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Employment Schemes in Ireland: An Evaluation

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I INTRODUCTION

The primary aim of this paper is to evaluate the effect which the following employment schemes (ES) had on the overall outflow rate and age-byduration outflow rates from unemployment in Ireland 1980(1)-1989(4): (a) Work Experience Programme (WEP); (b) Employment Incentive Scheme (EIS); (c) Enterprise Allowance Scheme (EAS); (d) Teamwork (TWK); (e) Social Employment Scheme (SES). Over the 1980s the proportion of longterm unemployment (LTU) in the total stock of unemployment has risen relentlessly for all age groups. The methodology used also allows us to test whether this change in the duration structure is an important factor in determining the overall outflow rate and age-by-duration outflow rates. The paper is broken up into six more sections. Section II describes the official aims of the ES, Section III looks at the role of the ES and hysteresis. Sections IV and V look at the methodology used to evaluate the effect which ES and the changing duration structure have on the overall outflow rate and ageby-duration outflow rates and gives the results of our estimation. Section VI

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gives an overall assessment of the schemes and makes some policy recommendations. Section VII summarises the main points of the paper.

II DESCRIPTION AND OFFICIAL AIMS OF THE EMPLOYMENT SCHEMES

Over the last decade Ireland has been confronted with tight monetary and fiscal constraints when dealing with unemployment. This led the government to turn to manpower policy as a means of alleviating unemployment. The primary objective of manpower policy, as stated in the White Paper (1986), was to deal with any structural changes in the Irish labour market by ensuring an adequate supply of skilled and highly qualified manpower for the needs of the economy. Its secondary objective was one of promoting more equal access to employment opportunities. Employment schemes were introduced to achieve this objective. In general, the ES promoted more equal access to employment opportunities by (a) re-integrating disadvantaged groups into the labour force and (b) creating jobs for the unemployed. The basic details of the schemes are given in Table 1, and participation levels are given in Figure 1(a) and 1(b). Job creation for the unemployed has an obvious economic function as well as a social function. The White Paper (1986) stated that the reintegration of disadvantaged groups (DG) apart from having a social function was in the long-term interest of society. Whether intended or not this reintegration may have a longer-term economic function. This is the topic of the next section.

III THE ROLE OF EMPLOYMENT SCHEMES AND HYSTERESIS

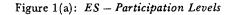
To understand the longer-term economic function of the ES it is worth looking at the human capital explanation of hysteresis. The human capital explanation of hysteresis can be stated as follows: after an adverse shock the inflow into unemployment increases. The longer people remain unemployed the more likely they are to experience a depreciation in skills and a reduction in job search intensity, resulting in an even longer duration of unemployment. This implies that the duration of the unemployment is state dependent. A competing theory would state that after the adverse shock the existing vacancies are filled from the best of the unemployed, leaving the lower skilled and unqualified behind. Here workers are thought to be heterogeneous and the worst people are supposed to have the longest unemployment spells. Both scenarios tell us that the longer people are unemployed the less search effective they are likely to be. One very important factor which reduces a LTU person's search effectiveness is the fact that employers use unemployment as a screening device and exhibit greater discrimination towards the LTU. This is true

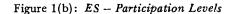
A. Name	B. Targeted Group	C. Description of Scheme	D. Aim of Scheme	E. Time Analysed	
WEP	Under 25 first time dis- advantaged job seekers.	Participants spend 26 weeks in employment gaining experience from on the job training.	Reintegration of this targeted group into the labour force.	1980(1)-1988(1)	
*EIS	unemployed for at leastfor 24 weeks to employers whoployed workers. Since13 weeks.recruit additional unemployeda special incentive of aworkers. The subsidy is doubleddouble subsidy was in		Job creation for unem- ployed workers. Since 1984 a special incentive of a double subsidy was intro- duced to create jobs for LTU.		
**EAS	Persons who have been unemployed for at least 13 weeks.	A weekly allowance is paid for a maximum of 1 year to aid the unemployed in setting up in self- employment.	Job creation in the form of self-employment for unemployed job seekers.	1984(1)-1989(4)	
TWK	Persons between the ages of 17-25 and un- employed for at least 6 months.	The scheme helps local com- munities provide temporary work for young persons.	Reintegration of this targeted group into the labour force.	1983(1)-1989(4)	
SES	Persons over 25 and unemployed for at least a year.	Provides public sector and voluntary work for an average of 2.5 days per week up to 1 year.	Part-time employment for the LTU with an aim to reintegration.	1985(2)-1989(4)	

