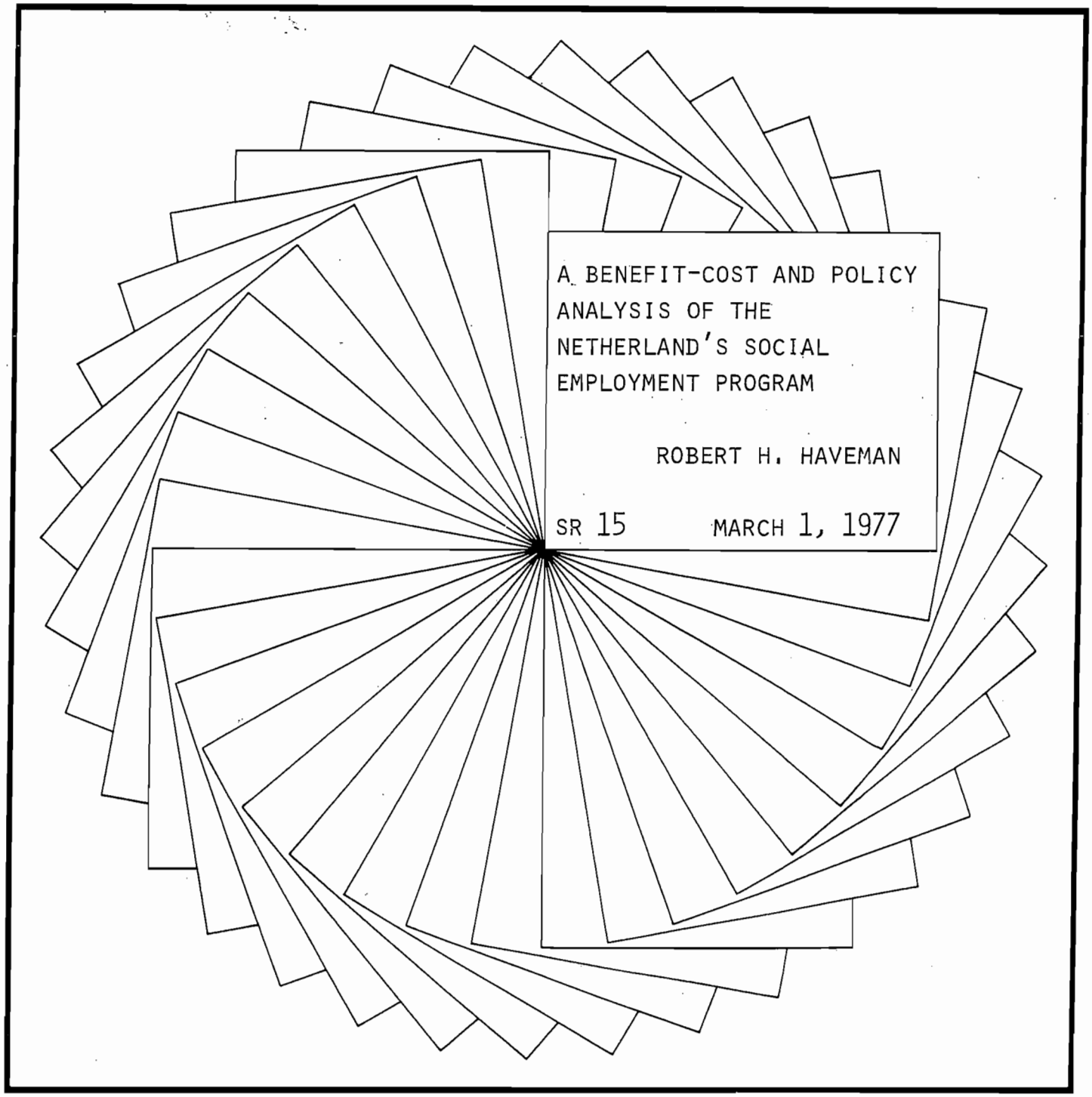
University of Wisconsin-Madison

Institute for Research on Poverty

Special Report Series



A BENEFIT-COST AND POLICY ANALYSIS OF THE NETHERLANDS' SOCIAL EMPLOYMENT PROGRAM

Robert H. Haveman

SR15

A Report Submitted to the Ministry of Social Affairs

of the Netherlands

March, 1977

This research was supported by funds from the Netherlands Ministry of Social Affairs, the Brookings Institution, and the Institute for Research on Poverty pursuant to the provisions of the Economic Opportunity Act of 1964. The study was done while the author was Visiting Professor, Department of Economics, University of Leiden.

TABLE OF CONTENTS

			PAGE
INTRODUCTION			
CHAPTER I		BACKGROUND ON THE HISTORY, STRUCTURE, AND GROWTH OF THE DUTCH SOCIAL EMPLOYMENT PROGRAM	1
	I	A Short Historical Perspective on Social Employment in Holland	1
	II	The Background and Declarations of Principles Leading to Employment Policy for the Handicapped	5
	III	Some Statistics on the Structure and Growth of the Social Employment Program	7
	IV	Why Has the Social Employment Program Grown So Rapidly?	18
CHAPTER II		THE ENABLING LEGISLATION FOR THE SOCIAL EMPLOYMENT PROGRAM	29
	I	The Basis of the Law -- The Right to Work	29
	II	The Preamble to the Social Employment Law -- A Statement of Objectives	31
	III	The Chapters of the Social Employment Law	32
CHAPTER III		RECENT TRENDS IN PROGRAM EMPLOYMENT AND COSTS -- 1970-1975	49
	I	Program Employment -- 1970-1975	49
	II	Program Revenue -- 1970-1975	52
	III	A Summary of Employment and Revenue Growth Patterns -- 1970-1975	57
	IV	Real Program Growth and its Burden -- 1970-1975	60
CHAPTER IV		THE INDUSTRIAL CENTERS PROGRAM IN 1970 -- A PROFILE	65
	I	The Dimensions of the Program in 1970	65
	II	Does the Size of Center Matter?	69
	III	Does the Province Matter?	77
	IV	Some Regression Results	82
	V	Which Centers Perform Relatively Well and Which Do Not?	88
CHAPTER V		THE INDUSTRIAL CENTERS PROGRAM IN 9172 -- A PROFILE	90
	I	The Dimensions of the Program in 1972	90
	II	Does the Size of Center Matter?	94
	III	Does the Province Matter?	97
	IV	Center Performance -- By Size and Region	99

