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The Minimum Wage, the Earned Income Tax Credit, and Optimal Subsidy Policy

Daniel Shaviro†

INTRODUCTION

The minimum wage is a perennial topic of interest and controversy in American politics. Democratic Party politicians regularly call for increasing it, on grounds of progressive redistribution, economic justice, or to “make work pay.” Republican Party politicians generally oppose increasing it and might even, if politically feasible, support its repeal, on the grounds that it burdens small business and causes significant job loss, particularly among young and unskilled workers.¹ The voting public, when its fickle attention is engaged, tends to support the minimum wage.² In 1996, this public sentiment proved so strong that a Republican-led Congress, rebelling against its leadership, voted to increase the federal minimum wage by 90 cents, from \$4.25 to

† Professor of Law, New York University Law School. I am grateful to Anne Alstott, David Bradford, Samuel Estreicher, and Helen Hershkoff for helpful comments on an earlier draft.

¹ See, for example, Todd S. Purdum, *Clinton Asks Rise in Minimum Wage*, NY Times A1, A8 (Feb 4, 1995).

² David Card and Alan B. Krueger, *Myth and Measurement: The New Economics of the Minimum Wage* 392 (Princeton 1995) (“[O]pinion polls consistently show that 65 to 90 percent of the general public favor an increase in the minimum wage.”).

\$5.15.³ State-level increases in the minimum wage have been popular as well.⁴

From an economically informed perspective, the political popularity of the minimum wage seems paradoxical. Most economists of all ideological persuasions have long agreed that it is self-defeating: it destroys jobs in the low-wage sector of the economy and thus hurts many of the people it is intended to help.⁵ This follows simply from the law of demand: market demand for an item generally declines as its price increases. Thus, just as a tariff reduces imports, and just as rent control decreases the supply and/or the quality of rental housing, so a legally mandated hourly wage floor reduces employment. Although a minimum wage could conceivably increase total income among low-wage workers—just as an industry cartel or monopoly could increase the industry's receipts despite reducing its output—any such increase would accrue only to those who kept their jobs, leaving the least skilled as the likely losers.

To be sure, this longstanding consensus among economists has recently been prominently challenged. David Card and Alan B. Krueger, in a 1995 book entitled *Myth and Measurement: The New Economics of the Minimum Wage*, argue that the traditional economic wisdom is incorrect, and that modest minimum wage hikes can actually *increase* low-wage employment, or at least have no significant effect on it. As we shall see, however, the empirical studies on which Card and Krueger rely are too flawed, and their theoretical case too weak—despite complexities and quirks in the labor market that make the analysis more complex—for their work to significantly modify the standard view.

Now, the law of demand does not indicate how *much* any given price increase will reduce demand. Thus, it would not be absurd to claim that the job loss from retaining or increasing the

³ Small Business Job Protection Act of 1996, § 2104, Pub L No 104-188, 110 Stat 1755, 1928, codified at 29 USCS § 206 (Supp 1997).

⁴ See, for example, G. Pascal Zachary, *Initiative to Increase Minimum Wage Appears Headed for California Ballot*, Wall St J A6 (Apr 10, 1996).

⁵ See J.R. Kearl, et al, *A Confusion of Economists?*, 69 Am Econ Rev 28, 30 (Pt 2 1979) (Ninety percent of surveyed economists generally or provisionally agreed with the statement that, "A minimum wage increases unemployment among young and unskilled workers."); Bruno Frey, et al, *Consensus and Dissension Among Economists: An Empirical Inquiry*, 74 Am Econ Rev 986, 991 (Pt 1 1984) (reporting similar results among American economists). See Card and Krueger, *Myth* at 6-7 (cited in note 2) (quoting prominent liberal economists who agree that the minimum wage causes job loss). A recent consensus estimate (or surmise) held that the 1996 minimum wage hike will cost 100,000 to 200,000 jobs—surely a non-trivial effect of a legal change that gave immediate wage hikes to only about 2.3 million workers. See Robyn Meredith, *Minimum Wage, Minimum Effect*, NY Times C1, C6 (Oct 1, 1996).

minimum wage is small enough to be worth the distributional gain to low-wage workers who keep their jobs—although I will argue that such a claim is probably mistaken. Yet the sense of paradox about widespread public support for the minimum wage returns when it is examined not merely as an isolated proposal, but as one of a range of alternative means to its most plausible ends.

In economic substance, the minimum wage is equivalent to a wage subsidy to low-wage employees, financed by a tax on low-wage employers. There are three plausible objectives that a low-wage subsidy could serve. The first is encouraging more people to regard market work as a viable long-term option, thus inducing them to develop their own employability and productivity, arguably to both their own and society's benefit. The second is reducing the tax and transfer systems' pervasive discouragement of additional work at the margin by poor individuals who are already employable. The phaseout, as a family's income rises, of social welfare benefits such as Aid to Families with Dependent Children (AFDC) and Food Stamps, combined with an array of positive federal and state taxes, often causes individuals in poor households, especially if they have children, to face the highest marginal tax rates of *any* taxpayers, sometimes exceeding 100 percent.⁶ The effects of 1996 welfare reform on marginal tax rates remains unclear.⁷ The third plausible objective of a low-wage subsidy is progressive wealth redistribution.

As to each rationale, the minimum wage has a strong chance of doing more harm than good. On the subsidy side, it merely does less good than one might have expected, because it directs surprisingly little benefit to the poor households that are the preferred targets under each of the three above rationales. The relationship between low hourly wages and household poverty is extremely weak in an era when multiple-earner households are the rule. Recent estimates suggest that barely one-quarter of the benefits from the latest minimum wage increase will go to poor and near-poor households, leaving the remaining three-quarters to be divided almost evenly between middle- and upper-income households.⁸

⁶ See Table 1 at text accompanying notes 53-54.

⁷ Personal Responsibility and Work Authorization Reconciliation Act of 1996, Pub L No 104-93, 110 Stat 2105 ("1996 Welfare Act"). For a helpful description of this legislation, see Helen Hershkoff and Stephen Loffredo, *The Rights of the Poor* (ACLU forthcoming July 1997).

⁸ See Table 4 at text accompanying notes 53-54; Richard V. Burkhauser, Kenneth A. Couch, and Andrew J. Glenn, *Public Policies for the Working Poor: The Earned Income Tax Credit versus Minimum Wage Legislation*, Discussion Paper No 1074-95, 34 (Inst for

There is a strong prospect that the minimum wage will be affirmatively harmful, however, because it imposes a tax on low-wage employment. Taxing low-wage work is not well conceived to attract more people to seek it, or to reduce tax- and transfer-based substitution away from it. Moreover, while the minimum wage is modestly progressive as between poor households *as a group* and other households—even under reasonable estimates of the likely job loss—its likely regressivity *amongst* poor households (the worst-off of which it probably hurts) makes it an unattractive policy tool for wealth redistribution.

Should one favor a low-wage subsidy, the obvious alternative is to finance it out of general revenues. The main such program under present law is the Earned Income Tax Credit ("EITC"), a transfer program for low-income workers that is administered through the income tax via refundable credits.⁹ Under the EITC, low-income status depends on total annual earnings and other household income, rather than on hourly wages as under the minimum wage; benefits are mainly restricted to households with children. The EITC's income-testing and reliance on general revenues make it a far better tool than the minimum wage both for making market work a more viable long-term option and for progressive redistribution. Yet its method of income-testing has an important downside. After reducing marginal tax rates for households with two or more children by 40 percent in the income range at which it applies, it increases rates by 21 percent in the income range at which it is phased out. It thus alternatively ameliorates and worsens the application of excessively high tax rates to poor individuals.

The EITC phaseout, along with phaseouts of other social welfare benefits such as AFDC and Food Stamps, reflects a fundamental misunderstanding—widely shared in the academic literature—of basic design principles. Phaseouts typically are defended, despite their conceded ill effects on work incentives, as necessary to "target [] benefits to households that need them the most" and "control [] program costs."¹⁰ Thus, the EITC supposedly would "cost" more if it were not phased out. In fact, however, phaseouts raise questions of overall tax and transfer allocation

Research on Poverty, Madison, Wis 1995).

⁹ On broader policy and administrative issues raised by the EITC, see generally Anne L. Alstott, *The Earned Income Tax Credit and the Limitations of Tax-Based Welfare Reform*, 108 Harv L Rev 533 (1995); George K. Yin, et al, *Improving the Delivery of Benefits to the Working Poor: Proposals to Reform the Earned Income Tax Credit Program*, 11 Am J Tax Pol 225 (1994).

¹⁰ James C. Ohls and Harold Beebout, *The Food Stamp Program: Design Tradeoffs, Policy, and Impacts* 41 (Urban Inst 1993).

between households—not of program cost or benefit targeting. Eliminating the phaseout on a revenue-neutral basis would simply mean that some taxpayers' marginal tax rates would drop while others' would increase, permitting implementation of a rate structure that might make more sense overall.

In illustration, if only the federal income tax and EITC mattered, a single head of household with two or more children might face roughly the following sequence of marginal rates, computed as a percentage of her wages (assumed to be her only income), as the wages increased from \$0 to \$100,000: (40)-0-21-36-15-28-31.¹¹ Suppose that eliminating the EITC phaseout on a revenue-neutral basis required that all currently positive marginal income tax rates increase by 2 percent. Such a change would make the rate structure (40)-0-17-30-33. As we shall see, based on plausible goals relating to efficiency and distribution, the latter rate structure, which neither goes as high as the first nor bounces up and down, is likely to be preferable.

The existing rate structure becomes odder still if one takes account of the full range of major taxes and phased-out transfers. Precise specification of the sequence of *overall* marginal rates that the above taxpayer would face as her income increased is impossible. Marginal rates are influenced by a wide range of tax and transfer systems, each with its own complicated rules, many of which are subject to state-by-state variation, and some now radically in flux due to the adoption of welfare reform legislation in 1996. I will show, however, that, depending on where she lived, the sequence of tax rates on her income from \$0 to \$50,000 might go roughly as follows: (26)-54-91-110-53-70-54-35.¹² This taxpayer would also suffer a "notch" loss of about \$1,200 at the moment that her income reached \$16,000. Surely few would argue that this is a sound or even minimally defensible rate structure.

I conclude that the income phaseouts of such social welfare programs as AFDC, Food Stamps, and the EITC are irrational—mainly because they create unduly high marginal rates in low-income brackets, although secondarily because they cause marginal rates to bounce up and down for no apparent reason. While these social welfare programs are more likely than the minimum wage to be worth retaining in their present (or pre-1996) form if the only alternative is their outright elimination, a more fruitful approach to the objectives of a low-wage subsidy would address

¹¹ See Internal Revenue Code, 26 USC §§ 1(a), 1(f), 1(h), 32(a)-(b), 63(a), 151 (1994).

¹² See Table 1 at text accompanying notes 53-54.

the larger picture of marginal tax rates across the income spectrum. Such a broader inquiry leads to the conclusion that income transfer to the poor should rely on two basic tools: (1) a universal lump-sum payment (which for most taxpayers could simply reduce their positive tax liability) and possibly (2) negative marginal tax rates at low levels of earned or total income. These conclusions are not new—the first in particular was embodied in proposals during the 1960s and 1970s to adopt a “negative income tax”¹³—but they have been ignored during recent public political debate concerning welfare reform.

While no such change in national policy is likely to take place any time soon, my conclusions nonetheless have important current policy implications. The fifty states are currently in the process of redesigning their AFDC programs pursuant to the 1996 welfare reform legislation, which leaves them enormous discretion regarding how to use their federal block grants.¹⁴ They can therefore use this discretion to try to mitigate the marginal rate effects of phaseouts, although given the block grant structure this might compromise their ability to pursue other valuable objectives.

A final clarification about this Article’s scope may be in order. When I call the minimum wage’s choice of tax, or the various social welfare programs’ use of phaseouts, irrational, I may seem to ignore the argument that these attributes increase the programs’ political feasibility; in a sense, these attributes reflect a rational choice by supporters of progressive redistribution. Even if this argument is sound, however, it only relocates the underlying irrationality from the supporters to those others who find the programs more acceptable with these odd features than without them. This Article generally ignores questions of political and administrative feasibility despite their admitted ultimate importance, in order to focus attention on the question of how subsidy policy ought to be structured in principle.

I proceed as follows. Part I discusses the substantive interchangeability of taxes, spending, and regulation as forms of government activity, in general and in the context of the minimum wage and other income transfer programs. Part II discusses the problems with the minimum wage and the controversy concerning its disemployment effects. Part III discusses alternative ap-

¹³ See, for example, Milton Friedman, *Capitalism and Freedom* 191-93 (Chicago 1962); James Tobin, Joseph A. Pechman, and Peter M. Mieszkowski, *Is a Negative Income Tax Practical?*, 77 Yale L J 1, 2-3 (1967); Daniel P. Moynihan, *The Politics of a Guaranteed Income* 50-51 (Vintage 1973).

¹⁴ See 1996 Welfare Act § 103, 110 Stat at 2112 (cited in note 7).

proaches to the goals of a low-wage subsidy, including such programs as the EITC and AFDC and potential alternatives such as a negative income tax. After a short conclusion, two brief appendices describe my methodology in constructing the article's tables.

I. THE MINIMUM WAGE AS A SUBSIDY PLUS A TAX

A. The Interchangeability of Taxes, Government Spending, and Regulation

Governments' activities can be divided into three main categories. First, they act through their own agents. Since this generally involves paying for goods and services, it can be called government spending. Second, governments must finance their activities. This is commonly called levying taxes, although it can involve printing money (a kind of tax on those who bear the resulting inflation) or borrowing indefinitely. Third, they issue regulatory commands that require or forbid specified behavior by persons subject to their power or jurisdiction. In short, governments spend, tax, and regulate.

It is common to think of government spending, taxation, and regulation as three fundamentally separate domains, each properly considered in isolation. Increasingly, however, scholars have recognized the arbitrariness of these separate categories. If what matters in the end is the actual results of government policy, then the precise form that a policy takes does not matter for its own sake. Even as to form, the distinction between spending, taxes, and regulation is weak. In principle, any one can be restated in terms of the others, and in practice they are often substantially interchangeable.

Consider first spending and taxes. Stanley Surrey initially made the point that certain income tax rules—say, the statutory exclusion for interest on municipal bonds—could reasonably be termed “tax expenditures,” because their effect and intent closely resembled that of following the “normal” income tax rule (here, taxing the interest income) and giving cash subsidies to state and local government borrowers.¹⁵ While tax expenditure analysis is controversial—mainly because Surrey linked it to a separate debate about the ideal tax base¹⁶—the underlying claim about the

¹⁵ See Stanley S. Surrey, *Pathways to Tax Reform: The Concept of Tax Expenditures* 6-7, 210 (Harvard 1973).

¹⁶ See, for example, Boris I. Bittker, *Accounting for Federal “Tax Subsidies” in the National Budget*, 22 Natl Tax J 244, 248, 258-59 (1969); Victor Thuronyi, *Tax Expenditures: A Reassessment*, 1988 Duke L J 1155, 1181; Thomas D. Griffith, *Theories of Personal De-*

interchangeability of spending and taxes is clearly correct. Consider David Bradford's tongue-in-cheek "secret plan" to eliminate the budget deficit by nominally cutting spending, rather than raising taxes:

Step i of the Bradford Plan is to cut the weapons procurement appropriation to zero. Taken by itself, step i would harm the defense effort. Step ii, designed to offset this unfortunate effect, calls for the enactment of a new "weapons supply tax credit" (WSTC). To qualify for the WSTC, manufacturers . . . deliver to the appropriate depots [the] weapons . . . previously specified under procurement contracts. . . . Step ii is, of course, a tax cut. Taken by themselves, steps i and ii result in equal cuts in spending and taxes. But a time of budget deficit is a time to be cutting spending, not taxes. Step iii of the Bradford Plan, then, rounds out the tax program into a "revenue neutral" reform by [raising income taxes in the amount of the WSTC "tax cut"].¹⁷

In the end, the only *real* change would be the Step iii tax increase. For formal measurement purposes, however, "taxes" would have remained constant and "spending" decreased. This example, while it may seem contrived, is scarcely more so than the recent dispute in Washington concerning whether increasing various user fees is a spending cut or a tax increase.¹⁸ A similar debate raged over whether the EITC is "really" a spending rather than a tax program, and thus could properly be disregarded in measuring the distributional effects of tax legislation that included its proposed repeal.¹⁹

The Bradford point applies equally to the question of whether the income phaseout of AFDC benefits is an aspect of spending or a tax. Suppose that the AFDC benefit for a given category of household (say, one headed by a single adult with two young children) equalled \$8,000 minus 80 percent of the household's earned income.²⁰ Ignoring details of administration and income computation, it would make no difference if AFDC were re-

ductions in the Income Tax, 40 Hastings L J 343, 345-66 (1989); Douglas A. Kahn and Jeffrey S. Lehman, *Tax Expenditure Budgets: A Critical View*, 54 Tax Notes 1661, 1662-63 (1992).

¹⁷ David F. Bradford, *Tax Expenditures and the Problem of Accounting for Government*, in Neil Bruce, ed, *Tax Expenditures and Government Policy* 427, 432 (John Deutsch Inst 1988).

¹⁸ Steven Greenhouse, *Parties Play Budget Game by Different Sets of Rules*, NY Times A10 (July 2, 1993).

¹⁹ *Senate Democrats to Attack Tax Cuts, EITC, Medicare Cuts*, Nat J CongressDaily (Oct 24, 1995) (calling Republican plans to cut the EITC a "tax increase").

²⁰ This estimate, while greatly over-simplified, is roughly accurate. See Appendix 1.

placed by a flat \$8,000 grant that was not subject to phaseout, and income tax rates on the household's earned income up to \$10,000 were increased by 80 percent.

Now consider regulation, as compared to spending and taxes. Government policy can impose particular costs and benefits on different individuals, or affect the level and allocation of societal resources, whether its directives are executed by compensated government employees (the spending and taxes route), or by private individuals acting under threat of regulatory sanction. Indeed, the choice between explicit government spending and reliance on regulatory mandates often depends purely on considerations of political and administrative convenience. Consider the Clinton Administration's ambitious 1994 health care reform plan, which used employer mandates, in lieu of explicit spending and taxes, to give employees specified health insurance packages.²¹ Or consider the Americans with Disabilities Act of 1992 ("ADA"), mandating many billions of dollars of private expenditures to provide adequate building access and job opportunities to the disabled.²² Whatever its merits, the ADA expanded the federal government's reach in a manner not reflected in direct government expenditures. It could in principle have been converted into a spending program financed by a tax on owners of noncomplying buildings.²³

When I call spending, taxes, and regulation interchangeable, I do not mean that the choice of tool is irrelevant, or that precisely the same result can be achieved by alternative means. Indeed, the choice of tool can have important consequences, especially as one more fully specifies how each would operate. Surrey helped to show that taxes and direct expenditures, while similar in principle, may work very differently in practice. Likewise, attempting to replace the ADA with direct government spending to upgrade handicapped-inaccessible buildings, financed either through general revenues or an explicit tax on the building owners, would likely have major consequences both politically and operationally.

Interchangeability does, however, suggest taking a comprehensive view of government policy in any particular area. It also means that all (spending, taxes, and regulation) should generally be treated as possible alternatives where a particular result is

²¹ Robert Pear, *The Health Care Outlook for 1994: A Range of Forecasts*, NY Times A14 (Jan 3, 1994).

²² 42 USC § 1201 (1994).

²³ The last four paragraphs are adapted from text in my book. Daniel N. Shaviro, *Do Deficits Matter?* 101-02 (forthcoming Chicago 1997) (on file with U Chi L Rev).

desired; that form does not matter if the end result is the same; and that, for analytical purposes, a policy that takes one form can be restated in other forms if this assists in understanding it clearly.

B. Recasting the Minimum Wage as a Wage Subsidy Financed by a Tax

In form, the minimum wage is regulation. It forbids certain hourly wage agreements between employers and employees, thus causing them to scrap or change the content of a set of agreements that they otherwise might have reached.

While regulatory in form, the minimum wage economically resembles a spending program in the form of a subsidy for low-wage employees, financed by a tax on their employers. Suppose that the minimum wage is set at \$5 per hour, and that a given employee would otherwise have been paid \$4 per hour. Under these circumstances, the regulatory mandate will have one of two effects. Either the wage increases by a dollar, from \$4 to \$5, compared to what it would otherwise have been, or else the employer decides not to use the employee's services (at least for the same number of hours). Confining our analysis for the moment to the former case, where the number of hours worked stays constant, an amount equivalent to one dollar multiplied by the number of hours worked changes hands from the employer to the employee relative to what would otherwise have happened. Suppose that the number of affected hours is 2,000 (40 hours a week for a year containing 50 working weeks). Administrative details aside, the outcome is identical, at a first approximation, to that which would have resulted had the government levied a special \$2,000 tax on the employer, and paid a \$2,000 wage subsidy to the employee.

The analogy to a combined tax and subsidy program becomes no less apt if the employee's hours of work decline due to the minimum wage. Reduced employment would be a standard example of "excess burden"²⁴ from levying a tax. Similarly, the income tax, by taxing people's wages but not their enjoyment of leisure, may cause them to work fewer hours and earn less pre-tax income, thus in some instances generating excess burden rather than accomplishing the transfer of resources to the government.

²⁴ The excess burden of a tax is the lost welfare that it causes above and beyond the revenues collected. See, for example, Harvey S. Rosen, *Public Finance* 303 (Irwin 4th ed 1995).

In using the wage that would otherwise have been paid to measure the tax and subsidy, I may seem to have chosen a normative baseline that is contestable. The minimum wage transfers wealth only relative to a legal regime that is identical to the present one except that it contains no minimum wage. Without an extensive set of preexisting legal rules, one cannot even imagine an employment agreement being reached. Yet any set of rules is inherently controversial. Thus, one might argue, why not say that setting the minimum wage at merely \$5 transfers wealth to employers relative to setting it at \$10, or to a world where wages were \$10 because workers had greater economic power?