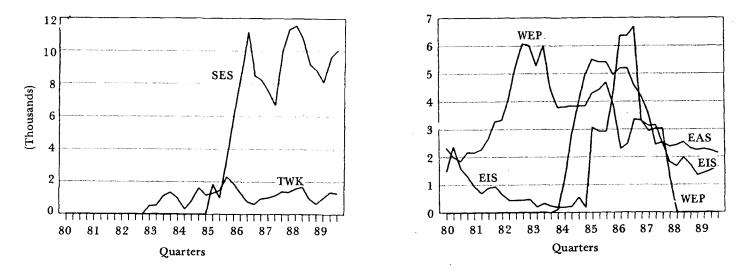
Table 1: Details of the Employment Schemes Analysed

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*Participation of the LTU has never exceeded 17 per cent. **The proportion of the LTU has steadily grown on EAS since 1983 and reached levels of 40 per cent by the end of the decade.







- Notes: (1) There is an obvious swing from reintegrating young first-time job seekers to reintegrating the young and older LTU.
 - (2) The five ES account for all participants on the NMS programmes 1980(1)-87(4) and 97 per cent of participants on FAS employment schemes 1988(1)-1989(4).

whether a person is LTU due to heterogeneity or state dependence. Whatever the cause of the fall in search effectiveness the effective supply of labour is reduced. In the presence of a recovery employers do not consider the total pool of the unemployed for the growing vacancies but only a subset of the pool. This leads to increased wage pressure and unemployment cannot fall to its pre-shock level, thus, unemployment results in a partial persistence in unemployment, i.e., hysteresis. Layard (1990) thinks that LTU is still a major channel of hysteresis in the UK. He sees an obvious role for manpower policies to cure this type of hysteresis. By reintegrating the LTU into the labour force such policies will reduce wage pressure and allow unemployment to fall towards pre-shock levels. The type of schemes proposed by Layard were introduced in Ireland during the 1980s but the schemes were not seen to have the economic function described above. The objective was one of promoting more equal access to employment opportunities. Ireland has one of the highest incidence of LTU in the OECD (OECD, 1988). This may lead one to believe that the LTU is a major channel of hysteresis. But this might not be the case for the following two reasons: First, the source of this type of hysteresis is the existence of a DG outside the effective labour force. As in the UK the government in Ireland defines all LTU as the DG outside the labour force. We believe that in the Irish case LTU is not a good enough definition of a DG. Because of the severe lack of vacancies people of all ages and human capital levels can drift into LTU, an unemployment spell lasting more than one year. Many of the LTU would be considered for a vacancy, especially in a recovery period and this group would not reduce the effective supply of labour. We would argue that the group out of the effective labour force is comprised of people with minimal human capital levels and very long unemployment spells. It is this smaller group only, a subset of the LTU, which could be a source of hysteresis. Secondly, vacancies remained at very low levels through most of the 1980s. For the given vacancies there was a plentiful effective supply of labour. Hence the existence of the DG cannot be a major source of wage pressure and therefore hysteresis. However, in times of a recovery, if the ES have failed to reintegrate the DG into the effective labour force, the human capital explanation of hysteresis will become relevant. To evaluate the ES is also to see whether they can prevent hysteresis of this type fulfilling their longer-term economic function. By the end of the 1980s the DG which was mainly targeted was all the LTU. Again we feel that the truly DG is only a subset of the LTU. If placement officers take the best of LTU, they might not be reintegrating the truly DG. We, therefore, feel that the ES may not achieve their longer-term economic function. A general policy recommendation would be that to prevent hysteresis it is necessary to reintegrate the truly DG outside the effective labour force. When we have LTU as the sole

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selection criterion for the relevant ES we may fail in the attempt to reintegrate this group. We strongly believe that more refined selection criteria should be developed for the ES so that the truly DG is targeted. This will definitely be more equitable and also would prevent hysteresis in a recovery period.

