m international foru tional forum internat



ON COMPARING ALTERNATIVE INCOME MAINTENANCE STRATEGIES

JACK HABIB

BR-IF-3-84

international forum

IF-3-84

JOINT (J.D.C.) ISRAEL BROOKDALE INSTITUTE OF GERONTOLOGY AND ADULT HUMAN DEVELOPMENT IN ISRAEL

J.D.C. HILL, P.O.B. 13087, JERUSALEM 91130

THE INSTITUTE

is a national center devoted to research, experimentation and education in gerontology and adult human development. It was founded and is funded by the American Jewish Joint Distribution Committee (AJDC) with the assistance of the Brookdale Foundation and the support of the Government of the State of Israel. Its research is policy- and program-oriented, multidisciplinary and, primarily, of an applied nature.

The Institute tries to identify socially relevant problems and to recommend alternative solutions to problems of the health and social services and policies. It attempts to bring together academic and governmental experts and other public officials and citizens in order to link research findings with their implementation.

INTERNATIONAL FORUM

papers offer the research findings and professional views of visiting foreign scholars, Institute staff and other Israeli academics. Series papers present discussions that extend beyond the Israeli empirical context or that deal with issues of conceptual and methodological issues of general international interest. The Series thus serves as a forum in which current practice and thinking in the field of aging can be examined from an international perspective.

The findings and conclusions presented are those of the author or authors and do not purport to represent the views of the Institute, and of other persons or groups associated with it.

ON COMPARING ALTERNATIVE INCOME MAINTENANCE STRATEGIES

Jack Habib

<u>Jack Habib</u> is the Director of the JDC-Brookdale Institute of Gerontology and Lecturer, Baerwald School of Social Work, Hebrew University of Jerusalem. This paper is a revised version of a lecture given at J.W. Goethe-Universität Frankfurt und Universität Mannheim in cooperation with Sonderforschungsbereich 3, Mikroanalytische Grundlagen der Gesellschaftspolitik, directed by Professor Richard Hauser.

IF-3-84

December 1984, Jerusalem

Summary

There have been considerable improvements in the measurement of the distributional and behavioral effects of income maintenance programs and in the development of simulation tools to quantify them. While these advances have improved our ability to design programs, our sense of the relative advantages of different strategies is still quite limited.

Too little attention has been given the problem of defining conceptually meaningful comparisons among alternatives and to empirically exploring the full range of policy options. A broad set of specifications are consistent with any given strategy and the comparison of strategies will thus be affected by the specifications compared. Many analyses of income maintenance strategies have been misleading because of 'fallacies of comparison'.

This paper illustrates the problem of defining meaningful comparisons. The examples used are taken from three key issues that have arisen in the literature. All three involve the comparison of income-tested income maintenance programs of the negative income tax (NIT) type with alternative approaches that deemphasize current income in targeting benefits.

The first issue chosen involves the choice between means-tested and universal approaches to the problems of the elderly poor. The other two issues have arisen in the debate over support for the able-bodied poor of working age: the choice between work-related strategies (wage subsidies, subsidized public employment) and a negative income tax on the one hand, and between universal child allowances (or refundable credits) and the negative income tax on the other. For each of these policy issues, the paper identifies the elements that make it difficult to draw conclusions about the relative efficiency of the different strategies. The empirical simulation results from a number of studies that are employed to show how the comparison of the different strategies depends crucially on how these results are compared. The appropriate efficiency criteria to compare programs is a related issue. The traditional emphasis on the budgetary efficiency of transfers or the share of transfers to the poor is reviewed critically. The thrust of the analysis challenges the oft-claimed superiority of highly selective income-tested formulas, even on efficiency grounds. The possible advantages of mixed strategies that combine several principles into a coordinated whole are illustrated using material from several countries' income maintenance systems.

Table of Contents

		Page
1.	Introduction	1
2.	Income-Tested Versus Universal Approaches to Income Support for the Elderly Poor	4
3.	Universal Versus Selective Transfers for Able-Bodied Families of Working Age	14
4.	Job Versus Cash Approaches to Income	
	Maintenance	32
5.	Real Versus Budgetary Efficiency	39
6.	Conclusions	41
Bibli	iography	43

List of Tables

Table 1:	Distributional Effects of Alternative Benefit Formulas	11
Table 2:	Benefit Levels and Replacement Rates by Pre-retirement Wages for Representative PROG and TT Systems	13
Table 3:	Marginal Child Allowance: 1960 - 1976	16
Table 4:	Child Allowance as Percent of Poverty Line and Selective Minimum: 1969, 1973, 1975 and 1976	16
Table 5:	The Gross Monthly Wage at which Selective Minimum and Poverty Line Income is Reached: 1969, 1973 and 1975	17
Table 6:	Distribution of Families with Children by Family Size and Universal Child Allowance in Relation to Average Wages, Selected Family Sizes in OECD Member Countries and Israel	18
Table 7:	The Effect of Alternative Tax-Transfer Structures on Selected Measures, with Disincentives and Net Revenue Held Constant	25
Table 8:	Simulations of Wage and Earnings Subsidies and a NIT	34
Table 9:	Alternative Job and Cash Transfer Strategies	38

Page

List of Figures

Fig. 1:	Labor Disincentives and Inequality for a Universal Scheme for Three Credit Levels and	
	Alternative Marginal Rate Structures	23
Fig. 2:	Mixed Versus Universal Strategies	28

Acknowledgments

I would like to thank Richard Hauser for his helpful comments on this paper and the members of the Poverty Research Group for their stimulating discussion during my visit to the University of Frankfurt. Many of the ideas presented here have been developed over the years in collaborative work with Michael Brumo, Haim Factor and Robert Lerman. I am indebted to all of them.



1. Introduction

There have been considerable improvements in the measurement of the distributional and behavioral effects of income maintenance programs and in the development of simulation models to quantify them. A growing body of literature dealing with these effects has received further impetus from the evidence becoming available from the various income maintenance experiments in the U.S.

While these advances have improved our ability to design programs, our sense of the relative advantages of different strategies is still quite limited. Too little attention has been given to the problem of defining conceptually meaningful comparisons among alternatives and to empirically exploring the full range of policy options. A broad set of specifications are consistent with any given strategy and the comparison of strategies will thus be affected by the specifications compared. How do we distinguish between those differences that are a function of the specification details as against those that are truly inherent in the alternative strategies? Which comparisons are meaningful if we want to generalize about the relative advantages and disadvantages of different approaches? Many analyses of income maintenance strategies have been misleading because of what might be termed 'fallacies of comparison'.

This paper will illustrate the problem of defining meaningful comparisons. The examples used here are taken from three key issues that have arisen in the literature. All three involve the comparison of an income-tested income maintenance program of the negative income tax (NIT) type with alternative approaches that deemphasize current income in targeting benefits. The first issue involves the choice between means-tested and universal approaches to the problems of the elderly poor. The other two issues have arisen in the debate over support for the able-bodied poor of working age: the choice between work-related strategies (wage subsidies, subsidized public employment) and a negative income tax on the one hand, and between universal child allowance (or refundable credits) and the negative income tax on the other.

For each policy issue we shall identify the elements that make it difficult to draw conclusions about the relative efficiency of the different strategies. The empirical simulation results from a number of studies will be employed to show how the comparison of the different strategies depends crucially on how these results are compared. The appropriate efficiency criteria to compare programs is a related issue. The traditional emphasis on the budgetary efficiency of transfers as measured by the reduction in the poverty gap per dollar of transfer or the share of transfers to the poor, will be reviewed critically. The thrust of the analysis is to challenge the oft-claimed superiority of highly selective income-tested formulas, even on efficiency grounds. The possible advantages of mixed strategies that combine several principles into a coordinated whole is illustrated using material from several. countries' income maintenance systems.

The principal debate on these issues has appeared in the American literature. While almost all European countries have some form of selective welfare program, its role in relation to other mechanisms does not seem to have been the subject of a great deal of analytical work. Yet it would appear that European interest is increasing regarding the possibilities of a selective approach to poverty. Impetus has derived

- 2 -

both from the growing pressure to cut back social expenditures and by contrast, from an increased awareness that poverty in Europe has not been eliminated despite the expansion of social security programs. The work of the Commission of the European Communities (EEC, 1981) has served to highlight the poverty issue in Europe.

There are several possible bases to be considered in comparing programs. One may focus on representative programs that exemplify the kinds of proposals being made by proponents of a particular scheme. It is not uncommon to find comparisons made on this basis, although usually no specific rationale is given. The approach is most relevant when there are specific proposals that have been formulated in some policymaking process and are being considered for adoption. Comparison is legitimate but may in the end teach us little about any differences between the alternatives under consideration.

A second, common basis is the comparison of programs involving equal budgetary costs. It is often implied that any differences that emerge lend themselves to generalization. A third possibility is to compare programs on the basis of equal real costs, defined in terms of either output loss or the excess burden arising from behavioral distortions. It is not common to find comparisons of income maintenance programs made on this basis, although the real consequences of programs with equal budgetary cost are often considered. Finally, one can consider comparing programs for equal poverty line guarantees or equal poverty reduction.

- 3 -

In the following discussions (Sections 2, 3 and 4) of each of the three above-specified policy issues we shall provide examples of the relationship between these alternative bases of comparison. Section 5 will return to a general discussion.