This objection would be powerful if I were asserting that my assumed baseline, the existing legal *status quo* (minimum wage laws aside), had special normative status, such that any departures from it needed to be specially justified. I make no such claim, however. I adopt this baseline purely for convenience in analyzing the decision whether or not to have a minimum wage (and at what level to set it). There is no implication that the baseline is normatively desirable; indeed, the whole point of a regulatory mandate or set of tax and spending programs is to depart from it.

I also do not claim that recasting the minimum wage as an explicit subsidy plus a tax captures its “true” form. If form is interchangeable, then there *is* no true (in the sense of underlying or essential) form. My reason for emphasizing the tax-plus-subsidy form is simply that its clean separation of cost and benefit is analytically useful.

Other ways of construing the minimum wage have their own analytical advantages. Returning to the regulatory form, I have noted thus far only that minimum wage laws ban certain contractual agreements between employers and employees, thus limiting both groups’ alternatives. Most people, however, undoubtedly think of the laws as a limitation on *employers*, barring them from hiring people at “too low” a wage. This understanding is in fact consistent with the laws’ enforcement structure: employers, rather than employees, are sanctioned for violation (in that they must make good the under-paid wages).²⁵ Yet the details of enforcement do not make the minimum wage any less a constraint on both groups. Similarly, it would generally be understood that a law punishing any attorney who agreed to represent criminal defendants would burden the defendants’ legal de-

²⁵ See 29 USC § 216 (1994 & Supp 1996) (no sanction stated for violation, but employers “shall pay” employees at least the minimum wage).

fense rights, even if they themselves were not subject to sanction for hiring an attorney.

What do we learn from construing the minimum wage as a constraint on low-wage employees (as well as employers), barring them from entering into certain contracts? Once construed this way, the notion that employees will benefit may begin to seem less intuitively plausible. Individuals are generally made worse off by denying them choices, absent the paternalistic assumption that they will choose poorly—an assumption that seems somewhat implausible when the choice they are being denied is to accept a job.

Nonetheless, low-wage employees as a group can benefit from being denied the right to accept jobs that pay less than a specified hourly rate. The ban, by applying to them collectively, in effect organizes them as a cartel. It solves the internal organizational and enforcement problems that likely would prevent their establishing, by their own unaided efforts, a cartel (such as a universal labor union) demanding a given minimum wage.²⁶

It is well known that cartels can increase their members' aggregate income, albeit by reducing output and imposing a dead-weight loss on society.²⁷ In the case of the minimum wage, this claim of overall group benefit appears to be empirically plausible. The pre-Card and Krueger empirical consensus among economists held that a 10 percent minimum wage increase would likely reduce low-wage hours worked by 1 to 3 percent.²⁸ This implies the strong possibility of an increase in the total income of low-wage workers (along with increased leisure that could perhaps be used productively, as in housework), although there are countervailing considerations, such as the possible loss of "stepping-stone jobs" leading to better ones down the line.

Still, even if the minimum wage *does* boost low-wage workers' real income as a group, the internal distributional effect is likely to be quite uneven. In a classic producers' cartel, it is plausible that each participant will enjoy greater profits than it would have through competition. For this to happen with low-wage employees in the setting of the minimum wage, one would have to posit that the number of jobs remained the same, with

²⁶ I ignore the antitrust problems that the cartel would face if not exempted as a labor union.

²⁷ See, for example, Richard A. Posner, *Economic Analysis of Law* 285, 287 (Little, Brown 4th ed 1992).

²⁸ See, for example, Charles Brown, *Minimum Wage Laws: Are They Overrated?*, 2 *J Econ Persp* 133, 139 (Pt 3 1988) (minimum wage increase would reduce teenage employment).

the lost output involving not overly disproportionate reductions in hours worked. In actual employment markets, where full-time work plays so large a role, it seems likely that the cartel will cost some members their jobs, leaving a mix of gainers and uncompensated losers.

To the extent that job loss is non-random, it will likely fall on those members of the cartel who have the least marketable skills—perhaps the very individuals whom altruistic supporters of the minimum wage law may have wanted to help the most.²⁹ One might also be concerned about involuntariness: the losers, unless they sought a minimum wage increase through political activity, did not elect to join a cartel and take their chances.

Does the observation that only employers, not employees, are subject to legal sanction under minimum wage laws do anything to change this cartel analysis? In one respect, this enforcement detail may make things worse for low-wage individuals who are American citizens or legal permanent residents. While they surely are glad to avoid sanction for a violation of the minimum wage, their power to turn in a violating employer may place them at a disadvantage with respect to whatever illegally low-wage jobs will exist in any event. Such jobs, which have been estimated to number two to three million, go disproportionately to those who can credibly commit against turning the employer in—generally, employees such as illegal aliens who the employer knows will not go to the police.³⁰

By contrast, if employees as well as employers were punished for violating minimum wage laws, they could more easily make a credible commitment against turning the employer in. Thus, the lack of an employee sanction has offsetting effects on members of the cartel who can legally hold jobs. It tends to make the cartel more effective, thus potentially increasing the group's aggregate income (at the cost of some members' jobs), but it places legal workers at a disadvantage with respect to illegal low-wage work.

²⁹ For some minimum wage supporters, however, this may be precisely the desired result. For example, unions typically support minimum wage increases even though their members tend to be paid above the minimum wage, perhaps in part to eliminate low-wage competition. Unions might also support the minimum wage to secure wage increases that preserve wage differentials within the workforce; in some cases, wage increases may even be formally pegged to changes in the minimum wage.

³⁰ See, for example, G. Pascal Zachary, *While Congress Jousts Over Minimum Wage, Some People Ignore It*, Wall St J A1, A1 (May 20, 1996) (An estimated two to three million workers are illegally paid less than the minimum wage; many violating employers count on the fact that "illegal immigrants often don't complain for fear of expulsion.").

II. ASSESSING THE MINIMUM WAGE AS A LOW-WAGE SUBSIDY

A. Description of the Tax and Subsidy

Again, construing the minimum wage as a wage subsidy to low-wage employees, financed by a tax on their employers, helps to identify the program's benefits and costs. The subsidy has the following main features:

(1) It is limited to low-wage employees, determined on the basis of hourly wages. Historically, since its federal enactment in 1939, the minimum wage has fluctuated between 37 and 56 percent of the average nonsupervisory wage in the non-farm private sector.³¹

(2) The wage subsidy is not means-tested or needs-tested, on either an individual or a household basis. Teenagers from affluent families qualify no less than struggling single heads of households. It takes no account of how many hours the employee has worked during the year, or of the employee's assets, past earnings, or future earnings prospects.

(3) While benefits are impervious to overall personal circumstances, they increase as the hourly wage that one would otherwise have received declines. Suppose that the minimum wage is \$5 per hour, two individuals each work 2,000 hours in the course of the year, and but for the minimum wage the first would have received \$4 per hour while the second would have received \$3 per hour. Assuming that their work hours are unaffected, the minimum wage provides the first individual with a \$2,000 wage subsidy and the second individual with a \$4,000 wage subsidy.

(4) The employee receives the subsidy directly from the employer, rather than from a government agency. Thus, it does not require separate filing of any kind, and is paid with the employee's regular paycheck.

The tax's features mirror those of the subsidy, viewed from the employer's side. Thus, it is levied exclusively on low-wage employers, does not require them to monitor recipients' income or means, increases as the hourly wages they would otherwise have paid declines, and is paid directly to covered employees rather than to a government agency.

Minimum wage laws do not apply to all employment. Historical gaps in the federal law's coverage have been narrowed to the point that the minimum wage now applies to more than 90 percent of all workers.³² However, this figure does not include the

³¹ Burkhauser, Couch, and Glenn, *Public Policies for the Working Poor* at 15 (cited in note 8).

³² See David Neumark and William Wascher, *Employment Effects of Minimum and*

self-employed, who obviously cannot be compelled to pay themselves a minimum hourly rate.

With regard to who receives the subsidy, two main distinctions are worth making. The first is between individuals living in poor and non-poor households. As of 1989, only an estimated 22 percent of low-wage workers (defined as those earning less than half of the average private sector hourly wage) lived in households below the official poverty line. For 1939, the comparable figure has been estimated at 85 percent. The drop resulted from the growth of multiple-earner families and the expansion of government income transfer programs.³³ The second distinction among beneficiaries is between teenagers, who make up about one-third of all low-wage workers,³⁴ and adults—two groups that may differ sharply both in their current alternatives to market employment, and in their long-term earnings prospects. Low-wage adult earners in non-poor households are typically their household's secondary earners, such as a spouse who does market work sporadically or part-time while also taking primary responsibility within the household for child rearing.³⁵

With regard to who pays the tax, more than 80 percent of minimum wage employment is in the retail trade sector, comprising such businesses as restaurants, hotels, grocery stores, and department stores. Minimum wage workers are disproportionately found in establishments with fewer than twenty-five employees, but their employers often are large national firms, such as McDonald's, K-Mart, and Sears. In no industry does the percentage of workers who are paid only the minimum wage reach 8 percent.³⁶

B. Possible Reasons for a Low-Wage Subsidy

In order for the minimum wage to be a defensible program, the subsidy's benefits must exceed the tax's costs. In addition, the subsidy and tax should be reasonably well-designed com-

Subminimum Wages: Panel Data on State Minimum Wage Laws, 46 Indus & Labor Rel Rev 55, 55 (1992).

³³ See Burkhauser, Couch, and Glenn, *Public Policies for the Working Poor* at 15-19 (cited in note 8). Low-wage workers are defined as those earning less than half the average private sector hourly wage. If one counts near-poor households (those with income-to-needs ratios below 1.50, not just below 1.00), the drop was from 93 percent in 1939 to 39 percent in 1994. *Id.* at 16.

³⁴ See Card and Krueger, *Myth* at 137 (cited in note 2); Finis Welch, *Minimum Wages: Issues and Evidence* 13 (AEI 1978).

³⁵ See, for example, Edward J. McCaffery, *Taxation and the Family: A Fresh Look at Behavioral Gender Biases in the Code*, 40 UCLA L Rev 983, 992, 1020, 1025 (1993).

³⁶ Card and Krueger, *Myth* at 314-18 (cited in note 2).

pared to plausible replacement programs. This section begins the analysis by examining possible rationales for a wage subsidy for low-wage workers.

1. Progressive wealth redistribution.

The most commonly advanced reason for a low-wage subsidy is progressive wealth redistribution. If low-wage workers are on average less well-off than others, then increasing their income seems likely to have progressive effects. To be sure, the subsidy only helps those who have jobs, a group that may not include the neediest. It also may help individuals who are well-off despite earning low wages, such as employees with income from capital or other household members' wages. Advocates variously argue, however, that low-wage subsidies restrict benefits to the "deserving" poor (ostensibly, only those who work),³⁷ minimize adverse work incentives,³⁸ or are politically more feasible than alternative programs for progressive wealth redistribution.³⁹

2. Reducing the tax and transfer systems' deterrence of market work by individuals in poor households.

A second argument for a low-wage subsidy, grounded in efficiency rather than distribution, is that it will reduce the tax and transfer systems' discouragement of work effort by individuals in poor households (to the extent they are the ones receiving the subsidy). In developing this argument more precisely, one must keep in mind that our tax and transfer systems burden work by virtually all Americans, regardless of wage, income, and wealth levels. Once we as a society eschew lump sum taxation (under which Bill Gates and a homeless person would owe the same tax) or attempt any progressive redistribution, we drive a wedge between the social and the private returns to market work.⁴⁰

³⁷ See, for example, Edmund S. Phelps, *Economic Justice to the Working Poor Through a Wage Subsidy*, in Dimitri B. Papadimitriou, ed., *Aspects of Distribution of Wealth and Income* 151, 151-52 (St. Martin's 1994) (arguing that the working poor deserve the just deserts of their contribution to society).

³⁸ See, for example, Edgar K. Browning, *Alternative Programs for Income Redistribution: The NIT and the NWT*, 63 Am Econ Rev 38, 46 (1973) (arguing a negative wage tax produces fewer disincentives than a negative income tax).

³⁹ See, for example, Card and Krueger, *Myth* at 392-93 (cited in note 2) (noting political attractiveness of employer mandates in era of fiscal discipline).

⁴⁰ In theory, one could avoid these effects through an "endowment tax" that based tax liability and transfer eligibility on people's earning abilities, rather than their actual work effort. It is widely recognized that such a tax would founder in practice on insuperable difficulties, not only of measuring ability, but also of liquidity (since those who work less may not have the cash to pay the tax). Nonetheless, it is sometimes used as a concep-

By earning more, an employee increases her expected long-term tax liability, even if the tax is levied, not directly on labor income, but (as under a sales or property tax) on the items that she might purchase with it.⁴¹ She also may forgo qualifying for a variety of social welfare or social insurance benefits. Consider unemployment insurance, which reduces the cost of losing a job,⁴² or Social Security, which, despite some recent changes, can provide older workers with strong financial incentives to retire.⁴³ However, the main sources of transfer-induced work deterrence are means- and income-tested social welfare programs, such as AFDC, Supplemental Security Income ("SSI"), Food Stamps, and Medicaid.⁴⁴ The phaseout of these benefits as an employee's wages or wealth increase is equivalent to imposing high marginal tax rates on market work by program beneficiaries.

As a general matter, therefore, and even ignoring programs that are regulatory in form,⁴⁵ work effort is deterred, reflecting the classic tradeoff between efficiency and distributional concerns,⁴⁶ along with, perhaps, unnecessary design flaws. Inefficiency results even if overall work effort does not decline. The reason it may not decline is that the substitution effect, which occurs when people shift from market work to leisure because the former's return has been reduced, may be offset by the income effect, which occurs when people decide, by reason of having less money, that they need to work more. Substitution effects are regrettable, however, wholly without regard to the separate occurrence of income effects.⁴⁷ Thus, suppose that I forgo an hour of

tual baseline—for example, for computing tax incidence in light of actual taxes' distorting effects on behavior. See, for example, Don Fullerton and Diane Lim Rogers, *Who Bears the Lifetime Tax Burden* 22-24, 66 (Brookings 1993).

⁴¹ See, for example, David F. Bradford, *Untangling the Income Tax* 182-86 (Harvard 1986) (explaining that consumption taxes burden work effort to the same extent as income taxes, although in practice either type of tax might turn out to have the greater work-detering effect, depending on various elasticities).

⁴² See Edmund S. Phelps, *Low-Wage Employment Subsidies versus the Welfare State*, 84 Am Econ Rev 54, 55 (Pt 2 1994).

⁴³ The work-detering effects of the Old Age and Survivors Insurance Program under Social Security—benefits do not begin until the recipient retires—have been reduced by the introduction of a delayed retirement credit that provides recipients with increased payments to the extent that they work past the regular retirement age. See House Comm on Ways and Means, 103d Cong, 2d Sess, Overview of Entitlement Programs: 1994 Green Book 14-16 (Comm Print 1994) ("1994 Greenbook").

⁴⁴ See id at 207-62, 324-455, 757-813 for a comprehensive description of these and related programs (prior to 1996 welfare reform).

⁴⁵ See Edgar K. Browning, *The Non-Tax Wedge*, 53 J Pub Econ 419, 422 (1994) (noting that various programs that are regulatory in form also deter work effort).

⁴⁶ See generally Arthur M. Okun, *Equality and Efficiency: The Big Tradeoff* (Brookings 1975).

⁴⁷ See, for example, Rosen, *Public Finance* at 311 (cited in note 24); Anthony B. Atkin-

labor that would have paid me \$10, because after tax I would have kept only \$6 and I valued an hour of leisure at \$7. The lost \$3 of societal surplus (the excess of what someone was willing to pay for my time over my value for it) is not offset by the fact that some other individual, because taxes have shrunk his bank account, decides to work an hour more (a change in preference generally viewed as efficiency-neutral, since efficiency is measured relative to people's preferences).

Even if work deterrence is inevitable, there are still choices concerning whose work effort should be deterred and by how much. In at least two circumstances, shifting effective tax burdens from Person A to Person B can reduce work deterrence overall because A's positive work-effort response to the shift (ignoring income effects) exceeds B's negative response: (1) when A's work effort is generally more tax-responsive than B's—a condition that may not hold for the poor if, due to the declining marginal utility of market consumption, they value an extra dollar the most;⁴⁸ and (2) when A's marginal tax rate is sufficiently higher than B's to outweigh any lesser tax-responsiveness. Economists generally agree that, as marginal tax rates increase, the welfare loss due to tax-avoiding behavioral responses increases more than proportionally. Double a tax rate from 20 to 40 percent, and excess burden will likely quadruple, not merely double.⁴⁹

This suggests that, if A and B are equally tax-responsive, lost work effort will tend to be minimized by subjecting them to the same marginal tax rate. So long as either A or B faces a higher marginal tax rate, lowering the higher rate and raising the lower one on a revenue-neutral basis will likely reduce excess burden overall.⁵⁰ Moreover, even if A is generally less tax-responsive than B, implying (purely from the standpoint of efficiency) that A's tax rate should be higher, it still may follow that where A's tax rate is too much higher, work effort would be increased by shifting marginal tax burdens from A to B.

son and Joseph E. Stiglitz, *Lectures On Public Economics* 373 (McGraw-Hill 1980).

⁴⁸ See Joseph Bankman and Thomas Griffith, *Social Welfare and the Rate Structure: A New Look at Progressive Taxation*, 75 Cal L Rev 1905, 1957 (1987); J.A. Mirrlees, *An Exploration in the Theory of Optimum Income Taxation*, 38 Rev Econ Stud 175, 200-08 (Pt 2 1971).

⁴⁹ See, for example, Rosen, *Public Finance* at 314 (cited in note 24).

⁵⁰ The standard observation that lump sum taxation could eliminate all excess burden (at a high distributional cost) is consistent with this point. Under such a tax, everyone faces the same marginal tax rate of zero, and excess burden would be increased by differentiating tax rates (as by making some positive and others negative).

Many people, confused by the federal income tax's nominal rate structure, may think that the poor face the lowest marginal tax rates in society. In fact, however, phaseouts of social welfare programs often cause them to face the very highest marginal tax rates, sometimes at astonishing levels that approach or even exceed 100 percent. They also are subject to "notches," where gaining an additional dollar of income can cause an instantaneous loss of benefits that may even exceed \$1,000.

There is no uniform pattern relating marginal tax rates to household wages or income. The wide range of rules that different tax and transfer programs use to determine tax or transfer levels prevents construction of a uniform rate table. There also is immense interstate (and intrastate) variation, involving not only state and local taxes but also benefit levels under such national programs as AFDC and Food Stamps. These intrastate differences will grow significantly in the aftermath of the 1996 welfare reform law, which greatly increases the states' discretion in program design.

In addition, it often is hard to tell *how* marginal tax rates should be computed. Consider the application of an income tax to labor income that is mismeasured by excluding fringe benefits, thus tending to make the true rate lower than the nominal one, but also by disallowing deductions of the marginal costs of work such as commuting and child care, thus tending to make the true rate higher.⁵¹ Or consider payroll taxes to finance Social Security, Medicare, and related benefits, on which employees directly pay tax at a rate of 7.65 percent on wage income up to a ceiling slightly in excess of \$60,000. Employers pay an identical tax with respect to each employee. In determining how to measure payroll tax burdens, the easy question is whether to treat the employer's tax as paid by the employee (and thus as grossing-up the amount of pre-tax income); economists generally agree that it *should* be so treated.⁵² The hard question is whether and how to net against the tax the present value of the future Social Security and related benefits that one ostensibly earns by paying it. The link between payroll taxes and benefits is imprecise, and varies with household circumstances such as marital status and spousal earnings. Moreover, workers subject to payroll taxes may ignore

⁵¹ See Andrew B. Lyon, *Individual Marginal Tax Rates under the U.S. Tax and Transfer System*, in David F. Bradford, ed, *Distributional Analysis of Tax Policy* 214, 241 (AEI 1995) (noting the large impact that the treatment of work-related child care expenses can have on marginal rate calculations).

⁵² See, for example, Fullerton and Rogers, *Who Bears the Lifetime Tax Burden* at 12, 33 (cited in note 40).

the prospect of receiving future benefits, either because they are myopic or, to the contrary, because they farsightedly recognize that Social Security's and Medicare's severe long-term financing problems suggest that they will never receive the benefits that present law seems to promise them.⁵³ For purposes of assessing the tax and transfer system's distributional effect, the objectively correct level of likely future benefits should be offset against the tax. For purposes of assessing behavioral effects, however, the subjective expected level of future benefits is what matters.

Given such problems, one cannot hope to develop precisely accurate tax rate tables, even for a particular state. One can, however, make approximations based on reasonable assumptions. Tables 1 and 2 provide my estimates of the rate structures faced by a single head of household with two children, first in a high-AFDC-benefit state and then in a low-AFDC-benefit state. Table 3 does the same for a single individual without children, assuming a median state since AFDC does not apply. These tables ignore 1996 welfare reform, since many of its consequences cannot be determined until the states specify their plans for implementing it.

Given the inevitable inaccuracy and approximation, I have substantially rounded off both dollar amounts and percentages. I ignore government policies that take the form of regulation, even though in principle they are interchangeable with taxes and transfers, because they generally are not keyed to income levels, and thus are hard to relate to income in any consistent fashion. I explain my sources and methodology in detail in Appendix 1.

⁵³ See, for example, C. Eugene Steuerle and Jon M. Bakija, *Retooling Social Security for the 21st Century: Right and Wrong Approaches to Reform* 39-66 (Urban Inst 1994).