IV THE EFFECT OF EMPLOYMENT SCHEMES ON THE OVERALL OUTFLOW RATE

Many empirical studies work with unemployment as a stock. Additional insights can be gained by analysing the flows into and out of unemployment (Jackman, Layard and Pissarides, 1989). In a steady state the stock of unemployment (U) can be expressed as a ratio of inflows over the outflow rate,

$$U = \frac{I}{A/U} = \frac{inflow}{outflow rate}$$
, when I = A.

Using basic steady state calculations one can conclude that in Ireland the fall in the outflow rate roughly explains 50 per cent of the rise in unemployment. The ES were introduced to increase the overall outflow rate. This increase can occur for two reasons: (a) entry onto a scheme implies a one-toone outflow from the Live Register (LR) and (b) the function of some schemes is the reintegration of DG into the labour force, which will raise the outflow rate via increased search effectiveness due to the brief, government-financed, employment spell. In theory ES should not increase inflow rates, but in practice some schemes (e.g., EIS and EAS) could have displacement of output and hence employment effects, implying that ES are positively correlated with the inflow rate. In this paper we do not model the inflow rate but consider it worthwhile doing.

The overall outflow rate function: Outflow from the LR can be thought of having three destinations: (1) emigration, (2) employment and (3) out of the labour force. Following the approach taken by Jackman and Layard (1988) and Jackman and Lehmann (1990), let

$$A_{t} = f(V_{t}, \bar{c}_{t}U_{t}; e^{\lambda t})$$
(1)

where V_t is notified vacancies, and $\bar{c}_t U_t$ is the search effective part of the stock of unemployment, where

$$0 \leq \bar{c}_t \leq 1 \text{ and } \bar{c}_t = \hat{c}_t (1 + \phi M_t)$$

and

(a) $M = \sum_{i=1}^{5} \beta_i ES_i$ is a weighted sum of the ES (ES are expected to increase the average search effectiveness of the unemployed, i.e., $\phi > 0$); (b) $\hat{c}_t = \sum_d \bar{a}_d g_{d,t}$ is a weighted sum of steady state exit rates from unemployment, where \bar{a}_d is the steady state exit rate of the d-th duration group and $g_{d,t}$ is the proportion of this group to the total stock of unemployment in period t.

Since the steady state exit rate of say STU is higher than the exit rate of LTU, as more of the unemployment stock drifts into LTU the index \hat{c}_t will fall, implying a lower average search effectiveness of the total unemployment stock, i.e., $\bar{c}U$. The fact that the average search effectiveness falls as the proportion of the LTU rises is consistent with both theories of state dependence and heterogeneity. This is a more general interpretation of the index than in Jackman and Layard (1988). The time trend, $e^{\lambda t}$, controls for all other factors which affect the overall outflow rate not modelled. Assuming CRS in V and $\bar{c}U$ and log-linearising we can write (1) as

$$\ln\left[\frac{A}{U}\right]_{t} = \delta_{1} \ln\left[\frac{V}{U}\right]_{t} + [1-\delta_{1}] \ln \bar{c}_{t} + \delta_{2}\lambda t.$$
(2)

For small values of ϕ M and removing the restrictions on the coefficients our estimable equation becomes:

$$\ln \left[\frac{A}{U}\right]_{t} = \text{const.} + \text{seasonals} + \delta_{1} \ln \left[\frac{V}{U}\right]_{t}$$
(3)
+ $\delta_{2} \ln \hat{c}_{t} + \delta_{2} \phi M_{t} + \delta_{3} \lambda t / 100 + e_{t} \text{ with } e_{t} \sim N(0, \sigma^{2})$

The restrictions on the coefficients in Equation (2) would only allow ES to have an indirect effect on the overall outflow rate via the search effectiveness index. By dropping the restrictions the function gives a more general relationship between A/U and ES. The problem with the estimation of Equation (3) is that how the outflow rate and ES are related is determined by numerous unknown factors which are not modelled. The coefficient on M will, beside the indirect effect, pick up the other intended direct effect which is the oneto-one outflow from the LR after entry onto a scheme. The coefficient may also pick up many distortive effects such as substitution effects which could lead to a negative relationship between the overall outflow rate and the ES. Yet we know that ES are intended to have a positive effect on the overall outflow rate without distortions.