Income-Tested Versus Univeral Approaches to Income Support For The Elderly Poor

The elderly represent a significant proportion of the poor in most European countries. On the basis of the EEC report (1981), their share varies between 10-50% of the poor. The incidence of poverty among the elderly is above average in almost all EEC countries.

Pension programs providing benefits proportional to pre-retirement earnings typically do not provide a full poverty-line income to the elderly poor. Most countries employ additional means to supplement the incomes of the poor (see Berry, Garfinkel and Munts, 1982 for a review). This may take a number of forms, of which we distinguish between two approaches:

i) Income-tested supplementary benefits, of the negative income tax type. This type of program can be a special supplementary benefit administratively subsumed under social security old age assistance, or a more general social assistance program. In Germany, where the latter type of program prevails, 200,000 elderly households represent 25% of the recipients of social assistance (Hauser <u>et al.</u>, 1980).

ii) Non-income-tested universal benefits that take the form of deviations from proportionality in the wage replacement rate formula. The absolute benefit may rise, but less than proportionately,

- 4 -

whereas at the extremes benefits will be constant or at a flat rate. Another variation introduces a floor to the pension award in the form of a minimum benefit. Anyone who would receive less than the minimum on the basis of a proportional formula is automatically awarded the minimum.

A progressive replacement rate formula exists in the U.S., while a number of countries include a flat rate benefit as a component of their pension package. These countries include Israel, U.K., Ireland, Denmark and the Netherlands (public pensions only), as well as such countries as Sweden, Canada, Finland, Switzerland, Norway and Japan where it is combined with a wage-related component. In some cases the flat rate benefit is related to years of contribution. Minimum pensions exist in the wage-related systems of Belgium, Italy and the U.S. Both a meanstested and a universal element quite often are included and universal elements of the various types are combined.

Much of the pension literature emerging from the United States in the last few years has favored a pure selective approach (Munnell, 1977; Feldstein, 1975; Storey, 1975). It argues in favor of a two-tier system in which the functions of income maintenance and compulsory savings would be separated. Thus minimum benefits and progressive replacement rate formulas would be eliminated and replaced by a proportional top tier, while a means-tested bottom tier would assume the role of providing for the poor. This is in essence the current German system. Proportional benefits are also found in Austria and France.

Economists have been instrumental in arguing that a means-tested program is the most efficient way to target resources on the poor. Minimum benefits are viewed as providing income to many persons

- 5 -

with low wages or few earning quarters, but not necessarily low current income. Progressive replacement rates may provide benefits to many with low or moderate wages but who still have high current income, which is to say that there may be substantial leaks to the non-poor.

One problem with the above argument is that there are leaks to the non-poor in selective mechanisms that the debate tends to ignore, while overemphasizing leaks in the universal mechanisms. The selective mechanism leaks occur as long as the marginal tax rate on earnings, property income or other pensions is less than a 100% or if there are disregards. They may also arise due to inefficiencies in obtaining accurate income data or in monitoring changes in income status over time. An additional problem in targeting on the poor in the selective system is that of take-up. The non-receipt of benefits increases the leaks to the non-poor and diminishes the ability of the transfer mechanism to reduce poverty.

Introducing progressivity with respect to past wages and targeting on these with low past wages may not be as inefficient as is claimed if the correlation between past wages and current income is reasonably high. This also suggests that some underlying parameters of the income distribution may be crucial in the comparison of redistributive mechanisms. The upshot of this argument is that the question of efficiency is an empirical one that cannot be established on the basis of the kind of <u>a priori</u> arguments cited above.

We now want to illustrate that the further evaluation of the claim to greater efficiency of the means-tested approach depends on the

- 6 -

framework of comparison with the more universal alternatives. The subsequent argument is largely based on the work of Habib and Lerman (1979).

Consider the implications of comparing programs of equal budgetary cost. How are equal cost alternatives for the elderly poor to be defined? The first problem that arises concerns how one defines the cost of these programs given that there would in any case be a compulsory savings retirement program. These top-tier pensions obviously change the level and distribution of current income and thereby alter the cost, perhaps even the target efficiency, of a means-tested benefit. For a given basic pension rate, the cost of the selective supplement can be defined and estimated. Establishing the cost of the universal alternative raises further issues. Introducing a flat rate benefit means that there will be a defined cost and that many of the benefits clearly will go to the non-poor. However, one could easily offset many of these leaks to the non-poor by reducing the basic wage-related pension correspondingly. One would then consider as a true cost only the remaining deviation from a proportional benefit formula. This kind of arrangement has been proposed in Israel as a means of integrating public flat rate and proportional wage-related occupational pensions (Factor and Habib, 1980). In this way the target efficiency of a universal component could be considerably improved. There will of course still be leaks to the non-poor inasmuch as all those below a certain wage or pension level will receive increased benefits no matter how much other income they have.

A second problem that arises in defining the cost of the universal component is that a progressive replacement rate pattern

- 7 -

could be viewed as desirable on grounds other than poverty reduction. This stems from the view that it is desirable to use the pension system as a redistribution mechanism as it offers the unique opportunity to redistribute income on the basis of lifetime rather than one-year. income. Still another reason might be to offset the regressive consequences for the rate of return patterns that devolve from exempting contributions from taxation. The poor would of course benefit, but the leaks to the non-poor could no longer be viewed as the costs of their support.

This discussion illustrates a major point-that will emerge as well with respect to the policy issues presented in Sections 3 and 4. The comparison of a selective and universal transfer mechanism is fundamentally different if the leaks to the non-poor contribute to additional policy objectives and are considered in that light. However, this generally requires that the framework of analysis be expanded to include these additional goals and thus a broader view of the budget constraint. The immediate implication is that rather than try to isolate the sums devoted to income maintenance for the poor, the strategies need to be compared by considering as a single total the sums available for income replacement and for income maintenance.

The basic pension level that serves as the starting point also may have important consequences for the outcome of the comparison among the strategies. This is because the payment of a proportional pension will increase the correlation between pre-retirement wages and current income. The overall correlation coefficient will be a weighted average of the correlation between pensions and previous wages (which equals one if

- 3 -

pensions are proportional) and the correlation between previous wages and post-retirement non-transfer income of the elderly (which will be less than one). Therefore the greater is the replacement ratio in the top tier, the greater the impact on the correlation. We would thus expect that the relative effectiveness of introducing progressivity with respect to previous wages will increase as the base pension level rises.

Very little is empirically known about the nature of the correlation between pre- and post-retirement income. The major dynamic simulation models used to evaluate pension systems, such as Dynasim (Orcutt, Caldwell and Wertheimer, 1976) in the U.S. or the Frankfurt model (Krupp <u>et al.</u>, 1981), have not modeled this link. Very few data sets have integrated information on pre- and post-retirement income. Even though data has now become available, for example from the Retirement History Survey in the U.S., this correlation still has not been examined; perhaps the potential significance of this parameter for program design has not been realized.

In order to examine empirically the relative effectiveness of the selective and universal distribution strategies we built a synthetic data base using the bivariate log-normal to create a joint distribution, assuming homogeneous units. The variances were taken from actual data while the correlation coefficient enters in as a parameter and we could thereby test the sensitivity of the results to alternative values. Table 1 presents some exemplary results from simulating alternative programs. The table rows are alternative programs. Rows number 2 and 3 represent proportional pension systems with selective supplements: 2 has a low tax rate and guarantee and 3 a high tax rate and guarantee.

- 9 -

Rows 4,5 and 6 are systems with progressive replacement rate schedules. Row 5 is more progressive than 4 and 6 has a minimum benefit in addition. All of these programs represent an equal total of benefits to the elderly. The first half of the table presents estimates for a correlation coefficient of .8. For each selective program (rows 2 and 3) there is a universal scheme that can match it in terms of poverty reduction or the relative income of the bottom decile. These programs will thus be identical in terms of budgetary efficiency inasmuch as total costs are the same. The higher the tax rate in the selective program, the greater the degree of required replacement rate progressivity in the universal scheme. For example, only in row 5 does the share of the bottom decile match that of the high tax selective scheme in row 3. Thus the choice among these options may depend on two factors:

i) For a given marginal tax rate, how much progressivity in replacement rates is necessary to achieve the same redistributive impact? By how much do replacement rates at the upper end of the wage scale fall below that which was scheduled in the absence of a supplementary budget for poverty reduction?

ii) How great is the premium placed on avoiding the disincentive effects of marginal tax rates and on avoiding a steep decline in replacement rates?

In the second half of the table we also see that, as predicted, the required degree of progressivity within the universal scheme is greater, the lower the correlation coefficient. In fact, none of the universal options match the high tax rate selective scheme in row 3.