			PAGE
CHAPTER VI		THE INDUSTRIAL CENTERS PROGRAM IN 1973 -- A PROFILE	102
	I	The Dimensions of the Program in 1973	102
	II	Does the Size of Center Matter?	106
	III	Does the Province Matter?	111
	IV	Some Regression Results	115
	V	Which Centers Perform Relatively Well and Which Do Not?	120
CHAPTER VII		A BENEFIT-COST EVALUATION OF THE INDUSTRIAL CENTERS PROGRAM -- CONCEPTUAL ISSUES AND PROCEDURES	122
	I	The Social Benefit-Cost Analysis of Social Employment -- Conceptual Issues	123
	II	The Social Benefit-Cost Analysis of Social Employment -- Procedures	129
CHAPTER VIII		A BENEFIT-COST EVALUATION OF THE INDUSTRIAL CENTER PROGRAM -- EMPIRICAL RESULTS	137
	I	Empirical Estimates of Benefit and Cost Variables	137
	II	Sensitivity Analysis of Net Social Costs and Benefits	139
	III	Empirical Benefit-Cost Estimates	140
CHAPTER IX		INSITUTIONAL ARRANGEMENTS, INCENTIVES, AND PROGRAM PERFORMANCE	145
	I	The Organizational and Financial Structure of the Program -- A Brief Review	145
	II	Structural Incentives and the Economic Performance of the Program	148
CHAPTER X		CONCLUSIONS AND RECOMMENDATIONS	155
		Some Conclusions	155
		Some Recommendations	162
		APPENDICES	
APPENDIX A		THE INDUSTRIAL CENTERS AND THEIR IDENTIFYING NUMBER, 1970, 1972, and 1973	168
APPENDIX B		THE VARIABLES AND THEIR IDENTIFYING NUMBER, 1970, 1972, and 1973	174
APPENDIX C		THE PERFORMANCE INDICATORS AND SOME SUMMARY STATISTICS	180

		PAGE
APPENDIX D	THE 20 CENTERS WITH THE HIGHEST AND LOWEST SCORES ON 12 PERFORMANCE INDICATORS, 1970 AND 1973	187
APPENDIX E	THE CALCULATION OF TRAINING AND INCREASED PRODUCTIVITY BENEFITS	190
APPENDIX F	THE CALCULATION OF THE COSTS OF DISPLACED PRIVATE SECTOR EMPLOYMENT	194

INTRODUCTION

This study is an economic analysis of the Netherlands Social Employment Program -- a program which, in 1976, provides work for over 64,000 Dutch citizens. As such, it brings standard economic concepts and methods to bear in evaluating the program. Empirical estimates of the economic performance -- the benefits and costs -- of this program are presented and the incentives in and other structural aspects of the program which encourage or constrain efficient economic performance are appraised. Recommendations for improving the economic performance of the program are offered.

The concept of social benefits and social costs are basic to this study. As used by economists, they are comprehensive concepts. They include all of the beneficial and all of the harmful effects of a program on the welfare of citizens. Some of these effects can be measured and valued relatively easily. For example, the inputs of the administrative and supervisory workers in the program are easily recognized as costs to be attributed to the program and can be measured and valued rather accurately. Other effects are virtually impossible to measure or value, given the present state of social, psychological, or medical knowledge. The value of the socio-psychological well-being benefits which the Social Employment program may convey to participants are of this sort. No one -- medical experts, psychological experts, social work experts, or economists -- has firm and reliable evidence on whether such effects exist and, if they exist, how large or small, or how negative or positive, they are. Many strongly-held beliefs about the magnitude of such effects exist, however. And, some informed and objective judgments can be found.

Clearly, any evaluative study must deal in some way with these unmeasured effects of the program. The procedure in this report is to explicitly recognize the categories of these unmeasurable effects, and then to measure as accurately as possible the effects which can be measured. Because these unmeasurable effects are generally asserted to be beneficial effects of the program, we are left with estimates of the net social costs which are incurred to produce these benefits. This is what we present to decision-makers in the program and to others responsible for making policy in this area. They must judge whether or

or not the unmeasured benefits of the program are worth the social costs required to produce these benefits. This judgement cannot be avoided.

Because of the skills of the researchers involved in this study, we are unable to offer a reliable judgement on the nature and extent of the socio-psychological effects of the program. The Ministry of Social Affairs might, as a complement to this study, wish to seek the objective judgements of selected medical and psychological experts on the likely nature and magnitude of these effects. With such objective and complementary information, a more reliable judgement can be made as to whether or not the social costs of providing these effects -- now on the order of ƒ 7500 to ƒ 10,000 per worker -- are reasonable.