Data: (1) Employment Schemes: Monthly stocks of participation levels were made available to us for the entire decade by the Department of Labour. (2) The Irish Vacancy – Unemployment Rate: Theoretically this rate proxies the state of the Irish labour market. Since registered vacancies are very unreliable we used the MSL vacancy index which has been calculated by MSL Inter-

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national since 1977 as such a proxy. This index is based on all managerial job advertisements in Irish newspapers. (3) *The Overall Outflow Rate*: Total inflows and the stock of unemployment form the basis of our calculations. These data are available from the CSO on a monthly basis. We interpolated quarterly inflows for the period 1980(1)-1982(4) from the age-by-duration structure of unemployment. The overall outflow rate is derived from the following identity:

$$I_{t} - A_{t} = \Delta U_{t+1}, \text{ which implies}$$

$$\left[\frac{A}{U}\right]_{t} = \frac{I_{t} + U_{t} - U_{t+1}}{U_{t}} \qquad (4)$$

Results of Estimation

The following table gives our estimation results of Equation (3).

ln(V/U)	ln ĉ	eriod 80Q2-8 t/100	M	SE	\overline{R}^2
0.2621	2.2747	1.870	-0.00003	0.092	0.79
(5.0)	(2.8)	(4.2)	(1.7)		
	0.2621	0.2621 2.2747	0.2621 2.2747 1.870	0.2621 2.2747 1.870 -0.00003	0.2621 2.2747 1.870 -0.00003 0.092

The results say two important things:

1. ĉ is significant, implying that as more unemployed drift into LTU the average search effectiveness of the total stock of unemployment is falling, thus lowering the overall outflow rate. So there is justification for the introduction of ES to reverse this falling average search effectiveness. This fall was due to either state dependence or heterogeneity or both, but clearly the goals of the ES could be achieved more easily, if the fall were due to state dependence.

2. The results are very discouraging since they show a negative relationship between the overall outflow rate and ES. It is likely that distortions cause negative effects which outweigh the intended positive effects of the ES. In the next section we analyse the determination of age-by-duration specific outflow rates to get deeper insights into this result.

V THE EFFECT OF EMPLOYMENT SCHEMES ON AGE-BY-DURATION SPECIFIC OUTFLOW RATES

In this section we look at the effect which an individual ES has on each age-by-duration specific outflow rate. Theoretically an ES should only increase the outflow of its targeted group or groups and have no effect on non-targeted groups. But in practice an ES can have a negative impact on the outflow rate of a non-targeted group via, e.g., a substitution effect. (An employer who intended to hire an unemployed person of a non-targeted group but instead takes a person on an ES.) The following methodology will not, however, allow us to pick up pure substitution effects, because it tests for a general relationship between an employment scheme and a non-targeted group. This relationship can be determined by many other factors, e.g., ES change the duration structure of unemployment since many of the participants re-enter unemployment as short-term unemployed.

The age-by-duration outflow rate functions:

$$(A_t)_{dur}^{age} = g\left[(\alpha_t U_t)_{dur}^{age}, V_t; e^{\lambda, t} e^{\phi ES_i}\right] i=1, \dots, 5$$
(5)

- age = young (<25 years), middle aged (25-44), older (>44 years) and dur = STU (<6 months), LTU (>6 months);
- (2) $(A_t)_{dur}^{age}$ = an age-by-duration specific outflow from unemployment;
- (3) $(\alpha_t U_t)_{dur}^{age}$ = search effective part of the stock of unemployment of a particular age-by-duration category, with $0 \le \alpha_t \le 1$;