**Table 1: Estimated Marginal Tax Rates on Earnings
(Assuming No Other Income) for a Single Head of Household
with Two Children in a High-AFDC-Benefit State**

Earnings Range (\$)	Marginal Rate (%)
0 - 2,000	(26)
2,000 - 9,000	54
9,000 - 12,000	91
12,000 - 13,000	110
13,000 - 15,000	53
15,000 - 16,000	70
At 16,000	"Notch" loss of \$1,200
16,000 - 30,000	54
30,000 - 50,000	35
50,000 - 65,000	49
65,000 - 95,000	41
95,000 - 135,000	43
135,000 - 145,000	44
145,000 - 160,000	49
160,000 - 270,000	50
270,000 - 280,000	54
280,000 and up	53

See Appendix 1 for full details of how this table was computed.

**Table 2: Estimated Marginal Tax Rates on Earnings
(Assuming No Other Income) for a Single Head of Household
with Two Children in a Low-AFDC-Benefit State**

Earnings Range (\$)	Marginal Rate (%)
0 - 2,000	(26)
2,000 - 7,000	54
7,000 - 9,000	(3)
9,000 - 12,000	34
12,000 - 15,000	53
15,000 and up	See Table 1: same as for single head of household with two children in a high-AFDC-benefit state.

See Appendix 1 for full details of how this table was computed.

Table 3: Estimated Marginal Tax Rates on Earnings
(Assuming No Other Income) for a Single Individual
Without Children

Earnings Range (\$)	Marginal Rate (%)
0 - 2,000	10
2,000 - 4,000	27
4,000 - 6,000	34
6,000 - 7,000	41
7,000 - 9,000	58
At 9,000	"Notch" loss of \$300
9,000 - 10,000	42
10,000 - 25,000	35
25,000 - 65,000	49
65,000 - 125,000	44
125,000 - 135,000	49
135,000 - 245,000	50
245,000 - 265,000	49
265,000 and up	53

See Appendix 1 for full details of how this table was computed.

It is important to keep in mind that these tables depict marginal tax rates, not how well one is being treated overall by our tax and transfer systems. Households with children face higher tax rates in certain ranges due to phaseouts of benefits that only they receive or that are more generous for them. For purposes of determining overall treatment (as distinct from marginal effects), a benefit remains a benefit even while it is being phased out.

That being said, and even allowing for the tables' imprecision and uncertainty, three conclusions seem to follow. First, the overall marginal rate structure bounces up and down in a manner that seems bizarre and, very likely, impossible to rationalize on any principled basis.⁵⁴ Second, many poor households face astoundingly high marginal rates, at times approaching or even exceeding 100 percent. This suggests that, unless their tax-responsiveness is extremely low relative to other households', lowering their marginal tax rates would reduce overall work deterrence even if this involved increasing such rates for other households. This is especially true of single earner households with two or more children and wage income just above the roughly \$10,000 level that would result from holding a full-time

⁵⁴ See discussion in Part III.B of optimal rate structure considerations.

minimum wage job.⁵⁵ Despite considerable disagreement and uncertainty in the empirical literature, work deterrence within this group is probably considerably higher than the alternative work deterrence that would result from smoothing out the overall rate structure on a revenue-neutral basis through relatively modest increases in other groups' marginal tax rates.⁵⁶

The third conclusion, however, is that the fit between this efficiency problem and a low-wage subsidy that, like the minimum wage, depends neither on household income nor on family size is likely to be extremely crude. The minimum wage applies without regard to one's particular marginal tax rate. Even if the minimum wage were revised on a uniform national basis to take household income into account, it would run into the problem of state-by-state variation in rate structure. The efficiency case for responding to the faulty rate structure by layering a low-wage subsidy on top of it, rather than by changing it explicitly and directly, is wholly *faute de mieux* (for example, given the minimum wage's political popularity).

3. Increasing workforce participation among the poor.

A third plausible reason for a low-wage subsidy—turning on a claim of positive externalities rather than wealth distribution or minimizing excess burden—is that it may make market work more attractive to marginal workers among the poor,⁵⁷ who, at least initially, can command only a modest wage. Suppose that, if low-wage work paid better or were more widely available, individuals who at present do not expect to find appealing stable employment would conclude instead that they could support themselves regularly through market work. This might be socially desirable because, as Paul Krugman has said:

⁵⁵ If an employee worked 40 hours a week, 50 weeks a year, at the current hourly minimum wage of \$5.15, the employee's annual wages (for simplicity, ignoring the employer-paid payroll tax) would total \$10,300.

⁵⁶ See, for example, Alstott, 108 Harv L Rev at 546-47 n 52 (cited in note 9) (citing studies suggesting that AFDC may reduce work effort by nontrivial amounts, such as 4.8 percent or more); Bankman and Griffith, 75 Cal L Rev at 1922-24 (cited in note 48) (citing studies suggesting relatively small labor supply responses in most of the population to modest tax rate changes).

⁵⁷ See, for example, Saul D. Hoffman and Laurence S. Seidman, *The Earned Income Tax Credit: Antipoverty Effectiveness and Labor Market Effects* 47 (Upjohn Inst 1990) (The poorest households, or those in the EITC phase-in range, generally include the workers whose connection to the labor market is weakest.). Other groups, such as households' secondary adult earners (mainly women), may also have weak affiliations to the workplace that call for policy responses, see McCaffery, 40 UCLA L Rev at 1031-34 (cited in note 35), but these are separate issues that I will not discuss in this Article.

[T]he availability of jobs plays a key role in the way our society hangs together. A society in which young people can routinely expect to get jobs on leaving school, and to remain gainfully employed except for occasional spells for their adult lives, is going to be a very different place from one in which work is a privilege that is unavailable to many people—even if the welfare state is generous to the unemployed

...⁵⁸

In a dynamic sense, people may decide from early childhood, and perhaps on an ongoing basis, what their preferences and skills should be. The extent to which they apply themselves in school, seek to develop their marketable skills, cultivate habits of reliability, and so forth, may reflect the extent to which they believe there is a prospective payoff in the form of at least minimally tolerable market work. This belief, in turn, may be affected by actual market opportunities (both job availability and wage levels). Even to the extent that people make decisions about their lives by unreflectingly following cultural cues, rather than through probabilistic calculation, there may be a long-term process whereby the prevailing mix of cues reflects opportunity levels. If the poor had greater job opportunities, they might respond by investing more effort in developing their own employability and productivity. The benefits over time could include increased economic production, reduced crime rates and levels of injury from violence, reduced drug and alcohol abuse, better morale, and reduced strife between socioeconomic groups.⁵⁹

Here, unlike in the previous section discussing high marginal tax rates, it would matter if a low-wage subsidy's income effect offset its substitution effect, preventing any net increase in efforts to seek job opportunities. This seems unlikely, however. A low-wage subsidy has no income effect until the prospective worker (or someone in her household) actually does some work qualifying for the subsidy. Decisions by those who are already working to continue doing so, but for fewer hours, arguably are not as great a concern. Even where one person in a household decides not to work because others in the household are receiving

⁵⁸ Paul Krugman, *The Age of Diminished Expectations: U.S. Economic Policy in the 1990s* 27-28 (MIT 1992).

⁵⁹ Compare David A. Strauss, *The Law and Economics of Racial Discrimination in Employment: The Case for Numerical Standards*, 79 *Georgetown L J* 1619, 1626-27 (1991) (arguing that comparable benefits would result from reducing racial or gender discrimination in the workforce).

the low-wage subsidy, there may be little harm to the extent that work norms are learned or shared within the household.⁶⁰

4. Offering just wages to low-wage workers.

A final argument for the minimum wage, implicit in the rhetoric of "making work pay," is that it enables low-wage workers to receive the wages to which they are justly entitled by reason of their work. Here the claim—wholly distinct from progressive wealth redistribution or creating appropriate work incentives as such—is that a low-wage worker's labor has a real value, in some sense, that exceeds what the worker can actually command in the marketplace. Thus, justice in the division of national income dictates providing a wage subsidy to narrow the gap between the "real" value the worker has contributed and the market value the worker has received.

While defining and justifying the notion of "real" value may be difficult, many people have an intuition that there is something to it. Consider the argument that something is amiss when a basketball superstar receives \$20 million a year while a social worker who works with children of alcoholics gets only \$20,000 per year. Is the basketball player really rendering services that are one thousand times as valuable? (The example ignores the fact that we are looking at an exceptional player's salary, not the average return for all who attempt to play professional basketball.) While the example focuses on two individuals, both of whom are well above the minimum wage, it helps to illustrate the widespread intuition that market forces do not always yield the wage levels that workers, in some sense, "deserve." It would seem to lead, however, not to a uniform minimum wage as such, but to subsidizing or taxing at high rates the income earned in different occupations, based on judgments about how their social value differs from their market value.

The just wage claim has, however, recently been made in the context of a minimum wage-style low-wage subsidy, and by a major economist, despite sounding on its face somewhat hostile to standard economic premises. Edmund Phelps, one of the leading figures in modern macroeconomics, has recently urged the enactment of such a subsidy on grounds of "economic justice," which he defines as ensuring that people receive "just deserts"

⁶⁰ On the importance of work norms absorbed from the community and reflecting the level of employment opportunities, see, for example, William Julius Wilson, *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy* 57-58 (Chicago 1987).

for their market labor.⁶¹ The subsidy he proposes is essentially identical to the minimum wage, except that the government rather than the employer pays it. Additionally, Phelps's proposed subsidy requires only a percentage of the amount by which the actual market wage falls short of the preferred level, since otherwise employers would simply lower their wages to zero and let the government pay the whole thing.⁶²

Phelps's arguments are worth addressing briefly as a way of getting a better handle on the "just wage" argument. He defines economic justice as "justice in the rewards from contributing to the economy: collaboration in production, engaging in trade, and sharing in the burden of collective goods."⁶³ It therefore is tied to the value of one's production. "Where there is no contribution to the economy, to the production of gains, economic justice does not apply."⁶⁴ Yet how does one define "value"? Accepting market value would suggest viewing all wages as tautologically just so long as they were set without coercion in competitive markets. Phelps rejects market value, however, because "[f]ree markets . . . pay according to scarcity,"⁶⁵ whereas from the standpoint of justice, scarcity is irrelevant:

One widely accepted principle of justice is that of equal rights, independently of the relative numbers of people in each category. Intellectually or physically disadvantaged persons who are, nevertheless, able to contribute to the economy, do not deserve less merely because their abilities do not command a high scarcity premium.⁶⁶

We have thus far seen two Phelpsian notions of justice: receiving back from society the value of what one contributes; and a notion of equal rights that requires disregarding the effects of scarcity on the market values of people's contributions. Phelps adds two further notions of justice, which he regards as consistent in application with the first two. One is utilitarianism, and the other is John Rawls's "maximin" standard, under which the well-being of the worst-off person assumes central importance. Phelps states that his position is based on Rawls's maximin, but that utilitarianism would support it as well.⁶⁷

⁶¹ Phelps, *Economic Justice*, in Papadimitriou, ed, *Aspects of Distribution* at 151-52 (cited in note 37).

⁶² See id at 151, 162.

⁶³ Id at 151.

⁶⁴ Id.

⁶⁵ Id at 152.

⁶⁶ Id.

⁶⁷ Id.

Against this background, Phelps argues that a wage subsidy should be paid to those employed persons who, because their skills are least scarce and perhaps least developed, currently earn the least. The focus on those receiving the lowest wages is apparently what makes him consider his position Rawlsian.⁶⁸ Phelps limits relief to those on the low end of the wage spectrum despite recognizing that "[p]eople who are very comfortable, even affluent, can be rewarded unjustly little for their contribution."⁶⁹

Phelps's arguments are unconvincing. To begin with, the principle of just reward for the value of one's labor is inconsistent with both utilitarianism and Rawlsianism. Starting with utilitarianism, while it may dictate supporting progressive wealth redistribution and the maintenance of adequate work incentives, it leaves no room for an *a priori* principle of just reward for the value of one's work contribution. It values maximizing people's subjective well-being as an end in itself, wholly without regard to questions of who has "earned," or otherwise "deserves," what.⁷⁰

Turning to the Rawlsian "maximin," the problems of logical reconciliation are just as great. Again, Phelps thinks himself a Rawlsian because he focuses on undercompensation of the workers who are paid the least. However, one cannot easily make sense, from a Rawlsian perspective, of Phelps's belief that wage subsidies should not be means-tested because then they would not apply "if, perchance, the worker had won a lottery or had some other source of unearned income taking him or her out of the poverty zone."⁷¹ The disparity arises because Phelps is concerned about undervalued contributions to society, whereas Rawls is concerned about those who are worst-off even if unable to contribute. Consider the disabled, those who are too young or old to work, and every able-bodied prospective worker who cannot find a job. Again, Phelps is quite explicit that, "where there is no contribution to the economy, to the production of gains, economic justice does not apply,"⁷² and he explicitly applies this ruthless view to the involuntarily unemployed.⁷³ By contrast,

⁶⁸ See id at 152, 155.

⁶⁹ Id at 154.

⁷⁰ See, for example, Amartya Sen and Bernard Williams, *Introduction: Utilitarianism and Beyond*, in Amartya Sen and Bernard Williams, eds, *Utilitarianism and Beyond* 4 (Cambridge 1982) (Utilitarianism "sees persons as locations of their respective utilities—as the sites at which such activities as desiring and having pleasure and pain take place. Once note has been taken of the person's utility, utilitarianism has no further direct interest in any information about him.") (footnote omitted).

⁷¹ Phelps, *Economic Justice*, in Papadimitriou, ed, *Aspects of Distribution* at 155 (cited in note 37).

⁷² Id at 151.

⁷³ Id at 158-59 (discussing involuntary unemployment, and finding an increase in it is

Rawlsianism seems to suggest that one should focus on progressive wealth redistribution—perhaps paying some attention to incentive effects and even to the individual's desert, but without Phelps's emphasis on fair compensation for the value that one happens to have contributed through work effort.

Phelps's definition of economic justice also is too incoherent to stand on independent moral grounds. To give people their "just deserts," as measured by the value of their labor contributions, one must know what "value" means. However, once Phelps rejects market value on the ground that giving heed to scarcity is inconsistent with equal rights, it is not clear what we have left. Why, for example, should changeable public taste be allowed to affect value? Is it unjust to pay a basketball player more than a bowler, merely because the former's abilities command a higher "spectator's premium"?

Once scarcity is put to one side, perhaps the production of necessities, such as food, water, and air, matters more than the production of anything else. Does this mean that we should base value on degrees of necessity (assuming this can be defined)? Should farmers be paid more than brain surgeons because, without food, one would not live long enough to develop a brain tumor? Or is the "necessity premium" that some people's abilities fortuitously command morally irrelevant as well?

If public taste and physical necessity are relevant because they affect the societal gain from a contribution, then it is hard to see why scarcity is irrelevant. Scarcity's effect on market value is no mere quirk; it reflects scarcity's fundamental impact on social well-being. Resources, however vital to life or comfort, would not need to be produced if they were not scarce. This applies to human resources as well as any others. The person who invents a cancer cure has contributed value only due to scarcity; no one else did it first. Unskilled laborers become more needed, and the use of their labor more socially valuable, as their number drops relative to the need for their services.

A world without scarcity is too absurdly counterfactual even to be imagined. Moreover, even Phelps does not reject it consistently. He apparently sees no problem of "economic justice" in denying compensation to people who are unemployed—not merely underpaid—because their skills are shared by too many others. It would seem, therefore, that he has no coherent notion of value giving shape to the notion of just reward, and that such

not necessarily unjust—the maximin standard notwithstanding—even if it means that some must be worse off so that others can benefit).

a notion is inherently quite hard to develop once one rejects market value.

Finally, even if one developed the requisite theory of value, it probably would not lead to Phelps's proposed approximation of a government-paid minimum wage. It more likely would suggest correcting market wages by offering subsidies (or low tax rates) to occupations that were underpaid, and high tax rates to occupations that were overpaid. Phelps's proposal, which but for administrative concerns would involve guaranteeing a minimum hourly wage to everyone who has a job, posits an implausibly uniform social value of labor across the low-wage spectrum. Extensive variation between the value of distinct tasks seems far more probable.

Thus, the "just wage" argument for the minimum wage's low-wage subsidy is unconvincing. One therefore should restrict the plausible arguments for the subsidy to the three that I previously stated: progressive wealth redistribution, avoiding excessive work deterrence through the tax and transfer systems, and increasing workforce participation among the poor.

C. Effect of the Minimum Wage on the Goals of a Low-Wage Subsidy

Since the minimum wage is equivalent to a subsidy plus a tax (leaving aside administrative and political considerations), its merits depend on each of these two elements. Most debate concerning the minimum wage has focused on the tax, which economists before Card and Krueger mainly agreed would cause non-trivial disemployment if set high enough to affect wages significantly. However, it is useful to begin by considering the effectiveness of the minimum wage's particular subsidy, ignoring the tax.

1. Effects of the subsidy.

The subsidy targets people with low hourly wages, rather than those who are poor. Yet the poor seemingly should be the main beneficiaries under all three of the plausible arguments for the low-wage subsidy—not just progressive redistribution, but also reducing unduly high effective tax rates that result from benefit phaseouts and increasing workplace affiliation among marginal workers. Thus, the question of fit between those with

low hourly wages and those living in poor households is paramount.⁷⁴

As George Stigler noted fifty years ago in a classic early criticism of the minimum wage, there is no particular reason to expect the fit to be good. Even limiting the analysis to people who have jobs, a worker's hourly earnings and her annual earnings often are not closely related. Such factors as seasonality, overtime, and absenteeism can lead to large discrepancies. In addition, a worker's material well-being may reflect everyone's labor income in the household (not just her own); other resources (such as income from capital); and levels of need (for example, to support dependents or for medical care).⁷⁵

Nonetheless, empirical evidence suggests that at one time the fit was fairly good—at least in terms of who got the subsidy, ignoring the question of how many poor households did not get it.⁷⁶ Again, in 1939 the percentage of low-wage workers (those earning less than half of the average private sector hourly wage) who lived in households below the poverty line was 85 percent, rising to 93 percent if one included households near the poverty line. By 1989, these figures had declined to 22 percent poor, or 39 percent including the near-poor. This change reflected the weakened link between hourly wages and household income in an era of multiple-earner households, along with the general mitigation of poverty through social welfare programs.⁷⁷

The targeting of the minimum wage's low-wage subsidy seems particularly weak when it is compared to the targeting under the EITC, which relies on a measure of annual household income rather than hourly wage rates. As Table 4 shows, even if one assumes zero disemployment from the minimum wage, the difference in incidence is extreme. Middle- and upper-income

⁷⁴ As we will see in Part III, concerns about program fit or targeting must be tempered by an awareness of the arbitrariness, in some settings, of conventional definitions of program cost. The phaseout of the EITC, for example, is better viewed as creating a temporarily high marginal rate than as limiting a distinct program's scope. Nonetheless, when two policy changes are of the same magnitude, in the sense that they work equivalent shifts in the incidence of taxes or transfers, the fact that one is better targeted, in the sense of directing a greater proportion of the shifted taxes or transfers to or from the groups that were meant to be affected, plainly is relevant to an assessment of the programs' relative success in achieving desired distributional effects.

⁷⁵ See George J. Stigler, *The Economics of Minimum Wage Legislation*, 36 Am Econ Rev 358, 362-63 (Pt 1 1946).

⁷⁶ Failure to provide the low-wage subsidy to all poor households is arguably a problem only under the progressive redistributive rationale for the low-wage subsidy.

⁷⁷ Burkhauser, Couch, and Glenn, *Public Policies for the Working Poor* at 16-19 (cited in note 8). On the "surprisingly weak relationship between being a worker whose hourly wage is low and being a member of a family whose annual income is low," see also Brown, 2 J Econ Persp at 143-44 (cited in note 28).

families are projected to capture nearly three-quarters of the benefit from the 1996 minimum wage increase, as compared to barely over one-quarter of the benefit from 1993 legislation expanding the EITC.

Table 4: Estimated Distribution of Benefits: A Minimum Wage Increase Like That Adopted in 1996 versus the 1993 Changes to the EITC

Household Income Level	Percentage of Total Benefits: Minimum Wage Increase	Percentage of Total Benefits: 1993 EITC Changes
Poor	13.1	38.4
Near-Poor	12.7	33.3
Middle Income	39.5	25.1
Upper Income	34.7	3.1

See Appendix 2 for details of how this table was computed.

On progressive redistributive grounds, the picture is even worse if one takes into account the interaction between the minimum wage and explicit tax and transfer programs.⁷⁸ Recall Tables 1 and 2, showing that single heads of household with two or more children face extremely high effective marginal tax rates due to the phaseout of various social welfare benefits as their wages increase. Suppose that a single head of household with two children, living in a high-AFDC-benefit state, worked 40 hours a week, 50 weeks per year, at the federal minimum wage. The 1996 increase from \$4.25 to \$5.15 per hour might initially seem to have increased her annual income from \$8,500 to \$10,300, for a gain of \$1,800. After taxes and transfer reductions, however, she might gain only about \$173.⁷⁹ By contrast, suppose that a middle-class teenager had a minimum wage summer job, working 500 hours and thus nominally increasing his before-tax

⁷⁸ However, one could view this interaction as having positive effects on the overall effective rate picture. If viewed as a subsidy, the minimum wage's low-wage subsidy lowers the effective tax rates of individuals who receive it, thus reducing undue work deterrence where these rates were otherwise unduly high.