The report begins by presenting some background information on social employment in the Netherlands (Chapter I) and describing the current Social Employment Law (Chapter II). After some recent employment, cost, and revenue trends in the program are presented (Chapter III), the report analyses statistically the economic performance of the industrial centers in 1970, 1972, and 1973 (Chapters IV, V, VI). Then, the procedures for performing a benefit-cost analysis of the program are described (Chapter VII), and the results of such an analysis are presented (Chapter VIII). The last two chapters (IX and X) describe some of the institutional arrangements in the program which constrain economic performance, summarize the conclusions of the study, and present recommendations. The chapters which are most relevant for framing policy decisions on the program are III, VIII, and X.

The research for this study extended from August 15, 1976 to January 1, 1977. The Principal Investigator for the project was Professor Robert Haveman of the Economics Department of the University of Wisconsin - Madison, and a Visiting Professor in the Economics Department at the University of Leiden during the course of the study. The project was undertaken at the University of Leiden, which also provided materials and overhead support. Financial support for the study was provided by the Netherlands Ministry of Social Affairs,

the Institute for Research on Poverty of the University of Wisconsin in the United States, and The Brookings Institution of Washington, D.C. The Netherlands Institute for Advanced Study (NIAS) provided office space and a congenial work atmosphere to Professor Haveman during the period of the study. This was most helpful in undertaking the study and is gratefully acknowledged.

Professor Haveman was ably assisted by Mr. Aat Peterse during the entire duration of the study and by Dr. J. Gorecka-Poznanska during the early months of the study. The assistance of Mr. Peterse in translating documents published in Dutch was indispensible. He also wrote first-drafts of Chapters I and II. Ms. Evelien Hooijmans did all of the computer programming for the study with great competence and accuracy. Ms. Truus van Beukering was of help in arranging key-punching of the data. Ms. Maja Banck-Polderman typed the final draft of the report and drafts of several of chapters. She did this most accurately and cheerfully, and under great time pressure. Ms. Angélique Messing and Ms. Hedy Brouwer-Braun typed some of the early chapter drafts.

A number of people provided important conceptual inputs to and comments on the study. Mr. J.T. Kwant, Chief Department of General Affairs in the Ministry of Social Affairs, was most helpful in assembling and providing data on the program and in pointing out some of the factual errors in early drafts of some of the chapters. Professor Victor Halberstadt of the University of Leiden was crucial in making arrangements with the University and the Ministry of Social Affairs in support of the study, in providing suggestions during the study, and in commenting on drafts of the chapters. Mr. L. Lamers, Director-General of the Ministry of Social Affairs both supported and encouraged the study.

Finally, much helpful information on the program was obtained in interviews with directors of social employment centers and municipal officials. Clearly, responsibility for any misinterpretation or remaining errors rests with the author.

This report is presented in hope that it will stimulate additional research on the Dutch Social Employment Program, and further discussions

on how to best improve the economic performance of the program and provide assistance to the nation's handicapped.

Robert H. Haveman
Professor of Economics
University of Wisconsin-Madison
U.S.A.
and
Visiting Professor
Department of Economics
University of Leiden
The Netherlands

March 1, 1977.

CHAPTER 1

BACKGROUND ON THE HISTORY, STRUCTURE, AND GROWTH OF THE DUTCH SOCIAL EMPLOYMENT PROGRAM

This chapter will provide an overview of the Dutch Social Employment Program. In the first section, some of the historical antecedents to the existing program are described. The provision of work for handicapped people will be seen as having a long history. The second section describes some of the declarations of principles regarding the provision of work for the handicapped issued in the 1930's, 1940's, and 1950's. These declarations -- by both international and Dutch groups -- set the stage for the passage of the Social Employment Law. In the third section, numerous statistics on the growth and the changes in the structure of the Social Employment program are presented and described. These statistics concern employment of types of handicap and cover the period from 1965 to 1974. Finally, a discussion of the reasons for the rapid growth in the Social Employment program are presented. Because of the difficulty of identifying the relative strength of the factors identified, this discussion must be rather speculative in nature.

I. A Short Historial Perspective on Social Employment in Holland

The Dutch Social Employment program is a large public undertaking -- in 1976, it employed 64,000 workers or 1,5 percent of the employed labor force of the Netherlands. In its present form, Social Employment is not an old program. Indeed, the Wet Sociale Werkvoorziening [1] (W.S.W. or Social Employment Act), which forms the basis of the program, took effect only in 1969. However, the law replaced two earlier government regulations which also provided an adapted employment-scheme for mentally and physically handicapped manual and white-collar-workers. This pair of antecendent provisions dated from 1950. They were:

---

1) Wet Sociale Werkvoorziening (Stb. 1967, 687).

a) the Gemeentelijke Sociale Werkvoorzieningsregeling voor Handarbeiders [2] (G.S.W.or Municipal Social Employment Scheme for Manual Laborers) and b) the Sociale Werkvoorzieningsregeling Hoofdarbeiders [3] (S.W.H.or Social Employment Scheme for White-Collar Workers). In turn, this latter scheme gradually evolved from a preliminary job-creation program for handicapped white-collar workers enacted in 1936.

While these pieces of legislation are the basis of contemporary social employment in Holland, the social provision of employment for disabled persons for whom opportunities in open industry are meagre because of their reduced productivity has a much longer history. Already in the 1800's, some municipalities offered work-opportunities to persons with restricted work capacity. Naturally these activities were carried out in an altogether different manner than the present program. Indeed, because the motivation of these early programs was largely one of charity, they only remotely resemble present-day social-employment.