(4)
$$(\alpha_t)_{dur}^{age} = \bar{a}_{dur}^{age} \frac{(U_t)_{dur}^{age}}{(U_t)^{age}},$$

i.e., it equals the steady state exit rate of an age-by-duration specific group weighted by the proportion of the duration specific stock of an age group over the total stock of this age group. This index controls for differences in search effectiveness of groups over time. It uses the empirical fact that the steady state exit rate is different for every age-by-duration group and controls for the changing duration structure within an age group and its effect on the search effective part of a particular age-by-duration group. V_t is measured as in the previous section and $e^{\lambda t}$ represents a time trend, which controls for other variables determining age-by-duration specific outflow rates. Assuming CRS in $(\alpha_t U_t)_{dur}^{age}$ and V_t , log-linearising (5) and dropping restrictions on coefficients we arrive at the following estimable set of equations:

$$\Delta \ln \left\{ \begin{bmatrix} \underline{A} \\ \overline{U} \end{bmatrix}_{t} \right\}_{dur}^{age} = \text{const.} + \text{seasonal} + \delta_{1} \ln \left[\frac{V_{t}}{(U_{t})_{dur}^{age}} \right] + \delta_{2} \ln \alpha_{tdur}^{age}$$

$$\delta_{3} \phi \text{ES}_{i} + \delta_{4} \ln \left\{ \begin{bmatrix} \underline{A} \\ \overline{U} \end{bmatrix}_{t-1} \right\}_{dur}^{age} + \delta_{5} \lambda t/100 + e_{t}, e_{t} \sim N(0,\sigma^{2}).$$
(6)

Data: The only new data to be discussed are the age-by-duration data from the LR which provides the basis for the age-by-duration specific outflow rates. It has been published semi-annually (April-October) since April 1980 by the CSO. We could aggregate the data only into the following three duration categories: (a) STU (<6 months), (b) LTU (6-12 months), (c) VLTU (>12 months). Having three duration categories we can only compute two outflow rates for each age group. One can show that the overall outflow rate is a linear combination of the age-by-duration specific outflow rates.

Results of estimation: Table 2 shows the fit of our model as formulated in (6)without the ES. As already mentioned, there has been a dramatic change in the duration structure of unemployment for all age groups in that the proportion of LTU within each group has risen substantially. The fact that the index of search effectiveness is positive in all and highly significant in 4 out of 6 cases means that this shift in the duration structure has had a major impact on the age-by-duration outflow rates. This has led to a fall in the overall outflow rate as seen in Section IV. Hence there is an obvious role for ES to reverse the falling average search effectiveness in all age groups. Table 3 gives the direction of the impact which an ES has on age-by-duration specific outflow rates. ES were introduced to raise the outflow rate of the targeted group, without affecting the outflow rates of non-targeted groups. But Table 3 shows that there have been quite a few positive and negative distortive effects on non-targeted groups. Our methodology cannot pinpoint the exact channels through which these effects occur; we do feel, however, that substitution effects as discussed above must be important. We can also see that most ES have a negative impact on targeted groups. Again the methodology does not tell us why this had happened, but one important reason could be that if we take the best people from a group and place them on an ES a smaller group is left behind which is less search effective. So our results support other evidence that placement officers have taken the best from each group. The methodology in the last two sections can tell us that the ES have not achieved their intended aims, but it cannot tell us why they have failed to do so. In the next section to encourage debate we give reasons why we think that the ES were not successful and offer a policy recommendation.

SU	RE Regression	$as on \Delta \ln \left[\frac{A}{U}\right]_{du}^{ag}$	e without Empl r	oyment Schemes*	
Age	ln $lpha_{ m dur}^{ m age}$	$\ln \left[\frac{V}{U_{dur}^{age}} \right]$	$\ln \begin{bmatrix} A \\ \overline{U} \end{bmatrix}_{dur,-1}^{age}$	• Time	SE
		SI	ΓU		
Young	0.42198 (2.4908)	0.03759 (2.1362)	-1.0599 (5.9408)	0.002127 (0.59873)	0.02467
Middle-aged	0.49002 (3.8807)	0.077625 (2.1157)	-0.91228 (4.6425)	0.0077042 (1.9646)	0.03342
Older	0.77462 (5.9889)	0.045966 (0.90797)	-0.90712 (4.6012)	0.16153 (4.6630)	0.04661
		L	ru		
Young	0.69090 (1.6140)	0.19473 (3.5015)	-0.95683 (6.1013)	-0.010683 (0.92966)	0.06582
Middle-aged	1.0354 (1.5070)	0.43940 (4.2588)	-1.2301 (7.7027)	0.00115 (0.09801)	0.1116
Older	2.1160 (4.6693)	0.25923 (3.0621)	-1.1281 (7.8043)	-0.027011 (4.4268)	0.08865

Table 2: Estimation of Age-by-Duration Specific Outflow Rates

LM-test for serial correlations: 4.61 $\chi^2(5) = 11.1$.

