depending on how individuals are classified. An individual not wishing to undergo an exam could also choose to get $0. But suppose the alternative was that the government did not classify and instead gave everyone $10. Someone who objects to classification scheme would not have the option of getting $10.

3.   *Endogenous disability*

So far, I have taken the number of disabled as given (although I've assumed that the non-disabled may mimic the disabled to get benefits or the disabled may pretend to have worse disabilities than they actually do for similar reasons). The actual number of disabilities, however, is likely to be endogenous to the policies toward the disabled. Thus, more generosity toward the disabled is, in effect, insurance against disability, reducing incentives to take care. This may be particular true with the major categories of disabilities in the United States today, chronic diseases. These may be much more within the control of individuals than disabilities such as deafness or blindness. Endogeneity may have important effects.

4.   *Additional public economics tools*

Once one starts approaching disability policy using the tools of public economics, any number of possibilities become apparent. For example, we might consider when to provide transfers and whether and to what extent they should be phased out. We can use the tools of public economics to determine when there are subtle externalities that might require in-kind redistribution or commodity subsidies. We have tools for determining when legal regulation is the appropriate method of redistributing. As a first attempt at applying tax and public economics theory to disabilities, this paper cannot remotely explore many of these issues. Hopefully, this paper is only a start.

V.   Conclusion

The goal of the discussion was to illustrate that (1) we need a theory of distributive justice and not just the social model to determine policy toward the disabled and (2) illustrate how welfarist theories would

address the problem. The first point is relatively clear, at least to me. The United States spends at least $275 billion per year, and possibly much more, on disabilities. Theories of discrimination are not sufficient to determine how best to direct these massive resources. We must understand who most needs the resources and how those individuals can be identified, as well as the cost to the rest of society of providing these funds. Only a theory of distributive justice can handle these tasks.

The analysis of welfarist approaches is, at best, preliminary and numerous issues need additional exploration. Nevertheless, some key points are likely to remain. First, we must understand how disability affects individuals. Research into hedonics has the potential to help here, although existing studies are sufficiently crude that we cannot yet draw firm conclusions. Second, identification of the disabled may bring large benefits in terms of being able to target resources and reduce screening problems. Finally, provision of goods in kind may be desirable in a variety of circumstances, which means that many of the recommendations of the social model (which emphasizes in-kind provision) may carry over to a welfarist approach.

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