The first steps to social employment as we know it today were taken soon after World War I, at the initiative of a number of municipalities and private organizations. The new attitude towards employment of the disabled which characterized these early initiatives was best expressed by Mr. W.F. Detiger, Secretary of the Nederlandse Vereniging A.V.O. [4] -- one of the early organizations active in the social employment field. In a report on social workshops published in 1937 [5], Detiger stated:

> "In the interest of the workers concerned as well as to allow for competition, the operation of the special workshops should resemble that of open industry as closely as possible...Their exploitation, management and supervision should be business-oriented; neither workpace or discipline should be neglected; production should be aimed at the market and live up to its standards of quality and price; the workshop's economic and technical facilities should equal those of open industry".

---

2) Gemeentelijke Sociale werkvoorziening (G.S.W.-regeling, beschikking van de Minister van Sociale Zaken en Volksgezondheid 29-11-1963, nr. 52751/IIIb. Stcrt. 248).

3) Sociale Werkvoorzieningsregeling Hoofdarbeiders (beschikking van de Staatssekretaris van Sociale Zaken 2-2-1953, nr. B1381 Stcrt. 32)

4) Actio Vincit Omnia

5) Vgl. Wetsontwerp Wet Sociale Werkvoorziening (zitting 1967), Memorie van Toelichting, blz. 2.

In a report published a year later, the State Commission on Handicapped Workers expressed a similar opinion [6]. In its report, the Commission emphasized the importance of adapted employment, but warned against setting unrealistically low prices on the products produced as a result of government subsidies. On the other hand, the Commission insisted that the selling of products -- perhaps at higher prices than warranted -- should not be based on an appeal to public charity.

These prewar concerns were reflected in the 1945 "Conclusions and Proposals" of the Van Rhijn Commission of the Netherlands government in exile in London [7]. That report proposed to bring job-provisions for handicapped entirely under government finance. In addition, it advocated the establishment of special workshops for the disabled who otherwise have a hard time making their living, and suggested legislation to compel employers to employ a certain number of handicapped workers.

The first legislative response to this report was the Wet Plaatsing Mindervalide Arbeidskrachten of 1947 [8], which fixed a quota of 2 percent handicapped workers for every employer of more than 20 workers. This law also obliges the employer to ensure that machines and tools are adapted to the worker's handicap (Article 7), and requires that handicapped workers be paid the same wage as other workers (article 6) [9].

---

6) Verg. Wetsontwerp Wet Sociale Werkvoorziening (zitting 1967), Memorie van Toelichting, blz. 2.
7) idem.
8) Wet Plaatsing Mindervalide Arbeidskrachten (Stb. 1947, nr. H.283).
9) Only cases in which the productivity of a handicapped worker remains so far below normal that a full wage would be an unreasonable burden on the employer, may another, more appropriate wage be fixed. Article 6 of Wet Plaatsing Mindervalide Arbeidskrachten and Article 13 of the Minimum-Wage Law (Wet Minimumloon (Stb. 1968, 657)) entitles the Minister of Social Affairs to grant a variance from this wage provision to the employer; such a variance is granted for a maximum period of two years. Yearly about a thousand of such variances are granted. The worker who thus receives but a percentage of the usual wage can then apply for additional compensation through either the Wet op de Arbeidsongeschiktheidsverzekering (Stb. 1966, 84) (Disability Law) or in some cases the Algemene Bijstandswet (Stb. 1963, 284) (Social Assistance Law). The size of this compensation is determined by the responsible Municipal Social Service. In many cases this compensation is not paid out to the worker, but as a wage-subsidy to the employer who then pays the worker the normal wage.

Although these early initiatives are important antecedents, Social Employment as national policy cannot be considered to have actually started before the enactment of the previously mentioned provisions for disabled manual and white-collar workers in 1950. With the introduction of these regulations, the public creation of suitable employment for handicapped persons was stripped of its welfare character and incorporated as an integral part in national full employment policy. Through G.S.W. and S.W.H., a consistent wage-system was introduced, the employees were brought under the provisions of the Social Insurance Laws, and the conditions of employment gradually evolved toward normal employee status.

Before 1950, public efforts to provide social employment to handicapped workers lacked many of the characteristics presently considered basic to the current system. There were no guidelines concerning mode of operation, the type and standard of the work offered, or the quality of program leadership and supervisory staff. There were no explicit provisions on the extent to which the workshops could rely on government subsidy, although the government did provide assistance. The workers' remuneration often amounted to little more than pocket-money and only a small portion of the handicapped seeking work were also able to find a place in a workshop. Moreover, there were no clear guidelines regarding which applicants were eligible for employment and which were not.

The G.S.W. and S.W.H.-regulations, first of all, introduced a consistent wage-system. The wage-levels were initially linked to payments in the Sociale Bijstandsregeling [10] (Unemployment Assistance Program) and ranged from 105 to 140 percent of these payments. In 1952 a division of the workers into two wage-groups (A and B) was introduced. Category A workers were defined as people who were only temporarily unemployed, primarily because of economical circumstances. Category B workers were those unemployed for a longer period, primarily because of personal factors [11]. Still later, another, more varied wage-group differentiation was accepted. These provisions also specified

10) Provisions prior to Social Assistance Law of 1963 (Algemene Bijstandswet (Stb. 1963, 284).

11) This category A-category B division is different than that now in effect.

the criteria for admission into the program. Finally, the 1950 decrees also meant that handicapped workers gained employee status and were thus covered by Social Insurance -- primarily the Ziektewet [12] (Sickness Law), Ongevallenwet [13] (Accidents Law), and the Invaliditeitswet [14] (Disability Law). Perhaps most importantly, the decrees constituted recognition by the government of the handicapped person's right to employment -- and the government's obligation to make such work available.