- 10 -

Table 1: Distributional Effects of Alternative Benefit Formulas

		Atki	nson		Description	Average income of	Bonefit share	
	Gini	€=1.2	E=2.0	CV	in poverty	of average wage	to pretransfer poor (%)	
Pretransfer income	0.60	0.69	0.86	1.27	50	2	-	
Post-transfer income, R = 0.8:								
(1) PROP	0.49	0.45	0.62	1.00	30	10	26	
(2a) TT, low GB, t	0.43	0.30	0.42	0.91	4	25	38	
(3a) TT, high GB, t	0.42	0.30	0.40	0.90	Ó	29	39	
(4) PROG, low b	0.42	0.30	0.43	0.86	15	21	38	
(5) PROG, high b	0.38	0.25	0.35	0.80	U	29	46	
(6a) PROG, high GT, low b	0.42	0.30	0.42	0.88	Q	25	38	
ost-transfer income,								
R = 0:								
(1) PROP	0.40	0.30	0.44	0.81	13	17	50	
(2b) TT, low GB, t	0.37	0.23	0.32	0.77	1	29	55	
(3b) TT, high GB, t	0.36	0.22	0.30	0.76	0	35	55	
(4) PROG, low b	0.37	0.23	0.33	0.77	3	26	50	
(5) PROG, high b	0.36	0.22	0.31	0.77	0	32	50	
(6b) PROG, high GT, low b	0.37	0.24	0.34	0.78	0	26	50	

1

"The exact formulas are as follows:

Formula	R	
(1)	0.8, 0	<i>B</i> =0.32 <i>W</i>
(2a)	0.8	$B=\max \begin{cases} 163+(1-0,4)(0.27w)-0.4x^{4}\\ 0.27w \end{cases}$
(2b)	0	same as 2a except substitute 0.29 for 0.27
(3a)	0.8	same as 2a except substitute 226 for 163 and 0.8 for 0.4
(3b)	0	same as 2b except substitute 262 for 163 and 0.8 for 0.4
(4)	0.8, 0	B= (15W 0.56)W
(5)	0.8, 0	$B=(100W^{-0.85})W$
(6a)	0.8	$B=\max[191, (4, 1)^{-0.30}]W$
(66)	0	$B = \max[191, (3.4W^{-0.35})W]$

Definitions

PROP - proportional wage replacement scheme

PROF - a progressive wage replacement scheme

GT - minimum benefit, and b is the rate of decline in replacement rates with wages

TT - an NIT with a proportional wage replacement scheme

GB - the guarantee and t is the marginal tax rute - preretirement earnings W

Y* - current income

Source: Habib and Lerman (1979)

Table 2 illustrates the nature of the differences in the replacement rate schedules. Progressive replacement rate formula 6 is consistent with only a moderate drop in replacement rates while in 5 it is considerably greater and might be viewed as undesirable. But as suggested earlier, the evaluation of this pattern depends in part on whether progressive replacement rates are viewed as desirable in any case.

We shall conclude our discussion of income maintenance for the elderly by summarizing the main points.

i) In the evaluation of universal transfers it is essential to consider the possibility of recapturing part of the benefits to the non-poor by recognizing their capacity for replacing benefits that serve goals other than poverty reduction.

ii) The results of the comparison depend closely on defining the appropriate budgetary framework. There is no way to meaningfully compare selective and universal approaches without considering the overall funds devoted to pensions.

iii) The degree of budgetary efficiency in reducing poverty becomes a matter of choice in this framework and the comparison among mechanisms becomes an issue of evaluating such concerns as replacement rate adequacy and disincentives, not simply poverty reduction alone.

iv) The extent of the leaks to the non-poor inherent in the alternative mechanisms was reflected in the magnitude of the tradeoff between replacement rate adequacy and incentives, holding constant budgetary costs and poverty reduction.

- 12 -

						TT fo	rmula 3 ^b					
PROG formula 6 ^b				=0			=100			PROG formula	ula 5 ^b	
W	В	ΔΒ/Δ₩	E/W	B	Λ <i>Β/Δ</i> ₩	B/W	В	ΔΒ/Δ₩	D/W	В	ΔB/ΔW	и/ ₩
400	191		0.48	248		0.62	168		0.42	246		0.61
600	224	0.13			0.05			0.05			0.08	
000	216		0.36	258		0.43	178		0.30	261		0.44
		0,22	10. 10.021		0,05			0.19			0.06	
800	259		0.32	269		0.34	216		0.27	273		0.34
0.00		0.19			0.05			0.27			0.05	
,000	297		0.30	280		0.28	270		0.27	282		0.28
200		0.18			0.22			0.27			0.04	
,200	332		0.28	325		0.27	325		0.27	290		0.24
		0.17			0.27			0.27			0.03	
,400	366		0.26	378		0.27	378		0.27	296		0.21
		0.16			0.27			0.27			0.03	
,000	397		0.25	432		0.27	432		0,27	302		0.19

Table 2: Benefit Levels and Replacement Rates by Preretirement Wages for Representative PROG and TT Systems

^aMean W is 820

bSee Table 1 for parameters (R=0.8)

Definitions

W - preretirement earnings

Y*- current income

Source: Habib and Lerman (1979)

- 13 -

v) All of the above considerations serve to cast the question of relative efficiency as an empirical issue rather than an <u>a priori</u> matter. In addition, the empirical results are shown to be sensitive to some basic income distribution parameters that are in turn influenced by replacement rate target level in the overall pension system. Optimal policies might thereby vary across countries or overtime within a country with variations in these parameters of income distribution and policy.

We shall now turn to an entirely different context and consider the comparison between an NIT and a universal transfer for working age families. This time the focus is on the development of child allowances in Israel as the context for the methodological discussion.

Universal Versus Selective Transfers for Able-Bodied Families of Working Age

In the late 1960s the system of transfers in Israel was inadequate. There was a welfare system with a low guarantee, a high marginal tax rate essentially 100%, and child allowances (CAs) that were set at very low rates. Two directions were considered for reform. One was to expand the welfare system by raising benefit levels and reducing the tax rate; the other was to expand child allowances or introduce a full system of refundable credits (RCs), sometimes refered to as demogrants. Whereas CAs are confined to families without children. In the end a decision was made to expand child allowances. These developments are reflected in Tables 3, 4 and 5.

- 14 -

Table 3 shows the growth in child allowances per child expressed as a percentage of the average wage. Between 1969 and 1976 it rose between 2.5-5 times, depending on the precedence of the child. As a result, one sees in Table 4 that whereas child allowances in and of themselves provided 11.8% of the poverty line in 1969 for a family of four children; by 1976 they provided 40%. In Table 5 one gains an appreciation of the significance of the change for the working poor. For a family of four children the earnings level required to reach the poverty line dropped from 63% to 45% of average earnings. While some interest was expressed in the U.S. for awhile in expanding child allowances or refundable credits, the focus there has clearly been on expanding and reforming the welfare system. By contrast, the expansion of child allowances in Israel paralleled developments in Europe. Table 6 presents the level of child allowances that had emerged in Europe as of 1976. The levels reached in Israel, while among the highest, are not unique; child allowances are significant in most of the countries listed in the table. There does not seem to be a correlation between family. size structure and the level of child allowances.

The expansion of child allowances in Israel was accompanied by a brisk debate. The phases in the debate reflect the development of the methodological issues that are the focus of this paper and will thus be reviewed in detail (see Habib, 1979 for further discussion).

We will first consider the option of a full system of refundable credits. The starting point of the debate was that selective schemes provide a greater share of transfers to the poor and are therefore more target efficient, along the lines of the earlier

- 15 -

Number of children	1960	1965	1969	1973	1975	1976 (April)
1	-	1.8	2.0	2.5	4.4	4.5
2	-	1.8	1.9	2.4	4.4	4.6
3	-	1.7	2.0	3.6	8.8	9.0
4	2.3	1.9	2.0	6.7	10.0	10.6
5	2.7	2.4	2.1	7.0	9.9	10.6
6	3.1	2.5	2.4	6.8	11.0	11.7
Table 4:	Child	Allowance	as Percent	of Povert	y Line a	nd Selective
	Minim	um: 1969,	1973, 1975,	and 1976	2	
						The second se
Number of children			1969	1973	1975	1976
Number of children Percent c	of pover	rty line	1969	1973	1975	1976
Number of children Percent c	of pover	rty line	1969	1973	1975 9.7	1976
Number of children Percent c 1 2	of pove	rty line	1969 4.7 7.8	1973 3.9 6.5	1975 9.7 16.0	1976 10.0 16.6
Number of children Percent c 1 2 3	of pover	rty line	1969 4.7 7.8 10.0	1973 3.9 6.5 · 11.3	9.7 16.0 27.3	1976 10.0 16.6 28.4
Number of children Percent c 1 2 3	of pove	rty line	1969 4.7 7.8 10.0 11.8	1973 3.9 6.5 11.3 19.6	9.7 16.0 27.3 37.7	1976 10.0 16.6 28.4 39.7
Number of children Percent c 1 2 3 4 5	of pover	rty line	1969 4.7 7.8 10.0 11.8 13.4	1973 3.9 6.5 11.3 19.6 26.5	9.7 16.0 27.3 37.7 45.8	1976 10.0 16.6 28.4 39.7 48.6
Number of children Percent c 1 2 3 4 5 6	of pove	rty line	1969 4.7 7.8 10.0 11.8 13.4 15.1	1973 3.9 6.5 11.3 19.6 26.5 32.2	9.7 16.0 27.3 37.7 45.8 54.2	1976 10.0 16.6 28.4 39.7 43.6 57.7
Number of children Percent c 1 2 3 4 5 6 Percent c	of pover	rty line ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 ninimum	1973 3.9 6.5 11.3 19.6 26.5 32.2	9.7 16.0 27.3 37.7 45.8 54.2	1976 10.0 16.6 28.4 39.7 48.6 57.7
Number of children Percent c 1 2 3 4 5 6 Percent c 1	of pover	rty line ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 ninimum 8.9	1973 3.9 6.5 11.3 19.6 26.5 32.2 5.8	9.7 16.0 27.3 37.7 45.8 54.2 11.5	1976 10.0 16.6 28.4 39.7 43.6 57.7 10.9
Number of children Percent c 1 2 3 4 5 6 Percent c 1 2	of pover	rty line ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 <u>ninimum</u> 8.9 16.2	1973 3.9 6.5 11.3 19.6 26.5 32.2 5.8 9.7	9.7 16.0 27.3 37.7 45.8 54.2 11.5 19.0	1976 10.0 16.6 28.4 39.7 48.6 57.7 10.9 18.0
Number of children Percent c 1 2 3 4 5 6 Percent c 1 2 3	of pover	rty line ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 15.1 15.1 8.9 16.2 19.5	1973 3.9 6.5 11.3 19.6 26.5 32.2 5.8 9.7 16.7	9.7 16.0 27.3 37.7 45.8 54.2 11.5 19.0 32.0	1976 10.0 16.6 28.4 39.7 48.6 57.7 10.9 18.0 50.6
Number of children Percent c 1 2 3 4 5 6 9 Percent c 1 2 3 4 3 4	of pover	ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 15.1 15.1 16.2 19.5 21.9	1973 3.9 6.5 11.3 19.6 26.5 32.2 5.8 9.7 16.7 28.3	9.7 16.0 27.3 37.7 45.8 54.2 11.5 19.0 32.0 42.4	1976 10.0 16.6 28.4 39.7 48.6 57.7 10.9 18.0 50.6 41.1
Number of children Percent c 1 2 3 4 5 6 Percent c 1 2 3 4 5	of pover	ctive NW m	1969 4.7 7.8 10.0 11.8 13.4 15.1 15.1 15.1 15.1 15.1 15.1 15.1 15	1973 3.9 6.5 11.3 19.6 26.5 32.2 5.8 9.7 16.7 28.3 37.4	9.7 16.0 27.3 37.7 45.8 54.2 11.5 19.0 32.0 42.4 50.0	1976 10.0 16.6 28.4 39.7 48.6 57.7 10.9 18.0 50.6 41.1 48.8