⁷⁹ The first step in making this computation, explained in Appendix 1 and reflected in Table 1, is to gross up nominal wages below \$65,000 by 7 percent, to include payroll taxes nominally paid by the employer. Using this adjustment, the above individual's pre-tax and transfer wages actually increased from \$9,095 to \$11,021. Thus, while the grossed-up wage increase is \$1,926, rather than \$1,800, it falls entirely in the 91 percent bracket from Table 1. At a 91 percent effective tax rate, the employee retains only \$173.34 of the adjusted wage increase.

income by reason of the increased minimum wage from \$2,125 to \$2,575, or by \$450. Assuming that he had no other taxable income, he might still be ahead about \$351 after tax.⁸⁰

Despite these problems, the minimum wage's subsidy is generally agreed to be progressive, though only modestly so.⁸¹ It may also, on balance, modestly advance the other plausible goals of a low-wage subsidy, by increasing the appeal of low-wage labor and offering a significant portion of its benefits to low-income households that otherwise face exceptionally high tax rates. Thus, the fact that it is so poorly targeted, while suggesting that alternative low-wage subsidies might be preferable, does not yet make the case for repeal if replacement with a better program is not in fact likely to happen. We next, however, must consider the effects of the minimum wage's imposing a tax on low-wage employment.

2. Effects of the tax.

a) *The pre-Card and Krueger consensus.* Despite the poor design of the minimum wage's subsidy, its most controversial element is its tax. One would think that taxing employers when they hire workers who would otherwise receive less than the minimum wage inevitably deters low-wage employment, and thus compromises the various goals of a low-wage subsidy. Moreover, while construing the minimum wage as a subsidy plus a tax might seem to leave indeterminate the question of whether the subsidy's incentive effect or the tax's deterrent effect will predominate, construing it as a regulatory ban on certain contracts strongly suggests net deterrence. A ban on certain contracts seems almost certain to *reduce* overall contracting, insofar as it has any effect.

This was indeed the consensus view among economists, liberals and conservatives alike, prior to Card and Krueger's recent work. Indeed, there was even considerable agreement about the magnitude of disemployment. The widely shared view, based on empirical research concerning teenagers that was assumed to apply more generally, was that a 10 percent increase in the

⁸⁰ He would be in Table 3's 27 percent bracket (for income from \$2,000 to \$4,000) both before and after the minimum wage increase. Grossing up his \$450 gain to \$481.50 to reflect the payroll tax nominally paid by the employer, the application of a 27 percent tax rate would leave him with \$351.495.

⁸¹ See, for example, Edward M. Gramlich, *Impact of Minimum Wages on Other Wages, Employment, and Family Incomes*, in Arthur M. Okun and George L. Perry, eds, *Brookings Papers on Economic Activity*, No 2, 409, 445 (1976) (Distributional impact is positive, although "minimum wages will never have strong redistributive effects."); Card and Krueger, *Myth* at 393 (cited in note 2) (The minimum wage's redistributive or poverty-reducing effect is "modest," although not completely negligible.).

minimum wage would likely reduce the hours worked by low-wage workers by 1 to 3 percent,⁸² while a 25 percent hike would reduce such hours by 3.5 to 5.5 percent.⁸³ While some economists were dissatisfied with how successfully the studies adjusted for ever-changing variables in the teenage population⁸⁴ or the national economy, the results' rough consistency across different studies and seeming plausibility increased many economists' confidence that they were roughly accurate.

Some noted that these estimates might support the claim that minimum wage hikes increase low-wage income overall. Suppose, for example, that a 20 percent increase in the minimum wage (the approximate magnitude of the 1996 change) increased affected workers' wages by an average of 10 percent (since some were already being paid more than the old minimum wage), while reducing their hours by 5 percent. The net result would be a nearly 5 percent increase in their overall earnings. One could argue that they gained still more from increased leisure, since minimum wage jobs typically are not very pleasant and prevent one's making alternative uses of one's time, such as performing needed services within the household.⁸⁵

Thus, the minimum wage arguably made low-wage workers as a group better off, unless they were sufficiently risk-averse to dislike the "lottery" to which it subjected them by increasing hourly wages but reducing work opportunities.⁸⁶ Under this view, the minimum wage might even have strengthened marginal workers' workplace affiliation, by increasing the ex ante expected return. Such a claim was countered, however, by two strong arguments. *First*, the resulting disemployment might be borne disproportionately by those who were both least skilled and least affiliated to the workplace. Their ex ante expected return might drop even if it increased for the group as a whole, and they might be the ones who really needed the encouragement. Suppose, for example, that prospective workers in the poorest households both

⁸² See Brown, 2 J Econ Persp at 139 (cited in note 28); Card and Krueger, *Myth* at 180 (cited in note 2).

⁸³ See Robert S. Goldfarb, *The Policy Content of Quantitative Minimum Wage Research*, Indus Rel Research Assn Proceedings 261, 266 (Dec 1974).

⁸⁴ See, for example, id at 268; Gramlich, *Impact of Minimum Wages*, in Okun and Perry, eds, *Brookings Papers* at 430-33 (cited in note 81); John Kennan, *The Elusive Effects of Minimum Wages*, 33 J Econ Lit 1949, 1955-56 (1995).

⁸⁵ See, for example, Gramlich, *Impact of Minimum Wages*, in Okun and Perry, eds, *Brookings Papers* at 411 (cited in note 81) (noting that increased leisure from the reduction in hours worked is arguably a benefit).

⁸⁶ See Allan Drazen, *Optimal Minimum Wage Legislation*, 96 Econ J 774, 777-78 (1986); Gramlich, *Impact of Minimum Wages*, in Okun and Perry, eds, *Brookings Papers* at 443 (cited in note 81) (suggesting that some groups benefit from the minimum wage).

needed such encouragement the most and bore a disproportionate share of the unemployment effects. *Second*, suppose that low-wage jobs are an important stepping stone to better work opportunities in the future. If the reduction in hours worked means fewer jobs, not just fewer hours per job, then a minimum wage increase might reduce the present value of expected lifetime income for low-wage workers, even if upon enactment it increased their current-year income.⁸⁷

On balance, economists widely agreed that the minimum wage simply did not make sense given its unemployment effects and general price distortion.⁸⁸ This consensus has now been prominently challenged, however. David Card and Alan Krueger's *Myth and Measurement: The New Economics of the Minimum Wage*, published in 1995, boldly asserts that the economic consensus of the last fifty years, holding that the minimum wage results in unemployment, has simply been wrong. Based mainly on four empirical studies that Card, Krueger, and Lawrence Katz conducted in various combinations in the early 1990s, along with extensive critiques of prior empirical work, they assert the following: (1) modest minimum wage hikes do not reduce, and may even increase, low-wage employment; (2) improved econometric research techniques, representing a substantial advance in the art, permit them to assert this with confidence; and (3) the standard prediction of unemployment from minimum wage increases is based on a faulty theoretical understanding of the labor market.⁸⁹ Their book title itself helps to introduce these points, suggesting that they have gone beyond "myth" to achieve "measurement" and are introducing a "new economics" to their readership.

Card and Krueger, both of Princeton University, are prominent and acclaimed economists. Card won the 1995 John Bates Clark Medal, awarded to the outstanding economist under the age of forty, while Krueger recently served as Chief Economist at the Department of Labor.⁹⁰ Their work concerning the minimum wage has received widespread attention, both making the national news⁹¹ and inspiring numerous academic review symposia.⁹² It also seems to have influenced the 1996 legislative proc-

⁸⁷ See Gramlich, *Impact of Minimum Wages*, in Okun and Perry, eds, *Brookings Papers* at 411 (cited in note 81).

⁸⁸ See text accompanying note 5.

⁸⁹ See Card and Krueger, *Myth* at 14-18 (cited in note 2).

⁹⁰ David Rosenbaum, *Much Bluster Over 90 Cents*, NY Times A1, A17 (April 30, 1996).

⁹¹ A recent NEXIS search of *New York Times* articles found eleven references to Card and Krueger's minimum wage research.

⁹² For example, it inspired an American Economic Association review symposium in

ess, by helping place the minimum wage on the national political agenda and permitting supporters of an increase to cite respectable support for the claim that it would not cost jobs.⁹³ Card and Krueger's work therefore demands attention before reaching any firm conclusions about the defects (if any) of the minimum wage's choice of tax.

b) *Card and Krueger's proposed "new view"*. Whatever the merits of Card and Krueger's own contribution, their challenge to the extensive prior empirical literature is not as rash as it might seem. Many economists have shared their dissatisfaction with the prior studies on which the consensus disemployment predictions are based. The core problem is that, in the words of Nobel laureate Robert E. Lucas, Jr., "[t]he economy is a miserable experimental design."⁹⁴ Too much happens in the economy at the same time, and too little can be observed accurately, for econometric studies to yield clear findings. I have commented elsewhere on how frequently

economists from across the intellectual spectrum . . . end up deriving the results that we know they expected or preferred in advance. Somehow it always seems that Robert Barro finds evidence confirming Ricardianism, and Robert Eisner finds it for Keynesianism, while Martin Feldstein but not Lawrence Summers detects large disincentive effects from redistribution through the tax and transfer systems.⁹⁵

Econometrics is at once powerful enough to permit members of rival schools to do a lot of work persuading themselves, and yet puny enough to ensure that they will only rarely persuade each other. In case after case, the modeling assumptions and specifications that need to be made, and the variety of ways in which one can analyze data, help prevent the emergence of any consensus.

Econometrics has failed to supply even moderately definite answers in a large number of areas. For example, virtually all questions pertaining to the effects of budget deficits—on saving, consumption, employment levels, interest rates, trade deficits, and so forth—remain disputed. Most economists in all rival camps find the data confirmatory of what they independently be-

January 1996; an American Enterprise Institute symposium on June 1, 1995, Kennan, 33 J Econ Lit at 1950 (cited in note 84); and review colloquia in Volumes 46 and 48 of the Industrial and Labor Relations Review.

⁹³ For example, a recent Westlaw search of the Congressional Record found fifteen references to Card and Krueger's minimum wage research in 1995-96.

⁹⁴ Quoted in Kennan, 33 J Econ Lit at 1950 (cited in note 84).

⁹⁵ Shaviro, *Do Deficits Matter?* at 187 (cited in note 23).

lieve, and even those in no particular camp have reached no consensus.⁹⁶ Similar indeterminacy plagues study of such questions as how income taxation (with or without various preferences for saving or investment) affects saving and how a tax preference for capital gains affects income tax revenues.⁹⁷

The research difficulties may be even worse than usual with respect to the disemployment effects of the minimum wage. Research has focused mainly on teenagers, whose undeveloped job skills make them far more likely than older workers to be right at or near the minimum wage level, thus making aggregate employment or unemployment levels for the group a stronger indication of the minimum wage's effects. Yet teenagers are an unusually volatile group to study.⁹⁸ Since the onset of the post-World War II baby boom, the size of the teenage population, both absolutely and compared to other age groups, has fluctuated significantly. Adjusting for this fluctuation so that it will not distort the minimum wage results is difficult due to disagreement about how the labor market operates. For example, absent a minimum wage, should an increase in the teenage population be expected (all else equal) to increase the number of employed teenagers? A neoclassical view of market-clearing would suggest that the answer is yes: the increased labor supply bids down wages, thus making possible increased employment. Yet Keynesian economists would expect any such effect to be muted by the "stickiness" of previously prevailing wages.⁹⁹ One cannot tell what presumptively would have happened but for the minimum wage without resolving this perennial dispute between Keynesian and neoclassical economists.

Or consider the consequences of teenagers having various alternatives to current employment, the appeal of which may independently fluctuate over time. Examples include going to school, joining the military, and entering various training programs. The direction of causation between choosing such options and choosing current employment is often unclear. For instance, if school attendance increases at the expense of teenage employment, does this more likely mean that job opportunities declined, leading

⁹⁶ See *id.*

⁹⁷ See, for example, George R. Zodrow, *Economic Analyses of Capital Gains Taxation: Realizations, Revenues, Efficiency and Equity*, 48 *Tax L Rev* 419, 429 (1993) (suggesting difficulties with empirical studies of the effects of capital gains tax rates).

⁹⁸ See, for example, Gramlich, *Impact of Minimum Wages*, in Okun and Perry, eds, *Brookings Papers* at 430-33 (cited in note 81).

⁹⁹ Shaviro, *Do Deficits Matter?* at 45-47 (cited in note 23); Robert M. Solow, *Another Possible Source of Wage Stickiness*, in George A. Akerlof and Janet L. Yellen, eds, *Efficiency Wage Models of the Labor Market* 41-42 (Cambridge 1986).

some teenagers to shift to school as their second choice; or that school became more appealing, leading fewer of them to want jobs although their job opportunities remained constant?

The research problems are not limited to studying teenagers. At any time, a host of broader economic factors, such as changes in consumer demand, the cost of capital, or the cost of material inputs to low-wage industries, could destroy the validity of any observation, absent appropriate adjustments for them. Yet these changes are hard to observe, and there is often theoretical disagreement regarding how to adjust for them.

Consider as well weaknesses in the information that is available for economists to study. Standard data concerning how many people are employed may fail to reflect changes in the number of hours that they work. Observations based on the official level of the minimum wage may fail to capture changes in the mandate's breadth of legal coverage, or in actual compliance and enforcement levels.

In light of all the research problems, Card and Krueger propose a methodological step back (in historical terms) that, they argue, is really a step forward. As they note, the earliest minimum wage research used what are called "natural experiments."¹⁰⁰ It tried to replicate the methodology of a science laboratory, where, to measure what effect, say, aspirin has on heart attacks in rats, scientists would observe two groups: one that received lots of aspirin and a second, the control group, that was similar *ex ante* and then was treated identically except that it received no aspirin. Any observed differences in heart attacks between the two groups could then be attributed with reasonable confidence to the aspirin, on the assumption that nothing else differed significantly.

A natural experiment in the economic realm tries to accomplish the same thing by comparing two groups that are thought to be identical in all respects except one, such as a change in legal rules for one of them. Thus, the Tax Reform Act of 1986, which dramatically changed the United States tax treatment of real estate, has been treated as a natural experiment concerning the effects of those changes, because Canada had no contemporaneous legal change but arguably was otherwise subject to similar broad economic conditions and trends.¹⁰¹

¹⁰⁰ Card and Krueger, *Myth* at 21 (cited in note 2).

¹⁰¹ See James M. Poterba, *Taxation and Housing Markets: Preliminary Evidence on the Effects of Recent Tax Reforms*, in Joel Slemrod, ed., *Do Taxes Matter? The Impact of the Tax Reform Act of 1986* 141, 151-56 (MIT 1992).

With regard to the minimum wage, Card and Krueger cite a natural experiment from the 1940s that found no disemployment effect, and suggest that the approach was abandoned because it too often threatened to "overturn the 'conventional wisdom.'"¹⁰² In fact, other natural experiments regarding the minimum wage supported the conventional view,¹⁰³ and movement away from natural experiments reflected broader intellectual trends in econometrics. Researchers studying a wide range of issues realized that in the economy, as compared with the science laboratory, it often is hard to know if one's control and test groups are sufficiently similar apart from the difference that one is testing. How can one be sure, for example, that relative conditions in the Canadian and American real estate markets were not otherwise diverging in 1986? Econometricians responded to this concern by developing more sophisticated analytical techniques that used regression analysis to permit them to adjust for variables.¹⁰⁴

Given the continuing difficulties that econometricians have faced using these more sophisticated techniques—which, as Card and Krueger rightly note, increase one's discretion to import bias¹⁰⁵ either deliberately or accidentally—it has become clear that natural experiments are an important research tool after all. Yet, with or without them, one must accept the inherently lesser certainty of apparent empirical results in econometrics than physics or biology. It is one thing for physicists to say that "theory" must yield to "fact" when research observations show that the two are in conflict. It is quite another thing for economists to say this when their results conflict with theoretical predictions. Their asserted facts about empirical relationships are facts only *ceteris paribus*—all else equal—and one can only speculate, with far less confidence than in physics or biology, that *ceteris is paribus*. Thus, econometric findings, until they receive a great deal of independent confirmation, are better described as confronting theoretical surmise with theoretical surmise—one based on general abstract reasoning, and one on what impact independent variables had on a particular set of research results.

¹⁰² Card and Krueger, *Myth* at 21 (cited in note 2). The study they cite is Richard A. Lester, *Shortcomings of Marginal Analysis for Wage-Employment Problems*, 36 Am Econ Rev 63 (Pt 1 1946).

¹⁰³ See Kennan, 33 J Econ Lit at 1951 (cited in note 84).

¹⁰⁴ For a lucid description, see generally Alan O. Sykes, *An Introduction to Regression Analysis*, Working Paper No 20, University of Chicago Law & Economics 2d Series (1993).

¹⁰⁵ Card and Krueger, *Myth* at 24 (cited in note 2).

Myth and Measurement relies on four asserted natural experiments to support its sweeping conclusion that the "conventional wisdom" and the vast majority of prior studies are wrong, and that in fact modest increases to the minimum wage do not reduce, and may even increase, low-wage employment.

1988 Increase in the California Minimum Wage: In 1988, California increased its minimum wage from the nationally-mandated \$3.35 to \$4.25 per hour. David Card examined the effect on certain low-wage workers (primarily teenagers), treating it as a natural experiment in which the control group was workers in Arizona, Florida, Georgia, New Mexico, and Dallas-Fort Worth.¹⁰⁶ He found relative and absolute increases in California low-wage employment, thus ostensibly contradicting the conventional view of the minimum wage and the competitive model of the low-wage labor market on which it relies.¹⁰⁷

As others have noted, however, at the time of the wage increase, "California's economy was expanding while the comparison areas were stagnant"—thus rebutting both the value of the control group and any inference from before-and-after comparisons within California.¹⁰⁸ Moreover, the California wage increase had been prominently debated for some months before the period Card studied, strengthening the possibility that he missed advance adjustments by employers who anticipated its adoption. He also could not test for more long-term adjustments, resulting, for example, from gradual shifts in the labor versus capital intensiveness of low-wage industries or in the relative size of industries that made greater and lesser use of low-wage labor.¹⁰⁹ Accordingly, even ignoring a rival study of the same period that reached contradictory results,¹¹⁰ it is hard to share Card's confidence that his data fundamentally call into question what he disparages as the "conventional" view that labor markets are competitive.¹¹¹

¹⁰⁶ David Card, *Do Minimum Wages Reduce Employment? A Case Study of California, 1987-89*, 46 *Indus & Labor Rel Rev* 38 (1992), reprised in Card and Krueger, *Myth* at 78-112 (cited in note 2). Card notes that he could not use states neighboring California as his control group because they also raised their minimum wages, but he otherwise provides little explanation for his choice of control. See Card, 46 *Indus & Labor Rel Rev* at 41.

¹⁰⁷ Card, 46 *Indus & Labor Rel Rev* at 52 (cited in note 106).

¹⁰⁸ See Finis Welch, *Comment*, in Ronald G. Ehrenberg, ed, *Review Symposium on Myth and Measurement: The New Economics of the Minimum Wage*, 48 *Indus & Labor Rel Rev* 842, 846-47 (1995).

¹⁰⁹ See Daniel S. Hamermesh, *Comment*, in Ehrenberg, ed, 48 *Indus & Labor Rel Rev* 835, 835-36 (cited in note 108).

¹¹⁰ See Taeil Kim and Lowell J. Taylor, *The Employment Effect in Retail Trade of California's 1988 Minimum Wage Increase*, 13 *J Bus & Econ Stat* 175, 182 (1995).

¹¹¹ See Card, 46 *Indus & Labor Rel Rev* at 52-53 (cited in note 106).

National Effects of the 1990 Increase in the Federal Minimum Wage: Card similarly studied the 1990 increase in the federal minimum wage as an interstate natural experiment.¹¹² Although the federal change applied nationwide, differences in states' prior wage levels made it a larger relative increase in some states than others. Card posited that, under the conventional view, the increase should have reduced employment in previously low-wage states relative to medium- or high-wage states. Failing to find any such relative change in teenagers' employment levels, he concluded that once again the conventional view of the minimum wage had been contradicted.¹¹³

Yet this study is subject to the same objections as his California study. The low-wage, generally "Sunbelt" states on which he bases his findings had been experiencing relative employment growth over a longer period, and this ongoing trend may have hidden the disemployment effects of the minimum wage.¹¹⁴ He also may have selected too short a timeframe given the lengthy political wrangling over the federal increase that started in 1989 (giving employers ample advance notice that an increase was at least possible) and the possibility that disemployment occurs slowly.¹¹⁵ Again, therefore, even ignoring a rival study that critiques and contradicts Card's findings,¹¹⁶ the study falls short of providing strong support for his conclusion that "modest increases in the minimum wage have no adverse effect on the employment outcomes of low-wage workers."¹¹⁷

Effects Within Texas of the 1990 Increase in the Federal Minimum Wage: Lawrence Katz and Alan Krueger studied the effects within Texas of the 1990 federal minimum wage increase through before-and-after phone surveys of fast-food restaurants.¹¹⁸ Noting that, under the conventional view, employment

¹¹²David Card, *Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage*, 46 Indus & Labor Rel Rev 22 (1992), reprised in Card and Krueger, *Myth* at 13-51 (cited in note 2).

¹¹³Card also found that school enrollment did not relatively increase in previously low-wage states, arguably contrary to the predictions of the conventional view that declining work opportunities will increase school's relative attractiveness as an option. See Card, 46 Indus & Labor Rel Rev at 35 (cited in note 112).

¹¹⁴See Welch, 48 Indus & Labor Rel Rev at 847 (cited in note 108); Donald Deere, Kevin M. Murphy, and Finis Welch, *Employment and the 1990-1991 Minimum-Wage Hike*, 85 Am Econ Rev 232, 234 (Pt 2 1995).

¹¹⁵See Card and Krueger, *Myth* at 366-68 (cited in note 2) (admitting long-term effects may differ from the short-term effects they studied, but suggesting studies indicate they will be smaller).

¹¹⁶See generally Deere, Murphy, and Welch, 85 Am Econ Rev at 232 (cited in note 114).