By the early 1950's, then, the public sector had accepted responsibility for providing social employment to the handicapped through a structured program -- G.W.S. and S.W.H. -- and had enacted an employment policy in open industry aimed at reducing the impediments to the acceptance of handicapped workers in the productive process of open industry. The instruments of this latter policy are the abovementioned Wet Plaatsing Mindervalide Arbeidskrachten, the dispensation stated in article 6 of this Law and article 13 of the Minimum-Wage Law, the special sections for handicapped workers of the Regional Employment Services, and subsidies granted to employers for adaptation of tools and machines to disabled workers through the Disability Law.

II. The Background and Declarations of Principles Leading to Employment Policy for the Handicapped

The growth of public concern with providing social employment for the handicapped was a natural outgrowth of changing socio-political attitudes toward employment in general. The Depression of the 1930's and its massive unemployment led to a reassessment of the objectives of the state and its responsibility towards its members. At various times during the years just before and just after World War II, some of these new attitudes were laid down more or less

---

12) Ziektewet (Stb. 1913, 204).
13) Ongevallenwet 1921. Zie Wet op de Arbeidsongeschiktheidsverzekering 1966, (Stb. 84).
14) Invaliditeitswet (Stb. 1913, 205).

clearly. Two important statements were the Atlantic Charter of 1941 [15] and the Beveridge Report of 1942 [16]. The first proposed a new social order, and influenced numerous western governments which were planning and legislating more comprehensive and effective social policy. The second set forth the basis of the social security system now in place in Great Britain. These statements were followed a few years later by The Universal Declaration of Human Rights, formulated by the United Nations' General Assembly on December 10, 1948 [17]. This statement is particularly important. Article 23 sub 1 of the Declaration reads: "Everyone has a right to work, a right to a free choice of profession, just and favorable conditions of employment, as well as protection against joblessness".

At about this same time, other groups were giving particular attention to the employment status of the handicapped. The International Labor Conference's 28th session held in Philadelphia in 1944 specifically addressed the problem of suitable employment for the disabled. The following was put forward [18]:

> "... disabled workers, whatever be the cause of their disability, should dispose of the fullest opportunities and extensive facilities in vocational guidance and training, schooling and reschooling as well as to obtain useful work".

The European Seminar on Sheltered Employment was held in The Hague in 1959 and again in Saltsjöbaden (Sweden) in 1964. These sessions and the documents which came from them were especially important for the development of the W.S.W. in the Netherlands [19]. In particular, the 1964 Conference urged the formation of public employment programs for the handicapped and urged that the primary goal of work-rehabilitation be to ensure employment for the disabled.

---

15) Verg. Wetsontwerp Wet Sociale Werkvoorziening (zitting 1967), Memorie van Toelichting, blz. 2.
16) idem.
17) idem.
18) idem.
19) idem.

"Every handicapped person is entitled to the same right to employment according to his abilities as every other member of society. If no suitable employment under normal conditions can be found on the labor market, this has to be provided for through Social Employment".

Hence, the government measures taken in the Netherlands after the war did give the State a central place in providing Social Employment for the handicapped. This new role as an active participant and stimulator of employment is a reflection of developments in international thinking on this matt er.

III. Some Statistics on the Structure and Growth of the Social Employment Program

During the 1960's, the Social Employment program grew in size and matured into an enterprise with a rather stable structure and composition. A description of the program and its financial and organizational characteristics is postponed until Chapter II. In this section a number of statistics on the program will be presented to indicate the size, growth, and the composition of the participants in the program. These statistics concern:

- employment growth in the program per period
- distribution of Social Employment over types of handicaps
- the percentage which Social Employment participants form of the labor force and population
- the distribution of Social Employment over various production-branches.

Since the introduction in 1950 of the S.W.H. and G.S.W.-regulations making Social Employment a government responsibility, the number of participants in the program has grown considerably. In 1955 about 8,800 workers were employed by the workshops; by 1960 this number had grown to 26,000; by 1974 to 43,000; and by 1976 to about 64,000 physically or mentally handicapped people. While the number of participants in the program has grown continuously, the pattern of growth has been irregular. During the 5-year periods 1950-1954, 1955-1959, 1960-1964, 1965-1969, and 1970-1974, the growth in the number of employees

has been 8,800, 17,200, 2,000, 15,900, and 13,000 respectively. In the two years, 1975 and 1976, the growth in the program has been about 10,000 people [20].

While it is difficult to account precisely for this growth pattern, two major determinants should be mentioned. As was noted, very rapid growth occured between 1965 and 1969. In all likelihood, this rapid growth was largely accounted for by the introduction of a new category of workers into the program in 1963. These workers were those with severe handicaps, whose productivity was below 30 percent of normal productivity. These were known as Category B workers [21]. The second spurt of growth occured from 1970 to 1976, when over 20,000 people were added to the program. This growth can, in all likelihood, be largely attributed to the slackening of the national economy and resulting higher unemployment rates. (In section IV of this chapter, the reasons for program growth are explored in more detail.)

Table 1 shows the structure of the Social Employment program in terms of the types of handicapped people which are employed. The four largest groups of handicapped people which are employed are those with mental-illness and deficiencies, those with organic diseases of the nervous system, those with illness of the organs of locomotion, and those whose disability is non-medically diagnosable. The group with the highest growth rate was the group whose disability was either non-medically diagnosable or not elsewhere classifiable (NEC). This group increased by 37 percent from 1969 to 1974, while the size of the total program increased by 32 percent. The second highest growth rate is in the group with the mental illness, which grew by 33 percent. Because of the rapid growth of the NEC-group, it changed from the fourth largest group in the program in 1969, to the third largest in 1972, to the second largest in 1973. In 1971, this group represented 10 percent of the population within Social Employment; in 1974 this percentage increased to 12.6 percent.