Absolute t-values in parenthesis.

*Sample period 80:1 to 89:2 (semi-annual).

Age	WEP	EIS	EAS	TWK	SES
		STU (<6 ma	onths)		
Young	*	_*`	NE*	NE	_
Middle-aged		_*	NE*	+	
Older	_	_*	NE*	+	+
		LTU (>6 m	onths)		
Young	+*	NĒ*	NE*	*	NE
Middle-aged	NE	· \> NE *	NE*	_	NE*
Older	+	NE*	NE*	NE	_*

Table 3: Impact Assessment of Employment Schemes

NE = no effect.

4

* = targeted group.

VI OVERALL ASSESSMENT OF EMPLOYMENT SCHEMES

WEP. The NESC report (1985) felt that WEP was not targeting the truly DG. The OECD has stated frequently if schemes place participants who are especially attractive to employers, this gives rise to the probability of significant dead weight loss and substitution effects. There is indirect evidence in Table 3 that WEP took the best from the young STU, thus lowering the average search effectiveness of the group and consequently its outflow rate, while with the young LTU the programme did not do this. We have also indirect evidence that as a consequence of creaming off the best of the young STU there are substitution effects which have lowered the outflow rates of the middle-aged and older STU. WEP was terminated in 1988, but if the selection criteria applied by placement officers had picked out the truly disadvantaged first-time job seekers, distortive effects would have been less, the search effectiveness of the targeted age-by-duration group would be higher and apart from being more equitable the reintegration of a DG would help in the prevention of hysteresis.

EIS. In its present form it is experiencing substantial negative distortive effects. The negative effects on all age groups of the STU may indicate two things: substitution effects and the fact that the programme creamed off the best of each group. The lack of impact of EIS on all age groups of LTU points to the failure of special premia to boost the outflow rates of the LTU. This is not surprising considering that participation of LTU has never exceeded 17 per cent of those on the scheme. In Section III we argued that LTU was not a good enough definition of a DG outside the labour force. If EIS could target the truly disadvantaged among the LTU, this would lead to considerably less dead weight loss and substitution effects. In Sweden special wage subsidies are targeted at the LTU. Within LTU they distinguish between two groups and work with the principle that the more DG must receive a higher subsidy for a longer duration to ensure employers' participation in the scheme. If EIS is to entice employers to take on the truly DG the special premium must be fixed for a much longer duration than at present. A reformed EIS which targets the truly DG among the LTU could be a very beneficial programme: apart from reducing distortions the reintegration of the DG will prevent hysteresis in the longer term. Also, given the lack of vacancies it is better to have an EIS that targets a smaller group without distortions, since it creates additional jobs, than to abolish this scheme of wage subsidies.

EAS. Both EIS and EAS can cause serious displacement of output and hence employment effects so, as we have already mentioned, one should look at the impact which these schemes have on inflows. EAS does not seem to be significant at all. This could hint at dead weight loss, considering the nature of the scheme. It is worth noting that the requirements to participate in EAS are quite stringent, and yet 40 per cent of EAS participants are defined as LTU. This again indicates that LTU is too broad a definition of a DG.

TWK and SES. TWK and SES have negative effects on their respective targeted group, reflecting the fact that TWK is taking the best of the young LTU and SES the best of the older LTU. It is not clear that these schemes will reintegrate anybody into the labour force, so maybe they should include an element of training and give some worthwhile job experience. Again it is more equitable when the schemes target the truly DG among the LTU.

VII CONCLUSIONS

The changing duration structure has been an extremely important factor in determining the overall outflow rate and the age-by-duration outflow rates. So manpower policy could have played a vital role in increasing the overall average search effectiveness of the unemployment stock and hence outflow rates. Yet, our results show that the presence of the ES has had a negative impact on the overall outflow rate due to the many distortive effects on the age-by-duration outflow rates.

We strongly believe that more refined selection criteria should be developed for the ES so that the truly DG is targeted. This will minimise distortive effects, increase the average search effectiveness of the targeted age-byduration group and apart from being more equitable the reintegration of the truly DG will help in the prevention of hysteresis.

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