¹¹⁷Card and Krueger, *Myth* at 114 (cited in note 2).

¹¹⁸Lawrence F. Katz and Alan B. Krueger, *The Effect of the Minimum Wage on the*

should have declined among restaurants previously paying low wages relative to those paying high wages, they find instead that the low-wage restaurants had relative employment increases. Like Card, they conclude that the standard competitive model of the labor market cannot explain this result and therefore faces serious challenge.¹¹⁹

They concede, however, that since their data cover only firms in continuous operation during the period, it does not address “whether increases in the minimum wage lead to an increase in the failure rate of existing firms and a reduction in the birth rate of new firms.”¹²⁰ In addition, the survey’s low response rate raises questions of inadvertent selection bias, and it relied on a small number of observations (110 restaurants overall).¹²¹ Their exclusive focus on the fast-food industry also raises questions about whether this result merely reflects particular conditions there. Perhaps the minimum wage increase, by giving more money to low-wage teenagers (even if some of them lost their jobs), shifted overall consumption towards fast food, since teenagers are its most avid consumers.¹²² Or perhaps Chinese and Mexican restaurants use low-wage labor more intensively than the McDonald’s-type fast-food restaurants in the survey, inducing the latter to expand at the expense of the former when the minimum wage increased.¹²³

The most fundamental problems with the Texas study, however, involve the reliability of the information about employment levels that phone surveys—as distinct from, say, payroll data—are capable of providing. Asking a set of general questions from a written list to whichever (possibly busy or ill-informed) individual happens to take the call, without even a guarantee that the same person at each restaurant will answer “before” and “after,” potentially makes the data quite suspect. However, I will discuss this problem more fully with respect to the last study, in which it has been more fully vented in public debate.

Effects Between New Jersey and Pennsylvania of the 1992 Increase in the New Jersey Minimum Wage: The flagship study underlying Myth and Measurement—by far the most ambitious, elaborately designed, and widely discussed—is by Card and

Fast-Food Industry, 46 Indus & Labor Rel Rev 6, 7-9 (1992), reprised in Card and Krueger, *Myth* at 58-69 (cited in note 2).

¹¹⁹ Katz and Krueger, 46 Indus & Labor Rel Rev at 20 (cited in note 118).

¹²⁰ Id.

¹²¹ See id at 7-9. See also Kennan, 33 J Econ Lit at 1960-61 (cited in note 84); Hamermesh, 48 Indus & Labor Rel Rev at 835-36 (cited in note 109).

¹²² See Kennan, 33 J Econ Lit at 1961-62 (cited in note 84).

¹²³ Welch, 48 Indus & Labor Rel Rev at 847 (cited in note 108).

Krueger, and concerns New Jersey's 80-cent increase of its minimum wage, from \$4.25 to \$5.05 per hour, on April 1, 1992.¹²⁴ Like the Texas study, this one relied on before-and-after phone surveys of fast-food restaurants. The initial and follow-up phone surveys were seven to eight months apart, and were directed at all Burger King, KFC, Wendy's, and Roy Rogers restaurants in New Jersey and neighboring eastern Pennsylvania (which arguably were subject to similar economic conditions, the New Jersey minimum wage aside).

To improve the study's reliability, it had more than four times the sample size of the Texas study, and a much higher response rate due to aggressive follow-up. It also tried to examine whether mandated wage increases were offset by reductions in fringe benefits, took account of store closings rather than counting only results from surviving establishments, and used national data from McDonald's to examine whether the enactment detectably reduced the rate of new store openings in New Jersey.¹²⁵

Card and Krueger found that low-wage employment actually increased in New Jersey relative to eastern Pennsylvania after the new minimum wage took effect in New Jersey.¹²⁶ Noting that this once again seems to contradict the standard view based on competitive markets and the law of demand, they briefly surveyed alternative models of the labor market under which modest minimum wage hikes might plausibly increase equilibrium employment levels. The one discordant note they found in their data is that the pattern of price changes in New Jersey restaurants seems to fit neither the standard nor the alternative views. Under the standard view, the increase in labor costs should increase fast-food prices, just as one would expect businesses generally to pass on an increase, say, in their energy costs. Under their view that the minimum wage increases employment, the amount of fast food sold should increase as well, since otherwise employers would have no reason to pay for more hours of work.

¹²⁴ See generally, David Card and Alan B. Krueger, *Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania*, 84 Am Econ Rev 772 (Pt 1 1994), reprised in Card and Krueger, *Myth* at 20-77 (cited in note 2).

¹²⁵ Card and Krueger also supplemented the New Jersey to eastern Pennsylvania comparison with one of high-wage to low-wage New Jersey stores. And they argue that merely cyclical job increases were unlikely given the ongoing recession, that seasonal employment patterns were the same in the two areas, and that until the last minute the New Jersey legislature considered scaling back the increase (thus discouraging pre-effective date responses by employers). See Card and Krueger, 84 Am Econ Rev at 772-79, 786-90 (cited in note 124).

¹²⁶ Id at 789.

This increase in output suggests that fast-food prices probably must drop: one seemingly must charge less in order to sell more. Card and Krueger's data show fast food prices increasing in New Jersey relative to Pennsylvania (supporting the standard view); but, within New Jersey, not increasing *more* in the stores where prior wages had been lower and thus had to go up more.¹²⁷

Despite the discordant price data, this study initially seemed to make a stronger case than the first three for Card and Krueger's general theoretical claim that the minimum wage does not reduce and may even increase employment—albeit that one cannot rule out the possibility that unobserved relative changes between the two areas offset the disemployment effects of the New Jersey minimum wage.¹²⁸ Critics soon detected grave methodological weaknesses, however. The phone researchers' survey used vague and underspecified questions that may have been interpreted differently, even as between Time One (before the minimum wage increase) and Time Two (afterwards) at the same restaurant. (Presumably out of practical necessity, no effort was made to have the same person answer the questions both times.) For example, the key question, "How many full-time and part-time workers are employed in your restaurant, excluding managers and assistant managers?" was asked without defining any of these terms or otherwise attempting to ensure their consistent interpretation.¹²⁹

Perhaps because of this sloppy execution, the data purported to reveal what Finis Welch called "astonishing changes within stores."¹³⁰ Fifteen percent of those reporting full-time employees at Time One reported none at Time Two. Seventy percent of those reporting no full-time employees at Time One ostensibly had them at Time Two. At both Time One and Time Two, the average restaurant had just over twenty-one employees, but the standard deviation of the change in employees was nine. In only eight months, smaller restaurants had an average 71 percent in-

¹²⁷ Id at 787-88.

¹²⁸ See Hamermesh, 48 Indus & Labor Rel Rev at 837 (cited in note 109) ("The propinquity of New Jersey and Pennsylvania and their similar [pre-effective date employment levels] are not reasons to expect that their [post-effective date employment levels] would have been similar absent the [enactment]. To make such a claim is to argue that *any* two economic outcomes that are similar at one time will be similar at some another. That is nonsense on its face, and it is what requires us to model the determinants of [employment levels]."). Hamermesh adds that changes in relative demand between the two regions would be expected, under the literature concerning determinants of employment levels, to swamp the employment effects of the minimum wage, making the latter close to unobservable, however real. Id.

¹²⁹ See Welch, 48 Indus & Labor Rel Rev at 844-45 (cited in note 108).

¹³⁰ Id at 845.

crease, and larger ones an average 42 percent decline, in the stated number of their employees.¹³¹ In various Wendy's restaurants, the price of an "average" hamburger ostensibly increased or decreased by as much as 80 percent in only eight months.¹³²

Welch concludes that "there is so much random noise in the data that they should be dismissed altogether."¹³³ Card and Krueger respond that "reporting errors need not necessarily lead to bias in estimates of employment effects."¹³⁴ That is, as sloppy and erratic as the data collection may have been, there was no reason to predict it would hide, rather than exaggerate, any disemployment effects of the increased minimum wage. Card and Krueger fail to acknowledge, however, that increased noisiness, if not adequately countered, necessarily reduces the reliability of research results even if it has no known bias. If one already is in the posture of weighing the overall plausibility of alternative theoretical claims and econometric studies—not, as Card and Krueger would naively have it, testing "theory" with "fact"—then reducing reliability in a given data set can make a difference, or even tilt the balance, regarding which conclusion is most plausible in a world where there is little that we can know for certain, or prove wholly beyond doubt.

Adding to the damage was a re-evaluation by David Neumark and William Wascher of a subset of the studied firms' Time One to Time Two changes in employment levels, using actual payroll data rather than phone survey information.¹³⁵ Their findings showed a significant employment loss in New Jersey relative to eastern Pennsylvania (4.6 percent from a 16 percent minimum wage increase, or well within the bounds of the pre-Card and Krueger consensus).¹³⁶ An industry group with a vested interest in opposing the minimum wage participated in data collection, and Neumark and Wascher have been reluctant to let others examine their data base.¹³⁷ They are, however, reputable

¹³¹ Id at 845-46.

¹³² See Richard Berman, Letter to the Editor, *Wage Study Was Based on Faulty Research*, NY Times A16 (May 28, 1996).

¹³³ Welch, 48 Indus & Labor Rel Rev at 845 (cited in note 108).

¹³⁴ Marvin H. Koster, *The Minimum Wage and Employment: What Research Shows* (AEI Inst for Pub Pol Research Aug 1995) (summarizing remarks at an American Enterprise Institute Seminar held on June 1, 1995).

¹³⁵ David Neumark and William Wascher, *The Effect of New Jersey's Minimum Wage Increase on Fast-Food Employment: A Re-Evaluation Using Payroll Records*, Natl Bur of Econ Res Working Paper No 5224 (1995) ("Neumark and Wascher Study").

¹³⁶ Id at 15.

¹³⁷ See Kennan, 33 J Econ Lit at 1961 n 9 (cited in note 84) (saying, of Neumark and Wascher's refusal to release their data, that "[t]his kind of hit-and-run scholarship will not get us very far"). However, Card and Krueger have been criticized as well for not re-

independent economists and made some efforts—admittedly, of uncertain efficacy—to confirm the data's validity.¹³⁸

Plainly, then, there is serious doubt about the Card and Krueger study—in fairness, extending to *all* work in the area. Although Card, Krueger, and Katz have consistently reached the same general result each time, studies by other researchers that yield opposite results are equally consistent and far more numerous. Card and Krueger offer an *ad hominem* attack on opposing research, suggesting that “publication bias” leads journal editors and referees to accept only those studies that accord with their expectations.¹³⁹ Yet *ad hominem* attacks can be (and have been) turned on them as well.¹⁴⁰ Even ignoring any possible political or ideological preference, their “dog bites man” finding—that raising the price of certain labor increases the demand for it—may seem (once one follows their lead in adopting an *ad hominem* tack) suspiciously well-conceived to attract attention and acclaim. One can hardly gain fame by confirming once again that demand curves generally slope downward.

The 1996 federal minimum wage increase should yield a wealth of new research information. The emergence of any consensus is doubtful, however, given the general problems in econometrics. Perhaps, then, the various contestants' shared faith in econometrics notwithstanding, we should shift to asking whether Card and Krueger's challenge to the conventional view of the minimum wage is plausible theoretically.

Card and Krueger recognize that in Paul Samuelson's words, “it takes a theory to kill a theory; facts can only dent a theorist's hide.”¹⁴¹ The theory behind the standard view is obvious enough: raise low-wage labor's price and demand for it will drop; or, bar certain agreements between employers and prospective workers and they will agree less frequently or for fewer hours. How could one explain the opposite result: that, when the price increases, demand does too, or that the imposition of a cartel by legal fiat increases output?

leasing certain data pertaining to the Texas study. See Welch, 48 Indus & Labor Rel Rev at 843 (cited in note 108).

¹³⁸ Neumark and Wascher spoke with each franchise who supplied data, requested and received signed statements attesting to its veracity, reviewed transcriptions of the actual internally reported data, and contacted each franchisee listed in a *Chain Operators Guide* to verify that no data supplied to the industry group had been withheld from them. See *Neumark and Wascher Study* at 5 (cited in note 135).

¹³⁹ Card and Krueger, *Myth* at 186 (cited in note 2).

¹⁴⁰ See, for example, Richard B. Berman, *Dog Bites Man: Minimum Wage Hikes Still Hurt*, Wall St J A12 (Mar 29, 1995).

¹⁴¹ Quoted in Card and Krueger, *Myth* at 355 (cited in note 2).

Card and Krueger make three main suggestions, each of which relies on rejecting the premise of competitive markets that underlies the law of demand.

Monopsony Theory: Under an argument first elaborated, though disbelievingly, in George Stigler's classic 1946 article laying out the standard economic case against the minimum wage,¹⁴² the mandate might increase low-wage employment under two conditions: (1) low-wage employers exercise monopsony power,¹⁴³ permitting them to set wages noncompetitively and below the labor's productive value; and (2) employers cannot wage-discriminate by paying different salaries to workers who perform the same job. If both of these assumptions hold, it may make perfect sense to decline to hire an additional employee even though the value of her labor exceeds the wage that she is asking.

Suppose, for example, that I am an employer paying 10 workers \$4 per hour to work in my factory although the value of their output is \$6 per hour. Suppose further that I could hire an additional 5 workers to work alongside the first 10 while the factory is operating. These 5 workers would also produce \$6 per hour of value (without changing the value of the first ten workers' output), but I would have to offer them \$5 per hour. If I cannot wage discriminate, and thus would have to raise the first 10 employees' wages to \$5 per hour if I hired the extra 5 at that wage, I will decline to make the extra hires. While the 5 extra workers would produce value of \$6 per hour at a cost of \$5 per hour, I would also be paying an extra \$1 per hour to each of my first 10 workers. Thus, the extra hiring would reduce my profits from \$20 to \$15 per hour of factory operation.¹⁴⁴ Enact a \$5 per hour minimum wage, however, and the higher wages to my first 10 employees become a sunk cost, or one I will incur in any event. I therefore will hire the additional workers.¹⁴⁵ (Of course, if the minimum wage is set too high—say, at \$7 per hour—it will still trigger disemployment in accordance with the standard prediction.)

¹⁴² Stigler, 36 Am Econ Rev at 360 (cited in note 75). Card cites this Stigler example of how the minimum wage could in principle increase employment, Card, 46 Indus & Labor Rel Rev at 52 (cited in note 106). And Card and Krueger begin with a reference to Stigler's article, see *Myth* at 1 (cited in note 2).

¹⁴³ The term "monopsony" refers to monopoly power exercised by buyers (such as employers in labor markets).

¹⁴⁴ With 10 workers, each paid \$4, the employer gets \$60 of output at a wage cost of \$40. With 15 workers, each paid \$5, the employer gets \$90 of output at a wage cost of \$75.

¹⁴⁵ Compare Card and Krueger, *Myth* at 378 (cited in note 2), with Stigler, 36 Am Econ Rev at 360-61 (cited in note 75).

While logically coherent, the monopsony theory is widely regarded as utterly implausible as to low-wage workers.¹⁴⁶ It requires lack of competition between employers, either because there is only one or because they all collude. Some monopsonistic settings are known to exist in the labor market, mainly where workers' specialization (implying high skill and high wages) reduces the number of employers who can use their services. Consider professional baseball players, who have won arbitrators' verdicts holding that owner collusion restrained free agent salaries.¹⁴⁷ Or consider registered nurses, who, according to some studies, are subject to employers' monopsony power in small towns where there is only one hospital.¹⁴⁸ However, as to low-wage, unskilled workers, the standard monopsony claim makes no sense. In the fast-food industry alone, numerous powerful companies compete nationwide. Their franchises can be found side-by-side nearly everywhere, competing for workers no less than for customers. A range of other employers—such as non-fast-food restaurants and retail trade—compete for low-wage workers as well. Even private households, seeking housecleaning and child care services, may in some cases compete for the same low-wage workers.

Card and Krueger concede this point,¹⁴⁹ but claim that monopsony arises after all because employees, once they have a job, are reluctant to leave. Habituation, search costs, and the like give the employer a kind of monopsony power over current employees who cannot with sufficient ease find and accept competing offers.¹⁵⁰ This explanation does not fit well, however, with conditions in the fast-food industry, where, as Card and Krueger note, fewer than one-half of the nonsupervisory personnel in a typical restaurant have been on the job as long as six months, and more than 80 percent of the restaurants have vacancies at

¹⁴⁶ See, for example, Robert J. Flanagan, et al, *Economics of the Employment Relationship* 70, 77 (Scott, Foresman 1989) (noting that labor market monopsony is implausible in most settings); Card, 46 Indus & Labor Rel Rev at 53 (cited in note 106) (noting economists' resistance to monopsony theory "owing to the mobility of workers and to the fact that most labor markets involve large numbers of relatively small employers").

¹⁴⁷ See Larry Whiteside, *Award Tops \$10m; Collusion to Cost Baseball Owners*, Bos Globe 51 (Sept 1, 1989).

¹⁴⁸ See, for example, Daniel Sullivan, *Monopsony Power in the Market for Nurses*, 32 J L & Econ S135, S140 (Pt 2 1989); Richard W. Hurd, *Equilibrium Vacancies in a Labor Market Dominated by Non-Profit Firms: The "Shortage" of Nurses*, 55 Rev Econ & Stat 234, 235-38 (May 1973); Charles R. Link and John H. Landon, *Monopsony and Union Power in the Market for Nurses*, 41 S Econ J 649, 654-55 (1975).

¹⁴⁹ See Card and Krueger, *Myth* at 373 (cited in note 2); Card, 46 Indus & Labor Rel Rev at 53 (cited in note 106).

¹⁵⁰ See Card, 46 Indus & Labor Rel Rev at 53 (cited in note 106).

any given time.¹⁵¹ In addition, if minimum wages increase output by reason of monopsony (or for any other reason), one would expect, as a consequence, reduced fast-food prices (despite the added labor costs). Card and Krueger looked for evidence of this in their New Jersey study, but mostly failed to find it.¹⁵²

Even if there were monopsony in low-wage labor markets and a minimum wage could therefore, in principle, increase employment, it might be unlikely to do so in practice. As Stigler argued fifty years ago, to set the monopsony-offsetting minimum wage at the right level one would need accurate information about the value of various workers' actual and prospective labor. In practice, he noted, such value is both virtually impossible to observe and subject to substantial variation, both over time and as between different occupations, firms, plants, and even individual workers. "A uniform national minimum wage, infrequently changed, is wholly unsuited to these diversities of conditions."¹⁵³

To illustrate this point, consider a different setting where competition is similarly imperfect. Card and Krueger note that, in frictionless, perfectly competitive markets, "[t]he 'law of one price' asserts that identical commodities should trade for the same price."¹⁵⁴ Everyday observation shows the limits to this law's real world applicability. In shopping for a quart of milk, for example, one often finds differences that are significant as a percentage of the overall price within a radius of a few blocks. The likely explanation is that each store's monopoly within its immediate area permits it, like employers in Card and Krueger's view of the labor market, to be a "price maker," not just a "price taker." When grocers decide how to price milk, while they may expect sales volume to decline as the price goes up, they are not subject to the sanction of losing *all* sales by charging more than a generally prevailing price (as would likely happen, for example, to anyone attempting to sell publicly traded corporate stock for more than its market price).

Now suppose that Congress were considering the enactment of a subsidy to milk consumers, in the form of a maximum allowable price that was in the mid-range of what grocers actually

¹⁵¹ Card and Krueger, *Myth* at 373-74 (cited in note 2).

¹⁵² See Card and Krueger, 84 Am Econ Rev at 791 (cited in note 124) (stating that the evidence mainly failed to confirm the prediction of reduced fast-food prices); Charles Brown, *Comment*, in Ehrenberg, ed, 48 Indus & Labor Rel Rev 828, 830 (noting this lack of confirmation for the monopsony theory) (cited in note 108).

¹⁵³ Stigler, 36 Am Econ Rev at 361 (cited in note 75) (footnote omitted).

¹⁵⁴ Card and Krueger, *Myth* at 153 (cited in note 2).

charged. While price controls generally are thought to create shortages and queuing, one could argue on Card and Krueger's grounds that this would not happen. Forcing grocers who were following the high-price, low-sales strategy to shift to the low-price, high-sales strategy could actually increase milk sales, and without causing any shortages so long as milk production could expand accordingly. Nor would grocers be much hurt if the two strategies were almost equally profitable.

Purely as a matter of logic, therefore, it is conceivable that price controls on milk—and equally on bread, gasoline, cars, televisions, and every other product in the economy that does not have a uniform price—would not yield shortages. Yet imagine the difficulty, if not impossibility, of actually achieving this effect through the mechanism of a single, uniform, infrequently changed national maximum price. How can the government determine the prices underlying the alternative high-price-low-sales, and low-price-high-sales strategies? Even if this determination could be made for any one area, is there any reasonable prospect of its applying accurately on a nationwide basis? How could one even hope that a uniform price mandate would work similarly in, say, New York City and Mississippi? Even with a narrow region—say, New York's West Village as compared with its Lower East Side, or a city's main avenues versus its side streets—variation may be too great for a single mandated price to work.

Beyond the problems of information and local variation that Stigler emphasized, there is also a public choice problem. How likely is the government in practice to set prices at optimal levels even if in principle this could be done? Returning to minimum wages, once they are established and subject to regular increase, will cynical politicians seeking favorable publicity be prone to set them too high? Will interest groups, such as businesses in high-wage areas and labor unions generally, misuse them to suppress low-wage competition? In short, will actual, as opposed to theoretically possible, minimum wage increases be likely to reduce low-wage employment even if the monopsony theory holds?