---

20) Sociale Werkvoorziening, Rapport van een Interdepartementale werkgroep, blz. 11, Ministerie van Sociale Zaken, 22 maart 1973. (Social Employment - Report of Joint Ministry of Social Affairs and Finance-Commission of March 22, 1973, Ministry of Social Affairs).

21) It is worth noting that with the passage of the Social Employment Law in 1969, the admission of severely handicapped workers -- mainly mentally handicapped -- was reduced. This apparent change in policy has been criticized by both parliamentary and field debates.

Table 1

Employment in W.S.W. Program, by Type of Handicap, 1969 - 1974

Type of Handicap	1969	1970	1971	1972	1973	1974
1. infective diseases	464	448	448	430	388	387
2. tumors and cancers	96	95	89	89	96	97
3. allergies, metabolic- and alimentary ailments	642	612	578	584	685	678
4. diseases of blood and blood-related organs	226	172	187	135	148	135
5. mental illnesses and -deficiencies	19494	20035	21027	22346	23923	25844
6. organic diseases of the nervous system (incl. epilepsy, blind- and deafness)	5121	4966	5054	5165	5460	5562
7. diseases of the circulatory system	1957	1965	2050	2077	2127	2237
8. diseases of respiratory organs	2438	2358	2286	2178	2164	2116
9. diseases of digestive organs	833	733	798	740	759	769
10. disease of the urogenital system	184	183	205	201	213	243
11. pregnancy	15	5	5	4	13	13
12. diseases of the skin and the connective tissue	288	241	257	294	288	321
13. illnesses of the organs of locomotion	5275	5240	5465	5651	5790	6225
14. innate deformations	645	576	590	618	678	697
15. accidents (traffic and other)	1255	1241	1293	1433	1585	1704
16. Not medically diagnosable or not elsewhere classifiable handicaps	4940	4638	4609	5572	5879	6767
Total	40873	43508	46234	47517	50186	53795

Source: Sociale Werkvoorziening voor Hand- en Hoofdarbeiders, Resultaten Enquêtes 1969-1974, Ministerie van Sociale Zaken, Directoraat-Generaal Sociale Voorzieningen, Directie C.S.V.

Preliminary figures indicate that, by 1975, the percentage of NEC workers has grown to 14.6 percent in the total program. These same figures show that the percentage is substantially lower in the industrial centers (7.3 percent in 1975) than in the open-air (20.2 percent) and administrative (31.9 percent) activities. These data indicate growth in this percentage in all three components of the program from 1973 to 1975: from 11.7 to 14.6 percent in the total program, 5.5 to 7.3 percent in the industrial centers, 18.2 to 20.2 percent in the open-air activities, and from 28.1 to 31.9 percent in the administrative activities. Finally, these data reveal substantial variance in the percentage of NEC workers among the provinces. For example, in 1975, Zeeland showed a percentage of 7.1, while Noord-Brabant showed a percentage of 22.2. Indeed, in Noord-Brabant, 46.8 percent of the administrative workers had no classifiable handicap in 1975.

Of the largest group in the program -- mental-illness and deficiencies -- the mentally defective constitute the greatest part. Their percentage within this category increased from 60 percent in 1969 to 62.5 percent in 1974, with a peak of nearly 65 percent in 1972. As a percentage of the total number of workers they also grew -- from 26.6 percent in 1969 to 30 percent in 1974 (See Table 2).

Table 2

	1969	1970	1971	1972	1973	1974
Mentally defective	11666	12151	12866	13642	14747	16033
Total Employment	43873	43508	46234	47517	50186	53795
Mentally Defective as percent of total	26.8	28	27.8	28.7	29.4	30

Source: Sociale Werkvoorziening voor Hand- en Hoofdarbeiders, Resultaten Enquêtes 1969-1974, Ministerie van Sociale Zaken, Directoraat-Generaal Sociale Voorzieningen, Directie C.S.V.

A more accurate assessment of the size and growth of the Social Employment program can be obtained by comparing the enrollment in the program among provinces, and by comparing the growth in the program to population growth and growth of the country's labor force.

Table 3

Social Employment Program Employment, by Province, 1965, 1970, and 1974

	January 1965		January 1970		January 1974	
	absolute	index	absolute	index	absolute	index
Groningen	1736	100	2852	144	3312	190
Friesland	1693	100	2164	128	2610	159
Drente	1448	100	1966	136	2176	150
Overijssel	2329	100	3571	153	4730	203
Gelderland	2955	100	5640	191	7154	242
Utrecht	965	100	1478	144	2043	211
Noord-Holland	3462	100	5405	153	6656	192
Zuid-Holland	6149	100	7569	123	9374	152
Zeeland	930	100	1260	135	1468	158
Noord-Brabant	4044	100	6010	149	7448	184
Limburg	2236	100	5593	250	6794	304
Total	27947	100	43508	155	53765	192

Source: Sociale Werkvoorziening voor Hand- en Hoofdarbeiders, Resultaten Enquêtes 1969-1974, Ministerie van Sociale Zaken, Directoraat-Generaal Sociale Voorzieningen, Directie C.S.V. Also: Report of Joint Ministry of Social Affairs and Finance Commission of March 22, 1973, Ministry of Social Affairs.

Table 3 shows the number of W.S.W. participants in the program by province in the years 1965, 1970, and 1974. We see that total enrollment in Social Employment all but doubled in those nine years. In four provinces growth in number of workers exceeded the national average. In Gelderland, Overijssel, Utrecht, and Limburg, the size of the Social Employment labor force more than doubled. In Gelderland, the number of workers increased by nearly two and a half times, while a three-fold increase was registered for Limburg.