Table 3: Marginal Child Allowance: 1960-76 (employees)

"Selective NW minimum": the minimum income guaranteed by selective transfers to a person not employed

Source: Habib (1979)

		(percent of avera	age gross wage)
Family size	1969	1973	1975
Selective minimum ^b			
1	14	16	21
2	22	26	31
3	22	32	34
4	22	37	37
5	26	40	37
6	30	40.	37
7	36	40	37
8	39	43	37
Poverty line			
1	21	24	21
2	34	37	34
3	43	49	41
4	50	58	46
5	57	64	47
6	63	66	45
7	69	67	44
8	75	68	41

Table 5:The Gross Monthly Wage at which Selective Minimum and
Poverty Line Income is Reached:1969, 1973, and 1975

a) Gross wage at which net income is equal to selective minimum or poverty line, where net income takes account of income tax (including compulsory loans), national insurance contributions, and child allowances, but does not include selective transfers to which the family is entitled.

b) Minimum for families with no earnings. Source: Habib (1979) Table 6:Distribution of Families with Children by Family Sizeand Universal Child Allowance in Relation to AverageWages, Selected Family Sizes in O.E.C.D. MemberCountries and Israel

		Fam	ilie ldre	s by n (%	num)	ber	of	Child allowance as % of average wages in manufacturing			
Country		1	2	3	4	4+	6+	 Two children	children		
Belgium	, e	39	29	16	8	16	4	13.0	26.0		
Canada	- TR	28	29	19	11	23	6	4.2	8.4		
Finland		36	31	17	8	16	4	4.2	10.2		
France		35	28	17	9	19	5	9.2	29.5		
Germany		41	32			27		5.7	17.1		
Ireland		24	22	18	14	36	13	2.1	5.1		
Israel		26	28	18	10	28	12	8.8	27.6		
Italy		34	33	18	8	15	3	6.4	12.8		
Sweden		43	36	14	S	7	1	6.8	13.6		
United	Kingdom	38	34	16	7	12	2	2.2	6.6		
United	States	33	29	18	10	20	5	•	1.		

a) As a percentage of all families with children. Data refers to the years 1968, 1969, 1970, 1971, or 1972, depending on the country.

Source: Messere and Owens (1979) and OECD (1978).

- 18 -

argument with respect to the elderly poor. There thus emerges a conflict between the social and political considerations often cited in favor of a universal approach and efficiency. These initial terms of the debate gradually shifted.

3.1 Phase 1: Refundable credits as part of the tax structure.

Refundable credits (RCs) may be viewed as part of the tax structure, not only of the transfer structure. They contribute to goals of the tax structure, such as providing horizontal equity with respect to family size, introducing average rate progressivity in relation to income. assuring that the poor are not net tax payers, and sharing the cost of raising children among all families. In this view, those transfers that go to the non-poor cannot be viewed as wasted and the comparison of the share of transfers going to the poor between selective and universal programs is an unfair one. Moreover, the comparison between equivalent cost selective and RC schemes clearly makes no sense as they involve a different set of budget constraints. This is particularly true where there is a direct link, in that when devoting tax structure resources to family reductions the RC level is explicitly taken into account. Thus an NIT-based system will employ some mechanism to reduce tax rates according to family size: these may be exemptions (subtracted from income subject to tax) or non-refundable credits (subtracted from the tax). In the RC scheme the credits themselves can provide the family-related reductions. If the share to the poor is no longer an adequate criterion and a comparison of equal cost RC and NIT schemes makes no sense, then how should they be compared?

-19-

One possible basis for comparing the two systems is the total cost of the NIT and family reductions in the selective system. The level of credits will be set so as to equal this same cost. For given marginal tax rates this is equivalent to a given net revenue constraint in the tax-transfer structure. Using this comparison, the income guarantee under the RC scheme could in theory exceed that of the NIT, depending on the total amount devoted to horizontal equity in the selective system. In practice it will generally be less. An alternative basis of comparison would be to set the level of credits so as to equalize the minimum income guarantees in the two systems, meanwhile maintaining net revenue by raising tax rates.

Two arguments were posed against a credit-based strategy. One was that a link necessarily arises between one's choice of a transfer mechanism and the degree of progressivity in average tax rates. Under the NIT one could vary the degree of progressivity by changing the mix of exemptions and credits. In a refundable credit scheme, average tax rates would perforce be more progressive. The second critique was that marginal tax rates, and therefore disincentives, would be greater under the credit scheme as individuals would be in higher tax brackets. When the strategies are compared for equal income guarantees the marginal rates themselves would be higher.

3.2 Phase 2: Allowing for variation in the marginal tax structure

The second phase of the debate responded to these critiques by arguing that there was a simultaneous need to consider the possibility of

-20-

varying the marginal rate structure. By reducing marginal rate progressivity one can adjust the progressivity of average rates to desired levels under the credit scheme. By reducing marginal rate progressivity one also can perhaps reduce the overall level of disincentives if a greater weight is attached to marginal rates at higher income or if the response curve to marginal rates rises nonlinearly in response to their level (Bruno and Habib, 1976).

The comparison of the NIT and RC schemes now rests on the evaluation of two alternative marginal rate patterns.

i) An NIT with tax exemption (selective): high marginal rate at bottom and top with steeply rising marginal rates in the tax system.

ii) An RC (universal): lowest marginal rate at the bottom, with a moderate rise; the higher the credits, the less progressive the marginal rate pattern.

Figure 1 illustrates this kind of calculus with some empirical results from an Israeli study. Three levels of credits are compared for a range of possible marginal rate structures and all options in the figure are consistent with equal net revenue. The set of discrete marginal rates is defined in terms of Θ , a level parameter, and α , a progressivity parameter. We were able to find a Θ and an α that closely replicated the actual Israeli marginal tax structure.

The use of a parametricized form facilitates the systematic evaluation of alternative structures. Aside from the issue of immediate interest, we feel that this represents a useful approach to microsimulation of policy options. Each curve in quadrant III is an iso-revenue line with varying marginal rate progressivity. These curves are translated into the relationship between inequality and disincentives described in quadrant I. Inequality is measured in terms of the Atkinson index and disincentives by a weighted average of marginal rates. Implicit in the nature of the quadrant I curves is the finding that for the given weighting scheme, disincentives on average decline as the progressivity of marginal rates is reduced and one moves down the curve. The figure illustrates the possibilities for varying both the disincentive levels and progressivity associated with a credit scheme. As one moves to higher credit levels, reflected by the shift from curves 1 to 3, one can still equalize disincentives or inequality by varying the marginal rate structure that is reflected in movements along the curves.

One can also speak of the efficiency frontier of credit programs. If the marginal rate pattern is not restricted, the efficiency frontier will be curve 3. With a restriction that marginal rates not be regressive (i.e. falling as income rises), the efficiency frontier will be composed of segments of all three curves. These findings suggest that systems with progressive deductions and proportional or regressive marginal tax rates are preferable to the rising marginal rate pattern under the selective scheme.

Kesselman and Garfinkle (1978) and subsequently Sadka <u>et al</u>. (1982) also expressed the issue of the relative desirability of selective and universal approaches in terms of evaluating alternative marginal rate patterns. Sadka's analysis uses an optimal tax framework in the tradition of Mirrlees (1971). In seeming contrast to our

- 22 -

Figure 1.

Labor Disincentives and Inequality for a Universal Scheme for Three Credit Levels and Alternative Marginal Rate Structures



Definitions:

Disincentives - index of weighted average of marginal rates; Inequality index of Atkinson index with e = 2; Curves 1,2,5 are distinguished by the level of the credit rising from program 1 to 3; Marginal tax rates defined by tj = $\Im \alpha^{j+1}$ (j = 1,2,5, ...), where t is the marginal rate of tax bracket, j and \Im and α are parameters (Θ determining the level and α the structure of marginal rates).