In the end, public choice problems and limited information provide the core reasons why price controls, including the minimum wage, are generally a bad idea. Advocates of regulatory solutions to market defects or imperfect competition often treat the defects they decry as making the case for regulation, without the need for anything more. They should keep in mind the remark, which I have heard attributed to Stigler (in a different setting),

that this is like judging a beauty contest in favor of the second contestant, sight unseen, after noticing blemishes on the first.

Efficiency or Incentive Wages: Card and Krueger next rely on recent insights from labor economics that reflect human workers' being more complicated, less controllable, harder to monitor, and thus more variable in their output, than inanimate productive inputs such as commodities and machines. Hiring and firing workers is expensive, given search and training costs, but workers are free to quit and often cannot bond effectively against doing so. Moreover, they can shirk, or provide less than their best efforts, but whether they are doing so is hard to observe (and thus comparably hard for them to bond against). Getting them to contribute their best efforts may depend in part on providing incentives that make them more reluctant to risk losing their jobs through poor performance.¹⁵⁵

These considerations often lead employers to pay what economists call efficiency or incentive wages. These are wages set high enough to make job loss more of a sanction than it would be at the reservation wage where the employee was close to indifferent about continuing at the same job (relative both to quitting and to risking being fired for shirking). Wages are bid up by competing employers, with accompanying reduction in employment levels, until there is sufficient queuing for jobs to create the optimal level of sanction.¹⁵⁶

The implications are twofold. *First*, employers may receive some compensation in the form of greater output when they are required to pay employees higher wages. Thus, the true tax imposed on employers by the minimum wage is not the entire wage increase, but that increase minus the value of any increase in output. *Second*, employers often choose between low-wage-high-

¹⁵⁵ See, for example, Edward P. Lazear, *Agency, Earnings Profiles, Productivity, and Hours Restrictions*, 71 Am Econ Rev 606, 607, 615 (Pt 1 1981); George A. Akerlof and Janet L. Yellen, *Introduction*, in Akerlof and Yellen, eds, *Efficiency Wage Models* 1, 4-7 (cited in note 99); Carl Shapiro and Joseph E. Stiglitz, *Equilibrium Unemployment as a Worker Discipline Device*, in Akerlof and Yellen, eds, *Efficiency Wage Models* 45, 49 (cited in note 99). One type of "bond" against quitting or shirking that employers may use is to pay higher wages to more senior employees (without regard to relative skill or productivity), providing a reward for staying on the job and providing one's best efforts. The value of this approach is reduced by the fact that employers (despite reputational considerations) may have incentives at the margin to make false claims of shirking, or to lay off senior employees when their current productivity no longer justifies their current wage. See Akerlof and Yellen, *Introduction*, in Akerlof and Yellen, eds, *Efficiency Wage Models* at 6; Shapiro and Stiglitz, *Equilibrium Employment*, in Akerlof and Yellen, eds, *Efficiency Wage Models* at 54.

¹⁵⁶ See Edmund S. Phelps, *Structural Slumps: The Modern Equilibrium Theory of Unemployment, Interest, and Assets* 12-13 (Harvard 1994).

turnover and high-wage-low-turnover strategies. When the minimum wage bars the former strategy and employers switch to the latter, the result, at least in the short run, may be a stable higher-employment equilibrium.¹⁵⁷

Unfortunately, Card and Krueger, while rightly (subject to the Stigler and public choice objections) noting the second implication, ignore the first. Where an employer would have chosen the low-wage-high-turnover strategy but for the minimum wage, there is a strong inference that it was superior overall from the employer's standpoint.¹⁵⁸ Thus, the minimum wage remains a net tax on low-wage employment despite the creation of some offsetting benefit. Over the long run, one would expect this tax to reduce low-wage employment by shifting resources out of low-wage industries, or by encouraging other substitution, as of capital for low-wage labor—even ignoring the problem of setting it at the right level.¹⁵⁹ Thus, the positive employment effect, if any, may be purely short-term.¹⁶⁰

In addition, several other standard explanations for efficiency wages support concluding that the minimum wage may increase disemployment even in the short term. Consider the view that employees' decisions whether to quit or shirk reflect, not only rational calculation of self-interest, but also their morale and the level of goodwill they feel toward the employer. Thus, firms pay efficiency wages as part of an implicit exchange of "gifts"—more wage than was necessary in exchange for more work effort than was necessary.¹⁶¹ It seems doubtful, however,

¹⁵⁷ See Card and Krueger, *Myth* at 381 (cited in note 2).

¹⁵⁸ While employers may sometimes make the wrong choice, government second-guessing of business judgments about profitability seems highly unlikely to improve decisional accuracy over time.

¹⁵⁹ The reduction of the gross tax to the net tax by reason of the increased output does, however, provide an efficiency defense of the minimum wage, since if general revenues were used to pay the wage subsidy the entire amount raised to pay for the wage subsidy would presumably prompt inefficient tax avoidance behavior. Compare Lawrence H. Summers, *Some Simple Economics of Mandated Benefits*, 79 *Am Econ Rev Papers and Proceedings* 177, 182 (Pt 2 1989) (arguing that employer mandates may reduce funding distortion because of other changes to the employment transaction, such as a reduction in the cash wage to reflect the provision of extra benefits).

¹⁶⁰ Compare Hamermesh, 48 *Indus & Labor Rel Rev* at 838 (cited in note 109) ("[While] their titular 'new economics' explains the possible short-run absence of negative employment effects of higher minima . . . [e]ven CK [Card and Krueger] . . . would not argue that this can be a long-run effect, especially in low-wage and densely populated labor markets.").

¹⁶¹ See, for example, Richard H. Thaler, *Quasi Rational Economics* 216 (Russell Sage 1991); George A. Akerlof, *Labor Contracts as Partial Gift Exchange*, in Akerlof and Yellen, eds, *Efficiency Wage Models* 66, 73, 83 (cited in note 99); Solow, *Another Possible Source of Wage Stickiness*, in Akerlof and Yellen, eds, *Efficiency Wage Models* at 42-43 (cited in note 99).

that employers purchase much, if any, goodwill by paying higher wages under legal mandate. Thus, to the extent that this explanation holds, the higher minimum wage is purely an added employer cost—and one that may even exceed the extra wages paid under direct legal mandate. If, as is widely thought, the minimum wage becomes a baseline against which workers in the next wage tier assess the “fairness” of their wages, then employers have to offer them “spillover” wage increases keeping them about as far above the minimum wage level as they were previously, simply to avoid losing goodwill. Card and Krueger agree that these spillover effects on next-tier wages occur.¹⁶²

Employers also sometimes offer efficiency wages in order to increase the average quality of their job applicants, thus increasing the average quality of those they hire if quality is imperfectly observable.¹⁶³ When all jobs start to pay a higher wage under legal mandate, employers have to raise the bonus wage simply to continue achieving the same sorting benefits. Once again, if employers must pay more simply to get the same benefit, the extra cost is a tax in full, not offset by increased output, and possibly exceeding the direct cost of the legal mandate as such. The implication, to the extent that this explanation holds, once again is that employment levels will decline.

Shock Theory: Finally, Card and Krueger suggest that the cost of paying minimum wage increases may “shock” firms into adopting better management practices that they otherwise would have overlooked, thus making back the cost of higher wages without any need to reduce employment.¹⁶⁴ They note in support that “[t]he ‘shock’ theory of firm behavior recently has been endorsed by Alan Greenspan, chairman of the Federal Reserve Board . . . [i]n describing the positive productivity effects of low inflation. . . .”¹⁶⁵ This appears to be more of a “gotcha” argument, addressed to conservative economists who scorn the “shock” theory but admire Greenspan and dislike inflation, than a serious attempt to support the application of shock theory in the mini-

¹⁶² See Card and Krueger, *Myth* at 164-66 (cited in note 2) (finding support for spillover effect but noting it disappears at higher wage levels).

¹⁶³ See Akerlof and Yellen, *Introduction*, in Akerlof and Yellen, eds, *Efficiency Wage Models* at 7-8 (cited in note 155). See generally Andrew Weiss, *Job Queues and Layoffs in Labor Markets with Flexible Wages*, in Akerlof and Yellen, eds, *Efficiency Wage Models* 103-14 (cited in note 99).

¹⁶⁴ Card and Krueger, *Myth* at 9-10 (cited in note 2) (referring to theories set forth by the “social economics revisionists” of the middle half of the twentieth century).

¹⁶⁵ *Id.* at 18 n 7. Card and Krueger also note in passing that an old study had suggested productivity response to a minimum wage increase, but they appear not to substantially rely on this limited evidence. See *id.* at 247.

mum wage setting. Of the theory itself, perhaps little has changed since Stigler tartly noted fifty years ago that it "is at present lacking in empirical evidence but not in popularity."¹⁶⁶ Others have noted that it appears more applicable to one-time upheavals (such as the initial unionization of a plant) than to periodic modest changes in a decades-old policy such as the minimum wage.¹⁶⁷

c) Conclusions regarding the minimum wage's choice of tax. In sum, Card and Krueger's empirical work is unpersuasive, and their theoretical arguments are weak. Thus, one should not accept their claim that minimum wage hikes do not reduce, and may even increase, low-wage employment. The standard view remains more convincing theoretically, and the standard disemployment estimates, although themselves not conclusive, are at least generally consistent both with each other and with what would seem plausible *ex ante*. In a world where we must make decisions under empirical uncertainty, they provide the best currently available basis for decision.

Again, the standard estimate predicts 1 to 3 percent disemployment for a 10 percent increase, and 3 to 5.5 percent for a 25 percent increase.¹⁶⁸ Based on roughly applying this to the 1996 minimum wage hike of about 20 percent (from \$4.25 to \$5.15 per hour), which is directly applied to about 4.2 million workers, a total job loss of about 100,000 to 200,000 is widely regarded as plausible.¹⁶⁹ Assuming the general accuracy of these estimates, the minimum wage clearly is inferior to alternative low-wage subsidies. There also is a very good chance that it is worse than doing nothing at all—even disregarding its subsidiary costs, such as distorting the relative prices of alternative goods (depending on how intensively they use low-wage labor). Consider once again the three main reasons I advanced for a low-wage subsidy: progressive wealth redistribution, improving the marginal rate structure, and strengthening workplace affiliation among marginal workers. The minimum wage plainly does little to advance the second of these objectives if those in poor households who are subject to unduly high rates not only receive its subsidy but also

¹⁶⁶ Stigler, 36 *Am Econ Rev* at 359 (cited in note 75).

¹⁶⁷ See Hamermesh, 48 *Indus & Labor Rel Rev* at 838 (cited in note 109), quoting Albert E. Rees, *The Economics of Work and Pay* 420-21 (Harper & Row 1973).

¹⁶⁸ See text accompanying notes 82-83. The job loss is likely on theoretical grounds to go up more than proportionately as the minimum wage continues to go up. Compare Rosen, *Public Finance* at 314 (cited in note 24) (as marginal tax rates increase, tax-avoiding behavioral responses increase more than proportionally).

¹⁶⁹ See Meredith, *NY Times* at C1 (cited in note 5) (noting widely held belief that minimum wage increase will cause job loss of 100,000 to 200,000).

bear its tax. It may also wholly fail to advance the first and third objectives, although this depends on who exactly bears the job loss, and with what effects (questions to which we do not really know the answers).

Starting with progressive redistribution, one would expect job loss to be concentrated among those workers who employers consider the least valuable. It is plausible that these workers will tend to come from poorer households even among those having low-wage workers. Relative poverty, after all, presumably results (all else equal) from lower capacity to generate earnings by appealing to employers. (Admittedly, it is also plausible that teenagers from relatively affluent households will tend to be considered less valuable by employers for reasons that are essentially temporary: lack of job experience, immaturity, and the prospect that they will soon return to school.) Moreover, even to the extent that job loss is random, essentially taking the form of a negative lottery, many of the households experiencing it may become among the poorest even if they previously were no worse-off than most others.

To the extent that job loss is experienced among the poorest households, or those that become the poorest once job loss sets in, the minimum wage is unappealing as progressive redistribution even if the workers who keep their jobs are poorer than the average worker nationally. One need not be a Rawlsian to be uncomfortable with the tradeoff of helping the relatively poorly-off in exchange for hurting the worst-off (with the effects possibly growing worse over time if minimum wage jobs are important stepping stones to better jobs).¹⁷⁰

Turning to the workplace affiliation argument for a low-wage subsidy, workers from relatively poor households may also tend to be those most in need of having their workplace affiliation strengthened. Poverty may tend to correlate with the weakness of such correlation. For all these reasons, although the matter is not free from doubt given uncertainty about both the aggregate level and the distribution among households of the job loss from raising the minimum wage, it is plausible that the 1996 minimum wage increase (as well as the associated decision not to re-

¹⁷⁰ The minimum wage may also have regressive price effects, causing low-wage workers' real purchasing power to increase less than their nominal income. For example, if fast-food restaurants respond to increased labor costs by increasing prices, this might disproportionately affect the purchasing power of low-wage workers. Fast food is a well known "inferior good," the consumption of which may decline as income increases. See, for example, David D. Friedman, *Price Theory: An Intermediate Text* 52 (South-Western 2d ed 1990).

peal the minimum wage) made things worse overall, even purely in terms of the minimum wage's objectives.

What makes the objections to the possible loss of 100,000 to 200,000 low-wage jobs stronger still is the utter perversity (considerations of political feasibility aside) of choosing to finance a low-wage subsidy through a tax on low-wage employment. Why not, instead of imposing a tax on the very thing one wants to encourage, pay for a low-wage subsidy (if one is desired) through general revenues? To the extent its preferred recipients are poor, why not try to target it somewhat better? The next section explores alternatives to the minimum wage, including the EITC.

III. STRUCTURING A MORE SENSIBLE LOW-WAGE SUBSIDY

A. Alternative Approaches, such as the EITC

How, as a technical matter, could one replace the minimum wage with a low-wage subsidy that was financed out of general revenues? If one still wanted to focus on hourly wage rates and eschew income- or means-testing, one could have the government (or employers subject to reimbursement) pay low-wage workers some percentage of the difference between their actual hourly wage rates and a target hourly rate.¹⁷¹ Thus, suppose that the target hourly rate was \$6 per hour and the applicable percentage 50 percent. On an hourly basis, an individual earning \$4 would receive a wage subsidy of \$1, and one earning \$5 would receive 50 cents. The minimum wage does this with an applicable percentage of 100 percent—plainly too high for any government-furnished subsidy, since it would eliminate employees' incentive to demand a higher wage short of the target wage, and thereby enable employers to engage in wholesale shifting of their wage costs to the government.¹⁷² A lower applicable percentage would retain some incentive for low-wage workers to negotiate for higher wages below the target rate, although it might induce them to accept greater substitution of in-kind or fringe benefits for cash wages.

Even where the incentive to demand a higher wage remains, government financing encourages fraudulent overclaims, since the employer (who is in the best position to monitor the employee's work hours and pay) either is indifferent or benefits

¹⁷¹ See, for example, Browning, 63 Am Econ Rev at 41-43 (cited in note 38); Phelps, *Economic Justice*, in Papadimitriou, ed, *Aspects of Distribution* at 159-64 (cited in note 37).

¹⁷² See Phelps, *Economic Justice*, in Papadimitriou, ed, *Aspects of Distribution* at 162 (cited in note 37).

when the employee receives more. Yet fraud is merely the flip side of the minimum wage's administrative problem of evasion. If, under perfect compliance, both types of low-wage subsidy would go to precisely the right people and only them, then fraud (where the subsidy also goes to some of the wrong people) is not inherently worse than evasion (where it fails to go to some of the right people). Either problem involves distributional error, along with efficiency costs to the extent that resources are either wasted violating the law and detecting violations, or shifted to sectors that can better escape accurate enforcement. Thus, while in practice the fraud problem under a government-paid subsidy might prove worse than the evasion problem under a minimum wage that was actually doing some good, this would need to be shown, and would depend on details of the alternative program's design and enforcement.¹⁷³

To incorporate income- or means-testing (presumably on an annual basis) into the subsidy, one could phase out total benefits as workers' personal or household income or wealth increased. Or one could base the subsidy entirely on annual, rather than hourly, labor income. This approach, which has considerable merit given the arguments for concentrating low-wage subsidies on poor households and the weakness of the link between hourly wage rates and household income, is the one taken by the main wage subsidy under present federal law: the EITC.¹⁷⁴

For households with two or more children, which receive the largest benefits, the EITC provides a 40 percent wage subsidy until the higher of earned income and a broader income measure reaches a given dollar level (\$8,640 for taxable years beginning in 1995). It then remains constant until a second dollar level (\$11,290 for 1995), at which point it begins to be phased out at a 21 percent rate. The phaseout is completed at a third dollar level (\$26,673 for 1995), after which the EITC has no further application.¹⁷⁵ For taxable years beginning after 1995, all of these dollar amounts are indexed for inflation.¹⁷⁶

¹⁷³ In fact, compliance under the EITC appears to be quite bad, likely reflecting both fraud and innocent error. For example, IRS data for tax year 1988 indicated that 42 percent of EITC claimants filed for too large a credit and 32.3 percent were completely ineligible. Yin, et al, 11 *Am J Tax Pol* at 240 (cited in note 9).

¹⁷⁴ One could also describe the targeted jobs tax credit, 26 USC §§ 51-52 (1994), as a wage subsidy. Various income tax rules excluding employee fringe benefits from taxable income are probably better viewed as subsidizing particular uses of the wage (as to provide health-care or retirement benefits), even though they also have the effect of reducing the tax rate on wages.

¹⁷⁵ See 26 USC §§ 1(f), 32 (1994). For married taxpayers, earned income and the broader income measure are computed on a joint return basis.

¹⁷⁶ 26 USC § 1(h) (1994).

As discussed in the Appendix, these numbers should be adjusted to take account of the employer's nominal share of payroll taxes, which, unlike the employee's nominal share, the EITC, in common with most other tax and transfer programs, disregards, but which is part of the real before-tax wage, albeit subject to a separate tax levy. The proper adjustments are twofold: gross up dollar amounts under the payroll tax wage ceiling by about 7 percent to take account of the extra wages, and gross down tax rates by about 7 percent to reflect that a portion of the wage is excluded from the tax base.¹⁷⁷ Making these adjustments to the nominal EITC rate structure, and applying substantial rounding for convenience since the dollar amounts change each year anyway, a rate table under the EITC for households with two or more children is approximately as follows:

EITC Income Rate (\$)	Adjusted EITC Tax (%)
0 - 9,000	(37)
9,000 - 12,000	0
12,000 - 30,000	19
Above 30,000	0

For a single individual with no children, the analogous rate table is as follows:

EITC Income Rate (\$)	Adjusted EITC Tax (%)
0 - 4,000	(7)
4,000 - 6,000	0
6,000 - 10,000	7
Above 10,000	0

Given this basic structure, how does the EITC affect the three main objectives of a low-wage subsidy? We already saw in Table 4 that it is highly progressive, although it fails to help those individuals, presumably including the worst-off, who do not have jobs. In addition, since it can only increase an individual's

¹⁷⁷ In illustration, suppose that payroll taxes are levied on both my employer and me at a 5 percent rate (chosen in lieu of the actual 7.65 percent rate for arithmetic convenience). If my nominal wage is \$100, then I receive \$95 net of the payroll tax on me, but the employer really pays \$105 for my services given her share of the payroll tax. In substance, then, the payroll tax on my work is 10/105, or about 9.5 percent. Now suppose that I am subject to income taxation at a nominal 21 percent rate, but applied by including only my share of the payroll tax in my tax base. I pay \$21 of income tax, or 20 percent (21/105) of my "true" wage base.

total return from working, it is generally agreed to increase workforce participation by marginal workers.¹⁷⁸ However, its effect on the application of unduly high marginal tax rates to low-wage workers is decidedly mixed. Particularly for households with two or more children, the EITC's negative tax rate in the positive subsidy range offsets what would otherwise be exceptionally high positive marginal tax rates, due mainly to the phaseout of social welfare benefits such as AFDC. Thus, in Table 1, it reduces the estimated marginal rate from 91 percent to 54 percent on wages from \$2,000 to \$9,000.¹⁷⁹ In the phaseout range, however, it contributes to unduly high marginal rates, such as an estimated 110 percent rate in Table 1 on wages from \$12,000 to \$13,000. This results from the phaseout's beginning at a point when AFDC benefits are still being phased out, a result that generally does not obtain in low-AFDC-benefit states.¹⁸⁰ Matching the EITC and AFDC phaseouts in such a way as to create a coherent or sensible overall rate structure is inherently difficult when the former is set at a uniform national level whereas the latter varies state by state.

Empirical researchers have mainly concluded that, overall, the EITC reduces low-wage work effort.¹⁸¹ This finding is not fully on point because it reflects income effects as well as substitution effects. However, since more than twice as many workers and more than seven times as much earned income are in the positive 19 percent than the negative 37 percent marginal rate bracket,¹⁸² it is plausible that on balance the EITC, by reason of its rapid phaseout, makes the substitution problem worse.

To be sure, the efficiency issue raised by high marginal rates in low brackets is a comparative one. Since all positive tax rates deter work, the right question is whether a smoother, less up-and-down rate structure would deter it less. Some have argued that the EITC phaseout is a reasonable response to the "difficult . . . trade offs" that "constrain welfare program de-

¹⁷⁸ See Alstott, 108 Harv L Rev at 554 (cited in note 9); Nada Eissa and Jeffrey B. Liebman, *Labor Supply Response to the Earned Income Tax Credit*, 111 Q J Econ 605, 606, 607-18 (1996).

¹⁷⁹ Note, however, that in Table 1, at text accompanying notes 53-54, the 91 percent rate continues to apply at the range from \$9,000 to \$12,000, where the EITC is neither being phased in nor phased out.

¹⁸⁰ See Table 2 at text accompanying notes 53-54.