The exceptionally high growth rate in Limburg is, in part, attributed to the closing down of many of this province's coal mines during the last decade, resulting in high unemployment rates and failing enterprises. Some of these enterprises were absorbed into the Social Employment program.

Tables 4 and 5 show employment in the program in relation to the population and the labor force, by province. This data conveys a sense of the relative importance of the Social Employment program to the Dutch population and labor force as a whole. By 1976, about .5 percent of the nation's population were employed in the program and about 1.5 percent of the national labor force.

In Table 3 the growth in absolute number of Social Employment participants was shown. In Table 5 the relative importance of the Social Employment labor force is shown for the years 1965, 1970, and 1974. As a percent of the labor force, Social Employment has increased considerably. In 1965, .75 percent of the Dutch labor force was engaged in Social Employment. In that year, Social Employment was of the greatest relative importance in Drente, where Social Employment workers constituted 1.65 percent of that province's labor force. In 1965, there were only three provinces (Groningen, Friesland, and Drente) where more than 1 percent of the labor force participated in Social Employment, and none more than 2 percent. By 1970, 1.1. percent of the national labor force was in Social Employment. In that year, there was one province (Drente) where Social Employment workers exceeded two percent of the labor force, six where this percentage lay between one and two, and three below one percent.

In 1974, there were four provinces where Social Employment workers constituted more than 2 percent of the labor force. These were, Groningen, Friesland, Drente, and Limburg. There were four provinces where this percentage lay between 1 and 2, and only three where Social Employment participants included less than 1 percent of the labor force. These are the middle band of provinces and Noord- and Zuid-Holland.

Notable are the large differences among provinces in Social Employment participants as a percent of population and labor force. In Table 5, the range for 1974 is from .78 percent (Utrecht) to 2.47 percent (Limburg).

The number of workshops grew from 50 in 1950 -- the majority of which were workshops for the blind and mentally deficient -- to about 160 in 1976. The average number of workers per workshop also increased

Table 4

Program Employment in Relation to Population, by Province

1965, 1970, and 1974

	January 1965		January 1970		January 1974	
	population x 1000	workers in S.E. as a percent of population	population x 1000	workers in S.E. as a percent of population	population x 1000	workers in S.E. as a percent of population
Groningen	497.4	0.35	517.3	0.58	532.6	0.62
Friesland	495.7	0.34	521.7	0.43	547.2	0.48
Drente	336.2	0.43	366.6	0.54	393.7	0.55
Overijssel	860.8	0.27	920.9	0.39	966.8	0.49
Gelderland	1389.9	0.21	1520.6	0.38	1601.0	0.45
Utrecht	733.6	0.13	801.3	0.18	849.3	0.24
Noord-Holland	2163.2	0.16	2244.4	0.24	2282.7	0.29
Zuid-Holland	2847.1	0.22	2968.7	0.26	3018.5	0.31
Zeeland	290.1	0.32	305.8	0.39	322.9	0.45
Noord-Brabant	1638.7	0.25	1787.8	0.34	1910.3	0.39
Limburg	953.8	0.23	998.6	0.58	1038.3	0.65
Total	12207.1	0.23	12953.7	0.34	13491.0	0.40

Source: Social Employment Report of the Joint Ministry of Social Affairs and Finance Commission, Ministry of Social Affairs, March 1973, p. 12.

Table 5

Program Employment in Relation to Labor Force, by Province, 1965, 1970, and 1974

	January 1965		January 1970		January 1974	
	labor force x 1000	workers in S.E. as a percent of labor force	labor force x 1000	workers in S.E. as a percent of labor force	labor force x 1000	workers in S.E. as a percent of labor force
Groningen	142.0	1.22	150.0	2.00	146.3	2.26
Friesland	127.0	1.33	130.0	1.71	129.5	2.04
Drente	88.0	1.65	95.0	2.07	92.5	2.35
Overijssel	256.0	0.91	265.0	1.36	256.9	1.84
Gelderland	402.0	0.74	420.0	1.36	433.0	1.65
Utrecht	233.0	0.41	240.0	0.59	262.3	0.78
Noord-Holland	706.0	0.49	740.0	0.73	736.4	0.90
Zuid-Holland	924.0	0.67	965.0	0.79	952.2	0.98
Zeeland	77.0	1.21	80.0	1.50	80.2	1.83
Noord-Brabant	510.0	0.79	540.0	1.11	548.7	1.38
Limburg	282.0	0.79	295.0	1.96	274.8	2.47
Total	3747.0	0.75	3920.0	1.12	3917.8	1.37

Source: Data for 1965 and 1970 from Social Employment Report of the Joint Ministry of Social Affairs and Finance Commission, Ministry of Social Affairs, March 1973; data for 1974 from Maandschrift CBS, Central Bureau of Statistics, December, 1975.

substantially from 35 in 1955 to 108 in 1965 to 166 in 1970, and to 223 in 1976. The increase in average number of workers per workshop is partly a result of mergers of smaller workshops into larger organizations. This tendency was encouraged by the higher standards set by the Social Employment Law in 1969, concerning medical, psychological and social coaching staff.

So far, we have seen growth in the number of employees in Social Employment, in the number of workshops, the size of the workshops, and in the percentage of the labor force constituted by W.S.W. participants.