Source: Habib (1979)

conclusions, they find that the selective approach leads to higher welfare even though the aggregate magnitude of the differences is estimated to be small. On closer examination, their findings tend to support rather then contradict those presented here. Their analysis posits only two tax rates so that the selective approach has a high-low pattern while the universal has a constant pattern. In the more realistic portrayal that we provide, the selective system provides for a rising marginal rate pattern over the larger range of incomes and it is the universal approach that avoids the non-optimal rise. Indeed, Arrow (1982) notes in a comment on the Sadka <u>et al</u>. article that the most important result is that regrescive marginal rates may be optimal. This certainly supports the universal approach as we have defined it.

Having established the range of possibilities under a credit scheme, it may be compared with the possibilities consistent with selective schemes. Thus a selective system needs to be compared to this feasibile set of credit programs rather than to any arbitrarily chosen point.

Table 7 gives an example where we have chosen systems with equal disincentives, net revenue and guarantees. The credit scheme in column 2 was constructed by raising marginal rates and reducing their progressivity to create equal disincentive levels. The marginal rate structures are very different in the two cases with a proportional rate in the credit system and a sharply rising marginal rate in the selective mechanism. From a comparison of columns 1 and 2, we see that the credit system has less inequality and poverty. These findings are, of course,

- 24 -

	Selective	Universal	Mixed
Minimum guarantee (IL)	64	64	64
Penalty rate in selective system	0.5		
œ	1 105		0.5
Marginal tax rate	1.105	1.000	1.041
Minimum	0.22	0.44	0.29
Maximum	0.89	0.44	0.51
Atkinson's inequality measure ($\varepsilon = 2$)	0.255	0.236	0.236
Welfare beneficiaries (percent of families)	20		11
Poverty gap ^{a)}			11
Linear	66	46	36
Non-linear	48	32	23

Table 7: The Effect of Alternative Tax-Transfer Structures on Selected Measures, with Disincentives and Net Revenue Held Constant

a) Index, pre-transfer gap = 100.

Definitions:

Selective - a negative income tax with exemptions in tax structure. Universal - a refundable credit that is basis of both income maintenance and provisions for family size in the tax structure. Mixed - an NIT with refundable credits in the tax structure.

Source: Habib (1979)

specific to the outcome measures used and the nature of the underlying distributions. What we want to emphasize is the generalizable way in which the question can be posed. Three methodological points have emerged:

i) The relative efficiency of selective and universal mechanisms is an empirical issue rather than a foregone conclusion.

ii) The share of transfers to the poor becomes irrelevant as a measure of efficiency; rather, a comparison needs to be made between real costs and redistributional goals.

iii) The question of the best transfer strategy needs to be resolved in context of the overall tax-transfer structure, i.e. in a broader context from the point of view of the budget constraint and the goals to be considered.

3.3. Phase 3: Advantages of a mixed selective and universal approach

Although policymakers in Israel committed themselves to expanding child allowances, they rejected a full system of refundable credits. The policy decided upon was what has become known as the "mixed approach", which combines selective and universal elements. This approach grew out of two additional concerns with the universal approach.

As we have seen, there are limits in a credit structure on the extent to which average rate progressivity and disincentives may be adjusted through marginal rate variation. These limits are associated with the constraint on non-declining marginal rates. While this constraint may be challenged at the theoretical level (Arrow, 1982), it is generally respected in practice. The consequence is that the credit level required to guarantee a full minimum income may be such that

- 26 -

progressivity, or the level of average marginal rates, cannot be restored to the desired levels. Another problem is that the levels of support to the working poor would be quite high and bring them well above the poverty line. While this is a problem in a NIT as well, it is exacerbated by the low tax rate in the universal proposal.

The next and critical step was to develop the notion of a mixed approach combining a selective and universal component. Figure 2 describes the mixed system. The diagram relates post- to pre-tax/transfer income. Line AD represents a negative income tax system with a basic benefit at the level indicated by point A. Point D is the break-even. Line GH represents a system of universal child allowances. Line EF defines a tax system with some level of exemptions or non-refundable credits at level E.

The mixed system will then be composed of the points ABCM. Under this system an individual would be eligible for a net transfer up to point C. In segment AB it is received partly in the form of child allowance and partly as a selective benefit. In segment BC the individual receives only child allowances. Beyond ppint C there is a positive net tax. The diagram shows how the inclusion of a child allowance shifts the break-even point of the selective benefit from point D to point B. Line A-A' represents a universal system with a single proportional tax rate and a minimum guarantee equivalent to the mixed system. It is easy to see how transfers under such an option would be higher over a considerable range.

The notion of a mixed-system transformed the view of the selective and universal mechanisms from one of substitutes to one of complements. The essential idea is a division of

- 27 -





P: >-transfer income

-28-

labor in which the universal component provides a minimum income to the working poor, independent of family size, while the selective provides for those not fully employed. One advantage of this approach is that the universal transfer need not be nearly as high and thus may be more consistent with the range of desired levels from the point of view of the tax structure and avoiding excessive payments to the working poor (G<A). Indeed, one only needs the credits for families with children as those without will find that prevailing wage levels are adequate to guarantee them a poverty line income when fully employed. From calculations made by Hauser (1980, p. 119), it appears this would be the case in Germany for workers with the minimum established in the collective tariff agreements in the shoe industry, import and export trade, and wood and plastics processing. However, the earnings of a one or two-child family would be well below the social assistance line. The EEC Commission report (1981) argues that the problem of low pay was believed to be a source of poverty in most of the member countries.

The essential notion within the mixed system is that child allowances are taxed at a 100% rate within the selective component. Thus, vis a vis the selective strategy, the number of eligibles will be much lower. This has distinct advantages in that there is often opposition to a selective scheme that includes large portions of the working population. One further advantage is that the working poor need not apply to a means-tested and stigmatizing program.

Table 7, column 3 contrasts a mixed system with the selective and universal systems already referred to, again with disincentives and

- 29 -

net revenue held constant. The mixed system appears to perform best in terms of redistributive goals. One should note that the spread of marginal rates consistent with given disincentives is between that in the selective and universal schemes (columns 2 and 3).

Aside from the work described here, there has been little attention in the analytic or policy literature to this mixed approach. Yet it would seem that this is the model that is emerging in most European countries. Some sort of selective program exists, even if it is often subject to local variance. At the same time child allowances have been expanding. Yet the variation in the level of CAs is enormous, as was seen in Table 6, and the framework presented here attempts to relate these developments to the role that child allowances are expected to fulfill in both the tax and the transfer structure.

In setting the desired level, a basic question arises concerning what it means to guarantee a minimum income to the working poor. A reference wage level and a reference employment level must be determined. Is the universal component meant to guarantee the poverty standard to those fully employed, or also to those partially employed? Is full employment to be defined on the basis of a single earner working a regular work week, or something beyond that? The reference wage can be established either formally or statistically: where a legal minimum wage exists, it may be taken as the base. Alternatively, a wage level that characterizes a significant percentage of workers at the lower end of the scale may be the source. The choice of the percentage of workers then becomes a basis for choosing the reference wage.

- 30 -

Decisions regarding both the reference employment level and the reference wage level are critical in determining the level of child allowances required to supplement earnings and guarantee a poverty line income. Likewise they are the basis for evaluating the adequacy of any given level of child allowances. In Israel the decision was made to link the level of child allowances to the earnings of a worker employed in a regular full-time job at the official minimum wage. There does not seem to have been much other discussion of standards for judging the adequacy of child allowances. It would not appear that child allowances are adequate in most countries. The data published in the EEC Commission report that allow for the child allowances and other transfers in existence at the time of the survey, suggest that even at a low 40% poverty line, the economically active constitute at least a third of the poorest population (including Germany) and almost a half in the U.K. and the Netherlands. Correspondingly, poor families with three or more children represent between 11-21% of the poor (the Netherlands and Germany, respectively) and have above-average incidence as well.

For the most part, data is not available on the pre-transfer poor. It is not therefore possible to examine the extent to which the working poor are provided for more by selective or by universal transfers. Because the relative levels of child allowances and selective benefits vary across countries, so too does their relative role in dealing with those fully or partly-employed workers at the lower end of the wage scale.

- 31 -

4. Job Versus Cash Approaches to Income Maintenance

Programs designed to provide public employment or subsidize jobs in the private sector have become quite common and have grown rapidly in recent years. The United States has seen a great deal of interest in targeting these programs on the poor and in having them serve as an alternative to transfers that are not linked to employment. This has given rise to a considerable literature that compares job-conditioned programs to an NIT-type program. One form of job-conditioned program is the wage or earnings subsidy, on which we shall focus for illustrative purposes.

The wage subsidy targets on the basis of wage rates or potential earnings rather then actual earnings. In a wage subsidy the benefits rise with increases in income that are generated by increases in employment, reversing the NIT principle. Proponents of this system argue that it is for this reason more equitable and provides greater employment incentives.

We shall focus on a comparison between a wage or earnings subsidy and an NIT. Opinions about the relative effectiveness of these programs have been mixed. Masters and Garfinkel (1977) suggest that the NIT has a large efficiency advantage in terms of the share of transfers to the poor. Haveman (1973) and Bishop and Lerman (1977) suggest that the opposite may be true.