¹⁸¹ See Alstott, 108 Harv L Rev at 548-51 (cited in note 9) and sources cited therein; Janet Holtzblatt, Janet McCubbin, and Robert Gillette, *Promoting Work Through the EITC*, 47 Natl Tax J 591, 599 (1995).

¹⁸² See Edgar K. Browning, *Effects of the Earned Income Tax Credit on Income and Welfare*, 48 Natl Tax J 23, 26 (1995).

sign,”¹⁸³ rather than simply an error. A lucid, but I will argue mistaken, recent exposition of this argument goes as follows:

In an income-tested transfer program such as the EITC, it is impossible simultaneously to provide generous benefits, to keep program costs low by paying benefits only to the poor, and to keep benefit reduction rates low. . . . [Thus, t]he only way to reduce marginal tax rates [in the phaseout range] without expanding the pool of eligible recipients [to other, richer taxpayers] is to reduce benefits.

...

[A] second dilemma is that lowering benefit reduction rates may not increase aggregate labor supply. Although [it] reduces potential work disincentives for current program participants in the phase-out range, it [extends the phaseout range. Thus,] . . . a new set of recipients becomes eligible for benefits—and subject to the attendant work disincentives.¹⁸⁴

The mistake here lies in considering the phaseout range a question of “program cost,” rather than of establishing an overall rate structure in light of all tax and transfer programs that cause one’s wages (or other income) to affect one’s tax liability or transfer receipts. Not phasing out a wage subsidy such as the EITC does not make a distinct “program” more expensive in the same sense that, say, military spending (involving distinctive resource commitments) might grow if we gave more money to more defense contractors. Rather, the slower phaseout would simply mean that some people’s marginal tax rates declined, and therefore (all else equal) that other people’s marginal tax rates, now or in the future, would have to go up.¹⁸⁵

To help show that the phaseout range is a question of rate structure or overall tax and transfer allocation, and not of discrete “program cost,” assume for simplicity that everyone was subject to a flat 25 percent tax on wages, and that the only other tax or transfer program was the EITC. In that case, for families with two or more children, the overall rate structure (combining

¹⁸³ Alstott, 108 Harv L Rev at 551-52 (cited in note 9). Compare Ohls and Beebout, *Food Stamp Program* at 41 (cited in note 10).

¹⁸⁴ Alstott, 108 Harv L Rev at 551-53 (cited in note 9) (citations omitted).

¹⁸⁵ Artifacts of program design can, however, make phaseout a program cost question for particular decision makers. For example, states designing their AFDC programs in the aftermath of the 1996 welfare reform legislation must allocate specific block grants. See 1996 Welfare Act § 103, 110 Stat at 2112. Thus, moderating the phaseout of AFDC benefits as recipients’ income increases would reduce the federal funds available to state decision makers for other uses in the program.

the hypothetical flat tax with the EITC's adjusted 37 percent subsidy and 19 percent phaseout) would be as follows:

Total Wages (Assuming No Other Income) (\$)	Overall Marginal Rate (%)
0 - 9,000	(12)
9,000 - 12,000	25
12,000 - 30,000	44
Above 30,000	25

Suppose that we eliminated the phaseout, thus providing everyone with a 37 percent wage subsidy (offsetting the 25 percent flat tax) on their first \$9,000 of wages, and that, to do this on a revenue-neutral basis, we increased marginal tax rates on income in excess of \$12,000 to 28 percent. Now the overall tax rate structure would be as follows:

Total Wages (Assuming No Other Income) (\$)	Overall Marginal Rate (%)
0 - 9,000	(12)
9,000 - 12,000	25
12,000 - 30,000	28
Above 30,000	28

Alternatively, one could adopt any number of intermediate rate structures where the rate went up somewhat at \$12,000 (or any other point) before declining again. To "phase out" the wage subsidy is simply to have a temporarily high rate close to the point where it has created a temporarily low rate.

The second argument for phaseouts, that without them one increases work disincentives in higher income ranges, is correct up to a point. In the terminology of rate structure, reducing the tax rate for one group on a revenue-neutral basis generally requires increasing tax rates for others—as in the example above, where the cost of reducing the rate in one bracket from 46 to 28 percent was offset by increasing that in another bracket from 25 to 28 percent. The question that this argument raises, however, is how to compare alternative rate structures' likely effects on work effort.

While this question depends on elasticities across the income scale, there is good reason to expect the lumpy rate structure produced by a rapid phaseout to reduce work effort more than would a smoother rate structure. As I noted earlier, economists

generally agree that, as the marginal tax rate increases, tax-avoiding behavioral responses increase more than proportionally.¹⁸⁶ Thus, one would expect greater work deterrence from concentrating high tax rates in a narrow range than from making them more even, unless the taxpayers on whom the high rates would be concentrated have an unusually inelastic labor supply. While this possibility cannot be ruled out, the misguided logic of phaseouts that in practice contributes to their adoption provides no particular reason to expect it. An assumption of rough continuity, which holds that people at contiguous income levels are unlikely to differ sharply in their behavior, tends affirmatively to contradict it.

A third argument for phaseouts might hold that they serve plausible distributional goals. Suppose, for example, that one wants to help the poor relative to the middle class, but hold constant the relative wealth of the middle class and the rich. One way to accomplish this might be give the poor a more generous EITC, reducing their taxes or increasing their transfers, but to phase out the EITC rapidly so that no one else's tax liability is affected (except insofar as the new benefit to the poor must be financed somehow). As we will see in Part III.B.1, when I discuss optimal rate structure considerations, one problem with this argument is that a sharply discontinuous rate structure may be as unlikely to make sense on distributional grounds as on those of efficiency.¹⁸⁷ For now, however, it is enough to note that this argument for phaseouts is one for a particular rate structure, where the marginal rate goes up and then down; it is not an argument for phaseouts as such. The decision to end the temporarily high marginal rate precisely at the point where the effect of the EITC change on current year tax liability had been eliminated would be quite arbitrary, particularly since everyone's long-term expected tax liability (net of transfers and in-kind benefits from government spending) presumably changes when we decide that one particular group should pay less or receive more.

So far, for expositional convenience, I have mainly looked at the EITC in isolation from the overall set of tax and transfer rules that apply to low-wage workers, and I have considered only minimizing substitution effects. A fuller understanding of the EITC's effects and merits requires looking at the entire system, and incorporating all relevant concerns. From this broader per-

¹⁸⁶ See text accompanying note 49.

¹⁸⁷ See text accompanying notes 201-02.

spective, two points are clear. *First*, rather than thinking of a low-wage subsidy (such as the EITC) as a discrete program, one should focus on the overall marginal tax rates that apply to labor income. The aim should be to design, on as integrated a basis as possible, an optimal rate structure given all relevant concerns (such as efficiency and distribution). *Second*, the argument against special phaseouts applies across the board—for example, to AFDC, Food Stamps, and Medicaid, no less than the EITC. All phaseouts risk creating perverse overall marginal rate structures, especially when, due to the lack of integrated thinking, they are thoughtlessly allowed to compound each other. Additional complications may arise, however, when a transfer program provides benefits in kind (such as Food Stamps and Medicaid) rather than simply in cash, since one may not want to provide the particular benefits in question to everyone. The following section briefly explores the optimal rate structure questions that are raised by the EITC and other phased-out social welfare benefits.

B. A Comprehensive Approach to Marginal Tax Rates

1. General considerations.

As we have seen, the efficiency and distributional case for a low-wage subsidy decomposes into one for achieving a better rate structure. Such a rate structure would have no phaseouts as such (reserving the problem of in-kind benefits to the poor). Marginal rates would increase and then decline only if this happened to be desirable for reasons wholly apart from the design of particular elements of the overall tax-transfer system.

The question of how to define an optimal rate structure is complex and depends on one's basic philosophical premises about the proper aims of government policy, as well as a host of empirical questions that lack definite answers. James Mirrlees initiated the modern economic debate with a classic 1971 article,¹⁸⁸ which Joseph Bankman and Thomas Griffith were the first to bring to the attention of a general law review audience.¹⁸⁹ Mirrlees mainly showed how a utilitarian, using specified assumptions about the declining marginal utility of wealth and labor supply responses to taxation, might determine what rate structure would maximize aggregate societal utility. The basic aim was to pursue progressive wealth redistribution up to the point where efficiency

¹⁸⁸ See generally Mirrlees, 38 Rev Econ Stud at 175 (cited in note 48).

¹⁸⁹ Bankman and Griffith, 75 Cal L Rev at 1946 (cited in note 48).

losses outweighed redistributive gains. In Mirrlees's wake, other writers explored the consequences of adopting a nonutilitarian but still welfarist¹⁹⁰ social welfare function, such as one attaching relatively greater weight to the well-being of worse-off individuals.¹⁹¹

Welfarism is controversial as a basis for tax policy, mainly because it ignores claims of entitlement to one's income or wealth,¹⁹² it posits that one can rely on explicit interpersonal utility comparisons,¹⁹³ and it attaches no independent weight to "horizontal equity," or equal treatment of individuals who are relevantly equal.¹⁹⁴ Nonetheless, Mirrlees's basic formulation of the rate structure problem should have broader appeal. Many would agree that people's subjective well-being is important, and that labor supply responses to taxation (a form of excess burden) are therefore regrettable. Moreover, many would attach some positive value to moving in the direction of material equality. This would be true even if they either prefer not to base this value on the claim of declining marginal utility or are unsympathetic to the Mirrleesian effort to quantify utility gains and losses from a given set of tax and transfer rules. Thus, the basic point—that the rate structure should be conceived of as a mechanism for achieving distributional goals, subject to efficiency constraints such as minimizing lost work effort—should be widely accepted.

No definite conclusions about the proper rate structure immediately follow. Mirrlees, expecting when he began his inquiry to find that marginal tax rates should be highly progressive, found instead, under the range of assumptions that he explored,

¹⁹⁰ "Welfarist" theories of distributive justice are those under which the desirability of a state of affairs depends purely on its effects on the personal welfare of individuals. See, for example, Amartya Sen, *Choice, Welfare and Measurement* 248-51 (MIT 1982).

¹⁹¹ See, for example, A.B. Atkinson, *How Progressive Should the Income Tax Be?*, in Michael Parkin and A. R. Nobay, eds, *Essays In Modern Economics* 90-109 (Longman 1973); Bankman and Griffith, 75 Cal L Rev at 1954-55 (cited in note 48).

¹⁹² See, for example, A.B. Atkinson, *Public Economics in Action: The Basic Income/Flat Tax Proposal* 16-17 (Clarendon 1995) (noting the argument that high marginal tax rates infringe individual liberty and thus may be undesirable "quite independent of any incentive effects").

¹⁹³ See, for example, Griffith, 40 Hastings L J at 386 (cited in note 16).

¹⁹⁴ Horizontal equity has been vigorously criticized as an independent value. See, for example, Louis Kaplow, *Horizontal Equity: Measures in Search of a Principle*, 42 Natl Tax J 139 (1990) (arguing that the principle of horizontal equity lacks a convincing normative basis). See also A.C. Pigou, *A Study in Public Finance* 44 (Macmillan 3d ed (rev) 1951). Yet it continues to attract prominent defenders. See, for example, General Discussion, in Joel B. Slemrod, ed, *Tax Progressivity and Income Inequality* 356 (Cambridge 1994) (Slemrod remark).

that they should be relatively flat.¹⁹⁵ Others found support for greater progressivity,¹⁹⁶ and a respectable case also emerged for having marginal rates first increase for redistributive reasons, and then decline in response to increasing tax-elasticity.¹⁹⁷

While these disputes are unlikely ever to be settled, the underlying common thread should be kept clearly in mind. Given both (1) a social welfare function, or comprehensive set of criteria for evaluating the welfare of society; and (2) full empirical information, fleshed out using best-guess assumptions as necessary, and assuming as well prior specification of the tax base, a conditionally correct tax rate structure follows.¹⁹⁸ Thus, rates should not be set arbitrarily or by whimsy, and should reflect throughout the range of income levels¹⁹⁹ the proper tradeoff between all of one's objectives (such as efficiency and distribution).²⁰⁰

It seems likely, under any plausible rendering of the optimal rate structure, that there will be a high level of what one could call "continuity." As the index of material well-being (say, income) gradually increases, it seems plausible that there are few, if any, sharp, sudden shifts either in labor supply responsiveness or in whatever attribute (such as the declining marginal utility of a dollar, or our interest in material equality for its own sake) triggers distributional concern. All else equal, moving from, say, \$30,000 to \$35,000 probably is not dramatically different than moving from \$35,000 to \$40,000. This implies that marginal rates generally should not differ greatly in contiguous brackets. They also probably should not reverse course frequently, as by repeatedly going up and then down, unless for some odd reason labor supply responsiveness, or the rate at which a dollar loses marginal utility, should likewise bounce up and down repeatedly as income rises.

¹⁹⁵ Mirrlees, 38 Rev Econ Stud at 207 (cited in note 48). Mirrlees's conclusion mainly resulted from his assuming relatively high labor elasticity.

¹⁹⁶ See, for example, N. H. Stern, *On the Specification of Models of Optimum Income Taxation*, 6 J Pub Econ 123, 148-53 (1976).

¹⁹⁷ See, for example, Atkinson, *Public Economics in Action* at 57-58 (cited in note 192).

¹⁹⁸ It is possible, of course, for more than one rate structure to produce approximately the same level of social welfare.

¹⁹⁹ I assume for convenience that "income" (whatever that means) is the tax base. The point holds equally for any tax and transfer "base," defined as the set of rules that determine how much one should receive in transfers or pay in taxes.

²⁰⁰ Thus, for example, a defense of the efficiency of "notches" in the rate structure, such as that in the Food Stamps phaseout where an extra dollar of income can cost the recipient more than \$1,000 in benefits, is likely wide of the mark even if correct in its own terms. Compare Alan S. Blinder and Harvey S. Rosen, *Notches*, 75 Am Econ Rev 736 (Pt 1 1985) (arguing that some notches can be efficient, but agreeing that those in the welfare system "deserve their bad reputation").

Our existing rate structures, as estimated in Tables 1 through 3, egregiously violate these principles. For households with two or more children, which receive the most generous social welfare benefits, marginal rates can approach or even exceed 100 percent. Poor households also are subject to perverse "notches," as under the Food Stamps program, under which earning an extra dollar of income can cause one to lose benefits worth hundreds or even thousands of dollars.²⁰¹ In lower income ranges especially, marginal rates bounce up and down without apparent rhyme or reason.²⁰² Reflecting only the haphazard interaction of programs that were conceived and enacted separately, the lower-tier rate schedules have the look of something designed by a drunk, or perhaps a chimpanzee. One imagines that no such intolerably arbitrary set of rules would ever be imposed on or tolerated by the more politically powerful Americans in middle- and upper-income brackets.

2. Improving the tax-transfer system at low income levels through movement toward a negative income tax.

Once one recognizes that phaseouts as such make no sense, one highly salient and convenient way to conceptualize a sensible set of tax and transfer rules is under the rubric of the "negative income tax" ("NIT"). First proposed by Milton Friedman,²⁰³ promptly endorsed by liberal economists such as James Tobin,²⁰⁴ generally supported within optimal tax theory,²⁰⁵ and underlying early 1970s policy proposals by both Richard Nixon²⁰⁶ and George McGovern,²⁰⁷ the NIT involves giving individuals or specified types of households, without regard to income, a lump sum payment, sometimes called a guaranteed income or demogrant, that

²⁰¹ See Tables 1 and 3 at text accompanying notes 53-54. Blinder and Rosen note that there also are such notches in Medicaid and public housing programs that I generally have ignored in this Article. See Blinder and Rosen, 75 Am Econ Rev at 736 (cited in note 200).

²⁰² While middle- and upper-income taxpayers are subject to various phaseouts (like those applying to personal exemptions) that create temporarily higher marginal rates in particular income ranges, the overall effects on their marginal tax rates are not nearly as extreme as the effects of phaseouts applying to low-income taxpayers. See Table 1.

²⁰³ See Friedman, *Capitalism and Freedom* at 191-93 (cited in note 13).

²⁰⁴ See Tobin, Pechman, and Mieszkowski, 77 Yale L J at 3 (cited in note 13).

²⁰⁵ See, for example, Mirrlees, 38 Rev Econ Stud at 208 (cited in note 48); Joel Slemrod, *Do We Know How Progressive the Income Tax System Should Be?*, 36 Natl Tax J 361, 367 (1983); Bankman and Griffith, 75 Cal L Rev at 1965 (cited in note 48) (supporting a progressive tax structure that combines cash grants and flat or declining marginal rates over a system of rising marginal rates).

²⁰⁶ On Nixon's Family Assistance Plan proposal, see generally Moynihan, *The Politics of a Guaranteed Income* (cited in note 13).

²⁰⁷ See, for example, *The \$60 Billion Welfare Failure*, Bus Wk 48, 55 (Jan 17, 1977).

is gradually offset (leading ultimately to a positive net tax liability) by positive tax rates. Thus, suppose that the demogrant were \$6,000 and the tax rate a flat 25 percent. An individual or household with no income would receive \$6,000; one with \$20,000 of income would receive a net transfer of \$1,000,²⁰⁸ one with \$24,000 of income would net out to zero,²⁰⁹ and one with \$100,000 of income would pay a net tax of \$19,000.²¹⁰ The reason for starting with a demogrant, that then is reduced through the application of an explicit positive tax rate, is that one thereby makes conscious and explicit the marginal tax rates that are actually applying as income increases, and one can therefore make explicit, deliberate, and (one hopes) sensible choices.

Within the welfare literature, distinctions are sometimes drawn between the NIT and a "credit income tax" ("CIT"). The distinguishing feature is that, in this literature, the NIT tends to involve applying a higher marginal tax rate to poor individuals or households than to others, thus causing the positive net transfer from the demogrant to disappear relatively fast. The CIT, by contrast, does not distinguish between net taxpayers and net recipients,²¹¹ and thus, for example, may apply a flat marginal tax rate across the board. While I regard the choice between these two transfer prototypes as simply a standard question of optimal rate design, I would be quite surprised to find that high marginal tax rates on the poor are optimal, given the generally greater value of a dollar to them in marginal utility terms, and the resulting likelihood that their work decisions are relatively tax-elastic.²¹² The NIT structure of applying higher marginal tax rates to the poor may, moreover, reflect the misguided belief in phaseouts that I criticized above. A CIT, modified to include some rate progressivity and thus perhaps to apply lower marginal rates to most or all net recipients than to most or all net taxpayers, therefore strikes me as more likely to comport with optimal rate design.²¹³ In this article, I will nonetheless use the term "NIT" to describe the basic system of having a demogrant that is then offset by generally flat to progressive marginal tax rates, because

²⁰⁸ \$6,000 demogrant - .25(\$20,000) = (\$6,000 - \$5,000) = \$1,000 net transfer.

²⁰⁹ \$6,000 demogrant - .25(\$24,000) = (\$6,000 - \$6,000) = no net transfer or tax.

²¹⁰ \$6,000 demogrant - .25(\$100,000) = (\$6,000 - \$25,000) = \$19,000 net tax.

²¹¹ See David Betson, David Greenberg, and Richard Kasten, *A Simulation Analysis of the Economic Efficiency and Distributional Effects of Alternative Program Structures: The Negative Income Tax Versus the Credit Income Tax*, in Irwin Garfinkel, ed., *Income-Tested Transfer Programs: The Case For and Against* 175, 179 (Academic 1982). I am grateful to Anne Alstott for bringing this literature to my attention.

²¹² See text accompanying note 48.

²¹³ See text accompanying notes 184-86.

outside the welfare literature the NIT label is well known and lacks any particular implications for rate structure.

An NIT (in this sense) that involved an appropriately sized demogrant could replace such existing social welfare programs as AFDC, Food Stamps, Medicaid, low-income housing subsidies, the EITC, and the minimum wage.²¹⁴ The advantages of this shift would include the achievement, not only of a more sensible marginal rate structure, but also of a more coherent and consistent definition of the material need that triggers progressive wealth redistribution. The NIT would also, by compensating poor people in cash rather than in kind, permit them to decide how they wanted to use their resources—unlike, say, Food Stamps, Medicaid, and housing subsidies.²¹⁵

If one nonetheless wanted to provide certain nonuniversal in-kind benefits—for example, out of paternalism toward benefit recipients, or to ensure that young children rather than their parents received certain benefits, or due to other positive externalities (as from education or job training)—one would have to depart somewhat from the pure NIT structure. Steps could be taken, however, to mitigate the adverse marginal rate effects of the departure. At the least, the benefits could be reduced slowly and without Food Stamps-style notches. If it were inconvenient to make the particular in-kind items too broadly available, one could nonetheless lengthen the effective phaseout range by providing for their gradual conversion (at less than full value) into additional cash transfers that, like the NIT demogrant, would be netted against positive tax liability.

Most NIT (and CIT) proposals have involved positive tax rates in all ranges. Similarly, Mirrlees showed that, within his assumptions, the tax rate should never go below zero.²¹⁶ Yet the claim of positive externalities from increasing market work's attractiveness could support applying negative rates in low-income ranges,²¹⁷ although one would have to take into account the redis-

²¹⁴ See Browning, 63 *Am Econ Rev* at 49 (cited in note 171) (drawing the connection between enactment of an NIT and repeal of the minimum wage).

²¹⁵ While the NIT might also, in principle, serve as a vehicle for administrative streamlining of the tax and transfer systems, the magnitude and even existence of this benefit has been questioned. See Alstott, 108 *Harv L Rev* at 564-66 (cited in note 9).

²¹⁶ Mirrlees, 38 *Rev Econ Stud* at 186 (cited in note 48).