Table 8 gathers a range of estimates available in the literature to compare the effects of a wage subsidy, earnings subsidy and an NIT. The wage subsidy is defined as a target wage rate (W_t) , subsidy rate (r), the minimum wage level required for eligibility (which may be zero), and the definition of family types and members eligible for the program. It may also allow for variation in the benefits with family size or reduce benefits if the recipient unit has unearned income. The formula for the

- 32 -

subsidy in its simplest form is $S = r(W_t - W)$, if S>O, where S is the subsidy per hour and W the wage level. Benefits decline as the wage rate increases and rise with increases in labor supply. The results for a number of specifications are presented in the table. All have the same subsidy rate (r) of .5. The specifications vary in the target wage, in the types of families that are eligible, and in the provision for family size.

Under an earnings subsidy, benefits rise with earnings at a rate (r) up to an earnings level (E) referred to as the pivot point. After the pivot point the subsidy is reduced at a rate (t) in a fashion that parallels a NIT, so that additional earnings in this range are taxed. There may be a minimum earnings level required for eligibility and unearned or family income may be subject to a means test. The subsidy can be confined to certain family members or types and variation introduced with family size. Two alternative specifications in the table differ on both the initial subsidy rate (r) and the pivot point (E).

Rows 4 and 5 present measures of target efficiency. The measure in row 4 is close to the standard reduction in the poverty gap per dollar of expenditure. However, only the share going to the poor is available for many of the options. This particular measure has the disadvantage of not reflecting labor supply or wage rate changes that may result from the programs. For our methodological purposes we need not pay a great deal of attention to the biases inherent in these estimates.

The NIT dominates all but one wage subsidy specification in Table 8. Of greater note is the tremendous variation among the

- 33 -

	Wage Subsidy (subsidy rate is .5) ^b									Earnings	NIT	
	A11 Fa	amily M ligible	lembers	Only Family Head Eligible						Subsidy		
	<u>Guarantee Constant</u> Guarantee Varies with Target Wage Target Wage Family Size						Subsidy Rate	Poverty Line Guarantce; Tax Rate = .5				
Effects	\$3.30	\$2.50	\$1.60	\$3,30	\$2.50	\$2.00	\$1.60	\$3.30	.5	c 1.0	С	
ΔLS/LS (%) ^d												
Recipients	5.8			2.1	<mark>.</mark> .	•••		1.2	-7.	0 -6.9	-12.0	
Total	3.5	• • •	· · ·	0.7	•••			0.3	-1.	3 -1.3	-2.5	
Λ earnings/earnings (%)												
Total	1.2			0.3				0.1	-0.	8 -0.8	-1.2	
% reduction in poverty gap per billion dollars	1.08			1:97				2.93	4.	16 4.2	1 7.04	
Benefits going to poor (%)	11.2	14.2	23,1	18.0	27.8	39.5	52.6	26.3	24.	9 35.6	50.4	

Table 8: Simulations of Wage and Earnings Subsidies and a NIT^a

Sources: Based primarily on Master and Garfinkel (1977). Additional specifications are from Barth (1972). Some of Barth's results are found in Haveman (1973).

^{a)}Simulations based on Survey of Economic Opportunity (1967). All wage levels are in 1967 dollars. Specifications with labor supply effects are from Masters and Garfinkel. All others are from Barth.

b) Simulations by Rea (1974) of wage subsidies yield a reduction in labor supply for some specifications but are not included in the table as comparable target efficiency measures are not available.

c). The pivot point equals the poverty line and 2/3 the poverty line for subsidy rates of .5 and 1.0 respectively. d) percentage change in hours worked for recipients and for the entire labor force.

Source: Habib and Factor (1982)

wage-subsidy alternatives associated with variation in the wage rate and the targeting by family member and size. Whether one looks at row 4 or on row 5, it is clear that the level of the target wage within the wage subsidy programs affects any comparison to the NIT. Thus the efficiency differences are large or small, depending on which wage subsidy program is comparable to the NIT. The answer to this depends on the principle by which alternatives are ruled comparable.

Comparing the programs on the basis of equal budgetary costs would lead to a bias against the wage subsidy. The reason is that we are comparing an NIT which spreads a given sum between two groups of poor, the non-working poor and the working poor, to a program that focuses the same sum on the working poor alone. An NIT that offers a full povertyline guarantee to someone who does not work would provide more than a poverty-line guarantee to the working poor. However, a wage subsidy of equal cost focused just on the working poor would clearly be providing still higher guarantees. This would contribute significantly to reducing the share of transfers to the poor in a wage subsidy.

The programs presented in Table 8 that have target wage levels between 2.50 and 3.30 have cost levels equal to or greater than that of the NIT. Their target efficiency is between 20-50% of that of the NIT. The best results are achieved when the subsidy amount is allowed to vary with family size. Target rates of around 2.00 would provide a guarantee to a fully-employed worker at the minimum wage that parallels the NIT guarantee. The share of the poor when family heads are eligible is 40%, but could easily exceed that of the NIT if there were variations with family size. This type of program has not been simulated.

- 35 -

A second basis of comparison would be to try to equalize the guarantee levels across the programs. One approach might be to equate the guarantee to the working poor in the wage subsidy program to that provided the non-working poor by the NIT. In defining what is an equivalent guarantee, one would still have to define the wage level and degree of employment that is taken as a reference point. This parallels the issues that arose in defining the level of child allowances required to guarantee a poverty-line income to the working poor. The lower the reference wage, the higher the required subsidy and the greater the leaks to the non-poor.

Beyond the practical question of defining the reference wage, there remains a conceptual problem. The guarantees are not really equal in any case, in that the NIT will provide a higher guarantee to the working poor. Comparisons made on this basis will tend to favor the wage subsidy. Aside from the influence of the target wage level, family size provisions and the differences in a wage-based as opposed to an income-based mechanism, relative efficiency is affected by the differences in the populations covered. Given that the NIT serves two population groups, it is not possible to equalize the guarantee to both groups with that provided by a wage subsidy.

In these circumstances neither of the comparisons seems appropriate. Rather, the differences in the populations served reflect differences in program goals and one must distinguish the comparison of different means from that of different goals. If the NIT as formulated serves more than one goal, it cannot be compared to a program that serves only one. This is a basic point that arose in the treatment of

- 36 -

the earlier issues as well. Thus the only solution is to once again expand the context in which these programs are compared. The appropriate comparison will be related to the nature of one's goals in the following ways:

i) If the goal is to support only those who work, then the appropriate comparison would be between a wage subsidy and a work-conditioned NIT along the lines of the FIS program in England.

ii) If the goal is to support all those without income, then the wage subsidy alone is not a complete program and the relevant comparison is between a wage subsidy-NIT combination with a strategy based solely on an NIT. Various ways of integrating the wage subsidy and the NIT would have to be considered.

iii) If the goal is to confine support to those willing to work, then one would need to compare a work-tested NIT to a combined program of wage subsidy and work-tested NIT, or to a wage subsidy and guaranteed public job combination.

While there may be pieces of these comparisons available in the literature, they do not for the most part seem to have been empirically explored. Indeed, not only have these goal-specific comparisons been made, but as noted, even the traditional comparison of the wage subsidy and NIT have considered only a limited range of the specifications of interest. Moreover, just as we discussed the possibilities of combining a universal program with an NIT, one could argue for the advantages of combining a work-conditioned program and some form of universal allowance. Table 9 lays out some of the range of available options.

- 37 -

I. Able-Bodied Non-Employed Not Eligible for Support

Pure Job

- Only public jobs which guarantee employment but may not provide poverty-line wage level. Measures to reduce shifts out of regular employment diminish continuity of guarantees.
- Public job and subsidy, Subsidy increases incentive for regular employment and supplements incomes of working poor. Makes possible a higher wage or more continuous employment in the job program. Because of public job, subsidy could focus on those fully employed.

II. Able-Bodied Non-Employed Eligible for Support (Cash Component Required)

Only Cash Transfersd

Three variants:

- 1. NfT that provides for working and nonworking poor.
- Universal allowance/credits that provide for working and non-working poor-high allowances required.
- 3. Mixed universal allowance /NIT. NIT provides for non-working poor and allowances supplement earnings of the working poor. Low allowances are sufficient and provide for family size variation in benefits in NIT. In universal or mixed, allowances could replace tax exemptions and progressivity of marginal income tax rates is reduced.

Public Job, Subsidy and Work-Conditioned Cash Transfer¹¹

Public job guarantees employment. Cash transfer may be universal or income-tested. Designed to introduce family size variation and/or raise eumrantees.

Because of cash transfer supplement, subsidy may have low target wage and still guarantee poverty line.

Pure Cashb

The work test denies support to those unwilling to work and avoids recourse to a guaranteed job Key consideration is the extent to which the willingness to accept available jobs can be accurately determined. Offer of a public job puts this willingness to a more direct test.

NIT and Job Program

Two major variants:

- NIT has limited role of providing for those not employed. Job component will provide for working poor. Guaranteed job may be included to assure opportunities and increase incentives.
- 2. NIT provides for those not employed and for working poor. Case for guaranteed jobs as above and case for subsidy based on desire to limit further disincentive effects of a NIT or to create incentive for regular as opposed to subsidized public employment.

Universal Cash and Job

Universal cash transfer designed to provide fully for working poor or alternatively to supplement support provided by job programs by introducing family size variation and reducing required subsidy parameters. Universal transfer could also provide for non-working poor with children if desired guarantees to these groups are modest. Otherwise a combined universal/NIT cash component is desirable. The NIT would be confined to non-working poor.

w

00

^aVariant with selective transfer, proposed by Haveman (1973); with universal by Carfinkel (1977).

^bFor a critical review of work-tests, see Freidman and Hausman (1977).

CBishop and Lerman (1977).

d See Kesselman and Carfinkel (1978) for a comparison of NIT and universal schemes. Mixed scheme is emerging in Europe and has become official policy in Israel. The three options are compared in Habib (1979).

e For combined job and NIT, see Kesselman (1973), Betson and Greenberg (1980), and Carter's Program for Better Jobs and Income; with added subsidy see Lerman (1974).

Source: Habib and Factor (1982).

5. Real Versus Budgetary Efficiency

One further issue has been in the background throughout this discussion: What is the relationship between budgetary and real or economic efficiency in evaluating alternative strategies?

In our analysis of strategies for both the aged and non-aged poor, the budget efficiency of transfers was found to be inadequate as a basis for comparing alternatives. However, there are still circumstances in which it may be relevant.

In the job versus cash example, the focus of our discussion was on budgetary efficiency. It is, however, the simplest case in which to consider real perspectives and how they relate to the budgetary. In contrast to the earlier issues, we did not argue with respect to the job-cash comparison that the target efficiency ratio is not relevant. Rather, we suggested a framework in which its calculation would be more meaningful. This gives rise to the question as to why the focus should in any case be on budgetary as opposed to real or economic efficiency.

In the evaluation of manpower training programs and other forms of human capital investment, the distinction is a common one and is sharply drawn. The question remains of how they should be integrated into a decision making framework. We tend to chastise policymakers for paying attention to budgetary rather than real considerations.

Consider the kind of conclusions such a focus could suggest. Labor-supply effects are the most commonly measured real cost. Wage subsidies are most often found to have positive effects on labor supply, while an NIT has negative effects. As a result, it becomes almost an

- 39 -

a priori given that wage subsidies will be preferred on real grounds.

This line of reasoning ignores the real effects of the taxes required to finance the program. This can be appropriately ignored only when the budget efficiency is equal, thus making the real cost implications the same when programs are compared for an equal degree of poverty reduction. At the same time, if the budgetary ratios diverge and are, for example, lower for a subsidy, its seeming real advantage may not materialize. This same argument would apply to training programs.

Budgetary ratios also become important if the budget is constrained by considerations that go beyond an evaluation of the costs and benefits of each given area of expenditure. In this context, a program that is less efficient in real terms could still be preferred if more efficient in budgetary terms. It will make possible a higher level of production for a good that would alternatively be-underproduced. Indeed, given constraints on the optimality of the level and allocation of public expenditures, one can make a case for preferring a program that is less efficient in both real and budgetary terms if it has a budget constraint that makes feasible a more optimal level of expenditures. A broadened view of economic efficiency would net the efficiency gains from a more optimal allocation of resources with the greater real disincentives imposed on those who finance and those who receive the benefits.

These comments on the possible importance of budgetary efficiency in the face of differential budget constraints have a

- 40 -

¹ Other measures of real effects include the excess burden or real wage increases emanating from investment in human capital.

relevance beyond the issue of job versus cash programs. For example, in the Section 3 comparison between universal child allowances and the NIT, it was assumed that the only budgetary constraint was that of total net revenue. If this is not the case, then it is not sufficient to draw policy conclusions from only a comparison of the real costs of achieving given redistributive goals. Thus, if there is a constraint on the total value of credits, it may not be possible to achieve the desired level of poverty reduction. Alternatively, the budget that selective transfers can command may be below levels consistent with the desired degree of poverty reduction. This has indeed been one of the traditional claims made by supporters of the universal approach.

6. Conclusions

We may now summarize the methodological points emerging from our evaluation of these three strategic issues in income maintenance design.

i) In the evaluation of universal transfers for the aged or non-aged poor, the fact that they may replace other benefits serving non-poverty related goals must be considered.

ii) In each example, choosing among income maintenance alternatives required a broader view of the relevant resource constraint: For the elderly - the overall pension level, for families with children - the revenue constraint in the combined tax-transfer structure, and for job-conditioned programs - the overall cost of support to the working and non-working poor.

iii) In each example, choosing among income maintenance alternatives required a broader view of goals. For the elderly we

- 41 -

emphasized the costs in terms of the replacement rate adequacy of a given reduction in poverty, as well as the tradeoff between marginal tax rates on the poor and replacement rate adequacy at the top; for CAs, the progressivity and disincentive levels inherent in the overall tax structure; and for job-conditioned programs, the guarantees to both the non-working and the working poor.

iv) In each example the traditional use of the target efficiency measure in comparing income maintenance strategies was misleading. Yet, both real and budgetary efficiency ratios may be relevant in comparing programs.

v) As these efficiency ratios are a function of program specification and size, a range of estimates for each strategy are required rather then a single specification. Ideally, strategies should be compared on the basis of the efficiency frontiers.

vi) The best manner of comparing programs depends in part on the nature of the budget constraints. If they are equivalent across programs, one can best compare programs for equal poverty reduction and then consider the real costs implicit in the differences in program impacts and in the budgetary burden on taxpayers.

vii) When budget constraints differ, one needs to compare programs with different degrees of poverty reduction. The difference in poverty reduction may have to be traded off against other program advantages.

viii) Neither budgetary nor real efficiency ratios constitute a sufficient basis for comparing programs when budgetary constraints differ across programs.

- 42 -

BIBLIOGRAPHY

K. Arrow. "Income Testing and Social Welfare: Discussion". In Income-Tested Transfer Programs: The Case For and Against, Irwin Garfinkel (ed.). (New York) Academic Press, 1982.

M. Barth. "Universal Wage-Rate Subsidy Benefits and Effects". In <u>The Economics of Federal Subsidy Programs</u>, Part 4. Joint Economic Committee, 92nd Congress, 2nd session. (Washington, D.C.) Government Printing Office, 1972.

D. Berry, I. Garfinkel and R. Munts. "Income Testing in Income Support Programs for the Aged." In <u>Income-Tested Transfer Programs: The Case</u> For and Against, Irwin Garfinkel (ed.). (New York) Academic Press, 1982.

D. Betson and D. Greenberg, "A Simulation Study on the Interaction Between Transfer Policy and Employment Programs," Paper presented to the Middlebury College Conference on Welfare Reform, 1980, Mimeo,

J. Bishop and R. Lerman. "Wage Subsidies for Income Maintenance and Job Creation." In Job Creation: What Works?, R. Taggert (ed.). (Washington, D.C.) National Council on Employment Policy, 1977.

M. Bruno and J. Habib. "Taxes, Family Grants and Redistribution." Journal of Public Economics, January-February 1976, 5, 57-79.

European Economic Community. "Final Report of the Commission of the European Communities: The First Programme of Pilot Schemes and Studies to Combat Poverty." (Brussels) 1981.

M. Feldstein. "Toward a Reform of Social Security." Discussion Paper No. 416, Harvard Institute of Economic Research. (Cambridge, Mass.) Harvard University, 1975. B. Friedman and L. Hausman. "Work, Welfare and the Program for Better Jobs and Income." Joint Economic Committee, 95th Congress, 1st session. (Washington, D.C.) Government Printing Office, 1977.

I. Garfinkel (ed.). Income-Tested Transfer Programs; The Case For and Against. Institute for Research on Poverty Monograph Series, New York, Academic Press, 1982.

J. Habib. An Integrated Approach to Taxes and Transfers, (Jerusalem, Maurice Falk Institute for Economic Research, 1979.)

J. Habib and H. Factor. "Job and Cash Approaches to Income Maintenance." In <u>Public Finance and Public Employment</u>, Robert Haveman (ed.), (Detroit) Wayne State University Press, 1982.

J. Habib and H. Factor. "A National Pension Law or A National Pension Policy: The Choice." <u>The Economic Quarterly</u>, 27 (1980), 104:83-87 (in Hebrew).

J. Habib and R. Lerman, "Options in Income Support for the Aged." Journal of Public Economics, 1979, 11:159-177,

J. Habib and R. Lerman. <u>Alternative Benefit Formulas in Income Support</u> <u>Programs for the Aged</u>. Discussion Paper no, 9-76. (Jerusalem) Brookdale Institute of Gerontology and Adult Human Development, 1976

R. Hauser, H. Cremer-Schafer and U. Nouvertne. <u>National Report on Poverty</u> in the Federal Republic of Germany. Poverty Research Group, University of Frankfurt, 1980,

R. Haveman. "Work-Conditioned Subsidies as an Income Maintenance Strategy: Issues of Program Structure and Integration." In <u>Studies in</u> <u>Public Welfare</u> (Paper no. 9, Part 1). Joint Economic Committee, 93rd Congress, 1st session. (Washington, D.C.) Government Printing Office, 1973. J. Kesselman. "A Comprehensive Approach to Income Maintenance: SWIFT." Journal of Public Economics, 1973, 1, 59-88.

J. Kesselman and I. Garfinkel, "Professor Friedman Meet Lady Rhys-Williams: NIT vs. CIT." Journal of Public Economics, 1978, 10:179-216.

H.J. Krupp <u>et al.</u> <u>Alternativen der Rentenreform '84</u>. (Frankfurt/Main) Campus Verlag, 1981.