²¹⁷ To illustrate the application of negative tax rates, suppose that the demogrant were \$6,000 per adult individual, and the tax rate negative 20 percent on the first \$10,000 of wages but zero or positive thereafter (despite arguments for greater continuity between contiguous income brackets). An individual with zero income would receive \$6,000 in government transfers; one with \$10,000 of income would receive the maximum transfer of \$8,000, and as income increased above \$8,000 this maximum subsidy would be gradually reduced to zero and then converted into a positive net tax liability.

tributive error (at least in utilitarian terms based on declining marginal utility) of providing larger transfers to those who were better-off.

The closest that the United States came to adopting an NIT was in 1970, when the Family Assistance Plan ("FAP"), which President Nixon had proposed in 1969, overwhelmingly passed the House of Representatives before foundering in the Senate.²¹⁸ The FAP had serious design problems that properly (assuming they could not simply be corrected) reduced its appeal.²¹⁹ In the end, however, it lost mainly due to the combined efforts of liberals who wanted a more generous plan (or disliked anything coming from Nixon) and conservatives who either thought it too generous already or who fundamentally objected to the idea of a guaranteed income.²²⁰ The NIT then received its death knell from a general political shift to the right, along with the ridicule heaped on Senator McGovern for proposing a poorly thought-out variant during his disastrous 1972 Presidential campaign.²²¹

In retrospect, liberals ought to recognize their political error in opposing the NIT idea. Not only might the adoption of FAP have changed the subsequent course that welfare policy has in fact taken, but also there is no good reason why they should like the application of punitively high marginal tax rates to poor people who are becoming slightly less poor. Conservatives as well ought to dislike the rate structure resulting from phaseouts, to understand its needless exacerbation of the work (and savings) incentive problems that they often attribute to programs such as AFDC and Food Stamps, and to support a more rational rate structure (holding to one side the question of total subsidy levels).

Even the notion, supported by many conservatives and implemented in the "time limits" provisions in 1996 welfare reform,²²² that positive transfers ought to be cut off at some point is not completely irreconcilable with the NIT approach.²²³ One could, for example, provide a rule capping the total net transfer

²¹⁸ See Moynihan, *The Politics of a Guaranteed Income* at 437-38, 486, 537-38 (cited in note 13). The FAP fell well short of NIT advocates' ideal, due not only to its limited scope but also to its failure to replace existing programs such as AFDC.

²¹⁹ See *id.* at 548-49.

²²⁰ See *id.* at 246.

²²¹ See *id.* at 443-44 ("McGovern's plan was not worked out at the time. . . . His cost estimates were confusing.").

²²² See 1996 Welfare Act § 408, 110 Stat at 2137 (five-year rule).

²²³ The time limits approach does, however, appear to be in some tension with properly understanding the interchangeability of taxes and transfers. Why is receiving \$10,000 from the government instead of zero fundamentally different from paying net taxes of \$30,000 instead of \$40,000?

that one had received over time, perhaps at some low multiple of the annual demogrant.²²⁴ This ceiling on lifetime net transfers would have marginal rate effects that roughly resembled those of a negative tax rate at low-income levels, since earning enough income to reduce the net transfer would increase the expected value of future net transfers.²²⁵

In an era when major welfare reform legislation has been enacted, reflecting concern about the adverse incentive effects of previous welfare programs, it is appalling that the NIT approach, with or without negative tax rates in low brackets, has received so little attention. This approach could provide more coherent, better-directed income redistribution and poverty amelioration at a lower cost in work effort among the poor and overall efficiency. Its absence from contemporary debate is sad testimony to our political system's institutional inertia and lack of thoughtfulness or long-term memory.

All is not entirely lost, however. Given the broad discretion that the 1996 welfare reform legislation gave the states to design their own AFDC programs, along with the fiscal policy discretion that states otherwise have in administering either federal programs or their own tax and transfer systems, they may be able to make some progress in improving the overall marginal rate structure that actually applies to poor people. This might require, however, both more widespread understanding of the marginal tax rate problems that this Article identifies and a willingness to make good policy despite its possible lack of any obvious short-term political payoff.

CONCLUSION

Minimum wage laws provide a low-wage subsidy that is largely misdirected and, worse still, financed by a perverse tax on low-wage employment. The subsidy is misdirected because it goes mainly to middle- and upper-income households, rather than the poor and near-poor households for whom the case for a low-wage subsidy is strongest. The tax is perverse because it taxes precisely the thing that its advocates presumably want to encourage or reward. These features make the minimum wage a poor choice amongst alternative low-wage subsidies, and very possibly worse than doing nothing at all. It is thus plausible, although not cer-

²²⁴ Transfers received as a consequence of applying a negative tax rate in low income brackets would presumably be ignored, since they did not result from any income guarantee.

²²⁵ Note, however, that the implicit rate structure might be rather odd under the ceiling on lifetime net transfers.

tain, that, even assuming no alternative legislation would replace the minimum wage, the 1996 increase ought not to have been enacted, and indeed that preexisting minimum wage laws ought to have been repealed. (Whether this is so depends upon a more precise assessment of the minimum wage's actual efficiency and distributional effects than current knowledge permits.)

A low-wage subsidy could serve three plausible purposes: reducing the confiscatory marginal tax rates faced by certain low-wage workers, increasing workforce participation among the poor, and progressive wealth redistribution. All three of these goals are harmed by disemployment in the low-wage sector that results from the minimum wage. Even if such disemployment is not great, it is likely to exceed that which would result from financing a low-wage subsidy through general revenues. The claims by David Card and Alan Krueger that, to the contrary, modest minimum wage increases do not cause disemployment are unconvincing both empirically and theoretically, although it is possible that the disemployment effects are smaller than has generally been assumed.

The earned income tax credit (EITC) is considerably better than the minimum wage as a device for both progressive redistribution and encouraging workforce participation among the poor. Thus, for example, Table 4 suggested that the 1993 expansion of the EITC delivered more than 70 percent of its benefits, as compared to less than 30 percent from the 1996 minimum wage increase (assuming zero disemployment), to poor and near-poor households. However, the EITC, in the phaseout range in which the great majority of workers receiving it find themselves, only worsens the imposition of what are often confiscatory marginal tax rates. Table 1 showed that, in high-AFDC-benefit states, it can contribute to marginal tax rates in excess of 100 percent. Table 2 showed that, even in low-AFDC-benefit states, it can contribute to marginal tax rates as high as 70 percent. Imposing such high marginal tax rates on poor (or probably any) households does not make sense, and reflects the misguided logic of benefit phaseouts rather than any coherent effort to design a reasonable rate structure.

The negative income tax (NIT) approach of providing lump-sum payments that are netted against positive tax liability, as determined through the application of reasonable marginal tax rates, would be an exponential improvement over the current set of tax and transfer rules applying at low income levels. One could also perhaps make an argument, based on positive externalities

from encouraging workforce participation among the poor, for providing negative tax rates at low income levels.

Working out the details of an NIT-type approach would raise a host of questions that are beyond this paper's scope. Should taxes and transfers be determined with respect to individuals or households? In the latter case, how should households be defined? Should any in-kind benefits to poor individuals and households be retained? If so, how should they be integrated with the NIT? What tax bases and rate structures should be used? To what extent should interstate variation in transfer policy, as under AFDC, be continued? What are the connections between reform of social welfare programs and of such other broad-based tax and transfer programs as Social Security and Medicare?

While the comprehensive tax and transfer restructuring that I have advocated here may seem (and be) remote, it ought to be brought to public attention anyway, if only in the hope of influencing the discussion of more incremental change. It might, for example, influence the states' implementation of their discretion to design AFDC programs in the aftermath of the 1996 welfare reform legislation.

The total absence of an NIT-type, marginal rate-based perspective from recent debate over welfare reform helps to show the need for a broader understanding. So does the misguidedness of the most recent effort to help poor people through a minimum wage increase that produced poorly targeted benefits and reduced their employment opportunities—with cruel irony, at the very same time that welfare benefits were being reduced under the premise that welfare recipients ought to find work.

APPENDIX 1

Tables 1 through 3 are based on a set of simplifying assumptions concerning various aspects of the major tax and transfer programs in the United States. Simplifying assumptions are needed due to the programs' extreme complexity, their general mismeasurement of labor income, the variations between their rules for determining the amount of a tax or transfer, and their state-by-state variation. Given the inevitable imprecision, I rounded off various numbers, as shown below.

The following are the assumed tax and transfer systems on which I based my computations:

Payroll taxes ("PR"): All wages up to \$65,000 per individual per year were assumed to be subject to a 14 percent payroll tax. Wages above that amount were assumed to be subject to a 3 percent payroll tax. By comparison, under present law, the employer and the employee each pay tax at a 7.65 percent rate on wages up to a ceiling of \$60,060 (for 1995), and then at a 1.45 percent rate on wages above the ceiling. I grossed up the ceiling to \$65,000 because, as conventionally computed, it excludes the employer contribution (which is a wage cost from the employer's standpoint, and which most economists agree is borne by the employee). I grossed down the rate from 15.3 percent to 14 percent because the employer contribution is excluded in determining employer and employee tax liability. For wages above \$65,000, I simply rounded the tax rate up from 2.9 percent to 3 percent, ignoring the gross-up and gross-down because, at a 1.45 percent employer tax rate, it was relatively insignificant. I assumed that employees bear the full payroll tax, and that benefits are worth zero. Concededly, this last assumption is too extreme and ought in principle to be modified. However, not only is the right valuation hard to determine, but also a low valuation is probably justified given such factors as: (1) the weak relationship between taxes paid and benefits received under programs such as Social Security and Medicare; (2) the existence of substantial uncertainty about future expected benefits under the programs given their projected long-run insolvency; and (3) employee disregard of even reasonably expected future benefits (a point which matters insofar as one is concerned about rates' subjective effect on behavior, as distinct from their objective distributional impact).

Federal income tax rates and brackets ("FI"): For a single head of household with two children, I assumed no tax on the first \$15,000 of earnings. This reflects the standard deduction

plus three standard exemptions (totalling \$14,050 for tax years beginning in 1995), grossed up for the employer's share of payroll taxes. Subsequent assumed rate brackets were taken from the 1995 rate tables, with the following adjustments:

(1) increase taxable income by the exempt first \$15,000, treating that amount as a zero rate bracket rather than as a deduction from income;

(2) for income up to \$65,000, gross-up dollar amounts and gross-down tax rates by 7 percent to reflect the exclusion of the employer's share of payroll taxes;

(3) for income above \$135,000, gross-up tax rates by 3 percent in light of the limitation on itemized deductions in section 68 of the Internal Revenue Code ("IRC");

(4) for income between \$160,000 and \$280,000, gross-up tax rates by 2 percent in light of the phaseout of personal exemptions in IRC sections 151(d)(3) and (4).

After suitable rounding, the rate brackets above zero were as follows: 14 percent from \$15,000 to \$50,000, 26 percent from \$50,000 to \$65,000, 28 percent from \$65,000 to \$95,000, 31 percent from \$95,000 to \$135,000, 32 percent from \$135,000 to \$145,000, 37 percent from \$145,000 to \$160,000, 38 percent from \$160,000 to \$270,000, 42 percent from \$270,000 to \$280,000, and 41 percent above that.

For a single individual without children, the same general procedure yielded a zero bracket amount of \$7,000, a 14 percent rate from \$7,000 to \$25,000, a 26 percent rate from \$25,000 to \$65,000, a 31 percent rate from \$65,000 to \$125,000, a 37 percent rate from \$125,000 to \$135,000, a 38 percent rate from \$135,000 to \$245,000, a 37 percent rate from \$245,000 to \$265,000, and a 41 percent rate above that.

Earned income tax credit ("EITC"): Rounding off the actual 1996 brackets and rates with gross-ups to dollar amounts and gross-downs of tax rates to adjust for the employer-paid portion of the payroll tax, I assumed a tax rate of negative 37 percent on the first \$9,000 of wages for a single head of household with two children, followed by a zero rate from \$9,000 to \$12,000 and a positive 19 percent rate from \$12,000 to \$30,000. For a single individual without children, I assumed a negative 7 percent rate from 0 to \$4,000, a zero rate from \$4,000 to \$6,000, and a positive 7 percent rate from \$6,000 to \$10,000.

Aid to Families with Dependent Children, Medicaid, and housing subsidies (AFDC): Adapting three separate estimates²²⁶

²²⁶Lyon, *Individual Marginal Tax Rates*, in Bradford, ed, *Distributional Analysis* at

in light of the employer portion of the payroll tax, inflation through 1995, and state and local sales taxes, I assumed that the phaseout of these benefits (available to the single head of household with two children, but not to the single individual without children) takes place at an 80 percent rate on earnings above \$2,000. For high-benefit states, I assumed that the phaseout is completed when earnings reach \$13,000. For low-benefit states, I assumed that the phaseout is completed when earnings reach \$7,000.

I ignored the 1996 welfare reform legislation because its effects are unpredictable until implemented by the states pursuant to their considerable discretion. However, reducing overall benefits, including through the enactment of time limits, does tend to reduce the marginal rate effects of phaseouts.

Food Stamps ("FS"): Mainly following a recent estimate,²²⁷ but with adjustment for the employer payroll tax, I assumed that, for single heads of households with two children, these benefits increase at a 6 percent rate within the range of AFDC eligibility (thus having a tax rate of negative 6 percent), but then are phased out at a 17 percent rate until earnings reach \$16,000, at which point there is a "notch." That is, reaching that earnings limit causes the benefits to decline instantaneously from an estimated \$1,200 to \$0. For single individuals without children, I adapted this estimate in light of statistical information about the program,²²⁸ the employer-paid share of the payroll tax, and inflation through 1995. After rounding, I was left with a zero tax rate on earnings from \$0 to \$2,000, a 17 percent tax rate on earnings from \$2,000 to \$9,000, and a \$300 notch at \$9,000.

Here again, I ignored the effects of the 1996 welfare reform legislation. However, it did considerably less to reshape Food Stamps than AFDC. One effect that should be noted, however, is its providing that able-bodied childless persons between the ages of eighteen and fifty cannot get Food Stamps for more than three months in a thirty-six month period unless they either work or else participate sufficiently in a federal or state employment program.²²⁹ For some of the individuals described by Table 3 (those between eighteen and fifty who do not work or participate sufficiently in qualifying programs), this would reduce the marginal

241 (cited in note 51); Gene Steuerle, *Giving Jobs to Welfare Recipients: The Tax Rates They Face*, 69 Tax Notes 641, 642 (1995).

²²⁷ Lyon, *Individual Marginal Tax Rates*, in Bradford, ed., *Distributional Analysis* at 241 (cited in note 51).

²²⁸ See 1994 Greenbook at 765, 769 (cited in note 43).

²²⁹ See 1996 Welfare Act § 824(a), creating 7 USC § 2015(o)(2) (1994).

rate effect of phasing out Food Stamps benefits, since these benefits would now be less to begin with.

State and local sales and excise taxes ("SE"): Adapting a recent estimate of average rates²³⁰ in light of the employer portion of the payroll tax, I assumed that state and local sales and excise taxes generally function as a flat 4 percent levy on all wages, but reduced to 3 percent for individuals receiving AFDC and Food Stamps, on the premise that they spend a higher than average portion of their income on items such as food that are often tax-exempt.

State and local income taxes ("SI"): Adapting a recent estimate of average rates²³¹ in light of the employer portion of the payroll tax, I assumed that state and local income taxes are levied on a single head of household with two children at the following rates: 3 percent from \$15,000 to \$50,000, 5 percent from \$50,000 to \$65,000, 6 percent on income from \$65,000 to \$95,000, and 5 percent (net of the federal itemized deduction) on income above \$95,000. For a single individual without children, I assumed 3 percent from \$7,000 to \$25,000, 5 percent from \$25,000 to \$65,000, 6 percent from \$65,000 to \$125,000, and 5 percent again above \$125,000.

Combining all of these items, the rates were computed as follows:

SINGLE HEAD OF HOUSEHOLD WITH TWO CHILDREN IN HIGH-AFDC-BENEFIT STATE:

0 to \$2,000: $14 PR - 37 EITC - 6 FS + 3 SE = \text{negative } 26\%$.

\$2,000 to \$9,000: $14 PR - 37 EITC + 80 AFDC - 6 FS + 3 SE = 54\%$.

\$9,000 to \$12,000: $14 PR + 80 AFDC - 6 FS + 3 SE = 91\%$.

\$12,000 to \$13,000: $14 PR + 19 EITC + 80 AFDC - 6 FS + 3 SE = 110\%$.

\$13,000 to \$15,000: $14 PR + 19 EITC + 17 FS + 3 SE = 53\%$.

\$15,000 to \$16,000: $14 PR + 14 FI + 19 EITC + 17 FS + 3 SE + 3 SI = 70\%$.

²³⁰ Browning, 48 Natl Tax J at 28 (cited in note 182). Browning estimates that sales and excise taxes apply to labor income at a 4.8 percent rate. I lowered and rounded this to 4 percent given the gross-down for payroll taxes.

²³¹ Id at 29. Browning estimates a 3.5 percent state and local income tax rate for households subject to federal income tax. My adjustment reflects the gross-down for payroll taxes plus an assumption of rate progressivity, raising rates in high-income households.

AT \$16,000: \$1,200 notch from Food Stamp benefits lost by crossing the income threshold.

\$16,000 to \$30,000: $14 PR + 14 FI + 19 EITC + 4 SE + 3 SI = 54\%$.

\$30,000 to \$50,000: $14 PR + 14 FI + 4 SE + 3 SI = 35\%$.

\$50,000 to \$65,000: $14 PR + 26 FI + 4 SE + 5 SI = 49\%$.

\$65,000 to \$95,000: $3 PR + 28 FI + 4 SE + 6 SI = 41\%$.

\$95,000 to \$135,000: $3 PR + 31 FI + 4 SE + 5 SI = 43\%$.

\$135,000 to \$145,000: $3 PR + 32 FI + 4 SE + 5 SI = 44\%$.

\$145,000 to \$160,000: $3 PR + 37 FI + 4 SE + 5 SI = 49\%$.

\$160,000 to \$270,000: $3 PR + 38 FI + 4 SE + 5 SI = 50\%$.

\$270,000 to \$280,000: $3 PR + 42 FI + 4 SE + 5 SI = 54\%$.

\$280,000 and up: $3 PR + 41 FI + 4 SE + 5 SI = 53\%$.

SINGLE HEAD OF HOUSEHOLD WITH TWO CHILDREN IN LOW-AFDC-BENEFIT STATE:

0 to \$2,000: $14 PR - 37 EITC - 6 FS + 3 SE = \text{negative } 26\%$.

\$2,000 to \$7,000: $14 PR - 37 EITC + 80 AFDC - 6 FS + 3 SE = 54\%$.

\$7,000 to \$9,000: $14 PR - 37 EITC + 17 FS + 3 SE = \text{negative } 3\%$.

\$9,000 to \$12,000: $14 PR + 17 FS + 3 SE = 34\%$.

\$12,000 to \$15,000: $14 PR + 19 EITC + 17 FS + 3 SE = 53\%$.

\$15,000 and up: *Same as in high-AFDC-benefit state.*

SINGLE INDIVIDUAL WITHOUT CHILDREN:

0 to \$2,000: $14 PR - 7 EITC + 3 SE = 10\%$.

\$2,000 to \$4,000: $14 PR - 7 EITC + 17 FS + 3 SE = 27\%$.

\$4,000 to \$6,000: $14 PR + 17 FS + 3 SE = 34\%$.

\$6,000 to \$7,000: $14 PR + 7 EITC + 17 FS + 3 SE = 41\%$.

\$7,000 to \$9,000: $14 PR + 14 FI + 7 EITC + 17 FS + 3 SE + 3 SI = 58\%$.

AT \$9,000: \$300 notch from Food Stamp benefits lost by crossing the income threshold.

\$9,000 to \$10,000: $14 PR + 14 FI + 7 EITC + 4 SE + 3 SI = 42\%$.

\$10,000 to \$25,000: $14 PR + 14 FI + 4 SE + 3 SI = 35\%$.

\$25,000 to \$65,000: $14 PR + 26 FI + 4 SE + 5 SI = 49\%$.

\$65,000 to \$125,000: $3 PR + 31 FI + 4 SE + 6 SI = 44\%$.

\$125,000 to \$135,000: $3 PR + 37 FI + 4 SE + 5 SI = 49\%$.

\$135,000 to \$245,000: $3 PR + 38 FI + 4 SE + 5 SI = 50\%$.

\$245,000 to \$265,000: $3 PR + 37 FI + 4 SE + 5 SI = 49\%$.

\$265,000 and up: $3 PR + 41 FI + 4 SE + 5 SI = 53\%$.

APPENDIX 2

Table 4 presents data from a recent study, Richard V. Burkhauser, Kenneth A. Couch, and Andrew J. Glenn, *Public Policies for the Working Poor: The Earned Income Tax Credit Versus Minimum Wage Legislation*.²³² However, I modify somewhat the data's presentation. The original Table 8 provided a simulated distribution of benefits from increasing the minimum wage from \$4.25 to \$5.00 (rather than \$5.15 as in the 1996 legislation), using a 1990 data base and assuming retention of the 1992 EITC rules. The original Table 9 used the same data to simulate the distribution of benefits from the 1993 EITC changes, as fully phased in for 1996 and assuming retention of a \$4.25 minimum wage. The total wage subsidies deemed paid in each case were nearly the same—\$10.24 billion in Table 8 and \$10.04 billion in Table 9, a difference of less than 2 percent.²³³ I classify households based on the income-to-needs ratios shown in Tables 8 and 9, defining below 1.00 as poor, 1.00 to 1.50 as near-poor, 1.50 to 3.00 as middle income, and above 3.00 as upper income.²³⁴

²³² Institute for Research on Poverty, Discussion Paper No 1074-95 (Nov 1995) at 35 (Table 8), 38 (Table 9) (cited in note 8).

²³³ See *id.*

²³⁴ Compare *id.* at 31 and 34.