R. Lerman. "JOIN: A Jobs and Income Program for American Families."
In <u>Studies in Public Welfare</u> (Paper no. 19), Joint Economic Committee,
93rd Congress, 2nd session. (Washington, D.C.) Government Printing
Office, 1974.

S. Masters and I. Garfinkel. Estimating the Labor Supply Effects of Income Maintenance Alternatives. Institute for Research on Poverty Monograph Series. New York Academic Press, 1977.

K. Messere and J. Owens. "The Treatment of Dependent Children Under Income Tax and Social Welfare Systems." <u>International Social</u> Security Review, 1979, 1:50-59.

J.A. Mirrlees. "An Exploration in the Theory of Optimum Income Taxation." Review of Economic Studies, 1971, 38:175-208.

A. Munnell. <u>The Future of Social Security</u>. (Washington, D.C.) Brookings Institution, 1977.

G. Orcutt, S. Caldwellaand R. Wertheimer. <u>Policy Exploration Through</u> Microanalytic Simulation. (Washington, D.C.) Urban Institute, 1976.

Organization for Economic Cooperation and Development (OECD), The Tax/Benefit Position of Selected Income Programs in OECD Member Countries, 1972-1976. A Report by the Committee of Fiscal Affairs. (Paris) 1978. Organization for Economic Cooperation and Development (OECD). Old Age Pension Schemes. (Paris) 1977.

S. Rea. "Trade-Offs Between Alternative Income Maintenance Programs." In <u>How Income Supplements Can Affect Work Behavior</u>, (Studies in Public Welfare Series, Paper no. 13). Joint Economic Committee, 93rd Congress, 2nd session. (Washington, D.C.) Government Printing Office, 1974.

E. Sadka <u>et al</u>. "Income Testing and Social Welfare." In <u>Income-</u> <u>Tested Transfer Programs: The Case For and Against</u>, I, Garfinkel (ed.), (New York) Academic Press, 1982.

J. Storey. "The New Supplemental Security Income - Implications for Other Benefit Programs." <u>Policy Sciences</u>, 1975, 6:359-374.

ז בינלאומי פורום בינלאומי פ מי פורום בינלאומי פורום ביו



השוואת איסטרטגיות חליפיות להבטחת הכנסה

ג'ק חביב



84-3-29

ג'וינט ישראל מכון ברוקדייל קגרונטולוגיה והתפתחות אדם וחברה בישראל

גבעת-ג'וינט, ת.ד. 13087, ירושלים 10



המכון

הוא מכון ארצי למחקר, לניסוי ולחינוך בגרונטולוגיה והתפתחות אדם וחברה. הוא נוסד ב-1974 ופועל במסגרת הג'וינט האמריקאי (ועד הסיוע המאוחד של יהודי אמריקה), בעזרתן של קרן ברוקדייל בניו-יורק וממשלת ישראל.

בפעולתו מנסה המכון לזהות בעיות חברתיות ולהציב להן פתרונות חילופיים בשירותי הבריאות והשירותים הסוציאליים בכללם. אחד מיעדיו הוא להגביר שיתוף הפעולה של מומחים מהאקדמיות והממשלה, עובדי ציבור ופעילים בקהילה כדי לגשר בין מחקר לבין מימוש מסקנות מחקר הלכה למעשה.

סידרה בינלאומית

המאמרים מציגים מימצאי מחקר והשקפות מקצועיות של מלומדים אורחים מחו''ל, של אנשי אקדמיה בארץ ושל חברי סגל המכון. המאמרים בסידרה מציגים דיונים החורגים מעבר להקשר האמפירי הישראלי, או עוסקים בסוגיות מושגיות ומתודולו-גיות בעלות ענין בינלאומי כללי. בכך משמשת הסידרה במה שבה נבחנים בפרספק-טיבה בינלאומית ההלכה והמעשה של נושאי ההזדקנות.

הממצאים והמסקנות המוצגים הם של המחבר או המחברים וללא כוונה ליצג את אלה של המכון או של פרטים וגופים אחרים הקשורים למכון. השוואת איסטרטגיות חליפיות להבטחת הכנסה

ג'ק חביב

מנהל מכון ברוקדייל לגרונסולוגיה והתפתחות אדם וחברה בישראל

ירושלים, דצמבר 1984

84-3-92

תקציר

שיפורים ניכרים חלו במדידת ההשפעות החלוקתיות וההתנהגותיות של תכניות להבטחת הכנסה ובפיתוח מודלים סימולטיביים המגדירים אותן כמותית. בעוד ששיפורים אלו קידמו את יכולתנו לעצב תכניות, הרי תפיסתנו את היתרונות היחסיים של השיטות השונות עדיין מוגבלת.

תשומת לב מועטה מדי הוקדשה להגדרת השוואות משמעותיות בין האיסטרטגיות השונות ולבדיקה אמפירית של התכניות האפשרויות. לכל איסטרטגיה יש קשת רחבה של ספציפיקציות, ועל כן השוואה בין האיסטרטגיות השונות תהיה מושפעת בהכרח מן הספציפיקציות אשר נבחרו כבסיס להשוואה. ניתוחים רבים של איסטרטגיות להבטחת הכנסה היו מטעים, עקב "השוואות שגויות".

בעבודה זו אנו מראים את הבעייתיות שבהגדרת השוואות משמעותיות. הדוגמאות שבחרנו לקוחות משלושה נושאים עיקריים העולים מן הספרות. כל השלושה עוסקים בהשוואה בין תכניות להבטחת הכנסה הכרוכות במבחן הכנסות מסוג מס הכנסה שלילי (NIT) לבין גישות חליפיות שאינן שמות דגש על הכנסה שוטפת.

הנושא הראשון שנבחר עוסק בברירה בין גישות הכרוכות במבחן הכנסות לבין גישות אוניברסליות להבסחת הכנסה לקשישים מעוטי יכולת. שני הנושאים האחרים עולים בדיון על תמיכות למעוסי יכולת בריאים בגיל העבודה: מחד, הברירה בין איסטרטגיות הקשורות בעבודה (כגון סובסידיות שכר, תעסוקה ציבורית מסובסדת) לבין מס הכנסה שלילי, ומאידך, הברירה בין קיצבאות ילדים אוניברסליות לבין מס הכנסה שלילי. לגבי כל אחד מנושאי מדיניות אלה, המאמר מזהה את הגורמים המקשים על הסקת מסקנות הנוגעות ליעילות היחסית של מזקרים, על מנת להראות שהמשוואה בין האיסטרטגיות השונות קשורה הדוקות בצורת ההשוואה ביניהן.

בושא אחר הקשור לעניין הוא קריטריון היעילות המתאים לצורך השוואת התכניות. נעשתה סקירה ביקורתית של הדגש המסורתי המושם על יעילות תקציבית של תמיכות, כלומר החלק של מעוטי היכולת בסך כל התמיכות. מטרת הניתוח היא לקרוא תגר על הטענה המקובלת בדבר עדיפותן של הגישות הסלקטיביות הכרוכות במבחן הכנסות, אפילו מבחינת יעילותן, תוך שימוש בחומר ממערכות הבטחת הכנסה ממספר ארצות. מודגמים היתרונות האפשריים של איסטריגיות מעורבות המצרפות מספר עקרונות יחד ליצירת שלמות אחת מתואמת.

תוכן הענינים

עמוד	
1	1. מבוא
4	 הגישות הכרוכות במבחן הכנסה לעומת הגישות האוניברסליות להבטחת הכנסה לקשישים מעוטי יכולת
14	3. תמיכות אוניברסליות כנגד תמיכות סלקטיביות למשפחות בריאות מעוטות יכולת בגיל העבודה
32	4. גישות להבטחת הכנסה המותנות בעבודה כנגד גישות שאינן מותנות
39	5. יעילות ריאלית כבגד יעילות תקציבית
41	6. סיכום ומסקנות
43	ביבליוגרפיה

רשימת לוחות

עמוד			
11	השפעות חלוקתיות של שיטות תמיכה אלטרנטיביות	:1	לוח
13	רמות תמיכה ושיעורי תחלופה לפי השכר לפני הפרישה, לגבי מערכות נבחרות של פנסיה	: 2	לוח
16	קיצבת ילדים שולית: 1976-1960	: 3	לוח
16	קיצבאות ילדים כאחוז של קו העוני והמינימום הסלקטיבי: 1969, 1973, 1975 ו-1976	:4	לוח
17	השכר החודשל ברוטו שבו נקבע המלנלמום הסלקטלבל והכנסת קו העונל: 1969, 1973 ו-1975	: 5	לוח
	התפלגות משפחות עם ילדים לפי גודל המשפחה וקיצבאות ילדים אוניברסליות, ביחס לשכר	:6	לוח
18	הממוצע, במדינות החברות ב-OECD ובישראל		
	השפעות מערכות אלטרנטיביות של מיסים-תמיכות על שיטת נבתרות, כאשר התמרימים השליליים	: 7	לוח
25	וההכבסה נטו נשארים קבועים		
34	סימולציות של תמיכות שכר והכנסה ומס הכנסה שלילי	:8	לוח
38	איסטרטגיות חליפיות של תמיכות המותנות ושאינן מותנות בעבודה	:9	לוח

תרשימים

	תמריצים שליליים לעבודה ואי-שיוויון בתכניות	:1	תרשים
	אוניברסליות עבור רמות שונות של תמיכה		
23	ומערכות חליפיות של שיעורים שליליים		
	איסטרטגיות מעורבות כנגד איסטרטגיות	: 2	תרשים
28	אוניברסליות		