The increasing relative importance of Social Employment is of consequence for labor market conditions in various production branches. The workers in Social Employment (constituting nearly 1.4 percent of the labor force in 1974) are not concentrated in one category of employment. There are industrial workshops, open-air (land development) projects, and administrative centers. However, the major part of employees are working in industrial centers as the following numbers indicate:

	Industrial	Open-air/land development projects	Administrative
1965	20,328	6,493	1,798
1970	29,059	9,931	4,518
1974	32,375	13,676	7,898

(Data represent employment on December 31 of each year)

The fastest growing sector is the administrative, and the slowest growing is the industrial sector of the program. In 1974, 7,898 W.S.W. workers were employed in the administrative sector, an increase of nearly four times from the number in 1965. The open-air projects more than doubled in size from 1965 to 1974, while the industrial sector grew by 60 percent.

Within the industrial center component of the program, workshops and workers are distributed over a variety of production branches. Table 6 shows the Social Employment workers in various production branches as a percent of workers in these branches in open industry.

Table 5

Social Employment Workers and Workers in Open Industry in Various Production Branches as a Percentage of Total Workers

	Percent of W.S.W. workers by industrial-sector			Percent of open industry workers by industrial sector		
	1965	1970	1974	1965	1970	1974
Metal	35	32	32.9	37	42	42.5
Plastic, rubber, leather	7	6	6.3	11	12	12.5
Paper, cardboard (+ printing)	10	9	7.4	7	8	9
Wood, furniture	12	12	9.4	4	4	5
Pottery, glass, concrete, tiles	2	1	0.8	5	4	4
Textile	8	8	7.5	17	14	9
Other [1]	27	32	36.7	20	16	18
	100	100	100	100	100	100

Source: W.S.W. data for 1965 and 1970 from Social Employment Report of the Joint Ministry of Social Affairs and Finance Commission, Ministry of Social Affairs, March, 1973, and for 1974 from Sociale Werkvoorziening voor Hand- en Hoofdarbeiders Resultaten Enquêtes, 1974, Ministry of Social Affairs. Open industry data from Maandschrift CBS, Central Bureau of Statistics, December, 1975.

1) This section includes non-homogeneous types of activities for Social Employment and open industry and therefore should not be compared.

From Table 6 it appears that the pattern of distribution of workers over various production branches within Social Employment does not diverge strongly from the pattern in open industry. In only two branches does the Social Employment program show a notably higher concentration of workers than in open industry. These are the "other"-category and the wood and furniture branch. As for the former category, comparison between Social Employment and open industry is of little meaning, because this category contains very different types of activities for Social Employment and open

industry [22]. However, 12 percent of Social Employment participants were engaged in the wood and furniture branch in 1970, compared to 4 percent of the workers in open industry. In 1974, however this difference had diminished somewhat, as the values were then 9.4 percent for Social Employment and 5 percent for open industry.

Table 7

Social Employment Workers as a Percent of Workers in Open Industry in Various Production-Branches

	1965	1970	1974
Metal	1.7	2.1	2.1
Plastic, rubber, leather (+ chemical industry)	1.2	1.3	1.4
Paper, cardboard (incl. printing)	2.3	2.9	2.2
Wood, furniture	5.2	7.3	5.4
Pottery, glass, concrete, tiles	0.6	0.6	0.5
Textile	0.8	0.8	2.3
Other [1]	2.3	5.1	5.6

Source: See Table 6.

1) See Table 6, footnote a.

Table 7 shows the workers in Social Employment as a percent of open industry workers by production branch. As will be recalled Social Employment program participants constituted 1.4 percent of the country's labor force in 1974. Social Employment workers in the plastic, rubber, and leather industry as a percent of those of open industry come the nearest to the national average with 1.4 percent. As was already noted in Table 6, in the wood and furniture sector W.S.W. workers constitute a considerably higher percentage of workers in open industry: 5.4 percent

---

22) In open industry this category includes food, tobacco, and liquor industry, while in the Social Employment category such activities as packing and sorting are included.

in 1974, and more than 7 percent in 1970. The percentage is the lowest in the pottery, glass, concrete, and tiles sector with .5 percent in 1974. The largest increase in this percentage is shown in the textile branch. The percentage of Social Employment workers in that industry increased from .8 percent in 1965 and 1970 to 2.3 percent in 1974. This increase is in part due to the severe recession in Dutch textile industry that occurred during the last decade [23].

IV. Why Has the Social Employment Program Grown So Rapidly?

In this section, some of the likely causes for the rapid growth in the Social Employment Program will be discussed. Of necessity, this discussion will have to be speculative in nature. It is impossible to know for certain which forces have been active in determining program growth -- and the extent to which each has contributed to that growth. The primary forces which we identify, however, would seem to include the major elements in determining growth.

A. Changing Attitudes Toward Work

Changing attitudes toward work have influenced the size of the Social Employment program in at least three ways. First, as we noted earlier, one of the motivations for a governmentally organized social employment program in the 1940's and 1950's was the desire to provide employment to handicapped workers as a matter of "right". As this idea spread in the 1950's and 1960's, handicapped people became increasingly aware of this right, and some of them exercised it.

A second influence has come as a side-effect of rapid growth of the Social Security system. One of the characteristics of that system is that the financial reward for work-effort has been substantially decreased. Increases in income of only 10 or 20 percent are realized

---

23) In 1963, the textile industry provided employment to 192,300 people; in 1974, this number had decreased to 102.900.

by moving from a social security program to employment in open industry. An implication of this is that society has, implicitly at least, attached less importance to work effort. This change in attitude would tend to retard growth in the Social Employment program.

A third influence from changing attitudes has come from the evaluation of medical and psychological perceptions of the value of work. Increasingly, professionals in these fields have emphasized the value of work for a full and rewarding life. This value is said to stem from factors such as the opportunity to realize ones' talents in work, in the desire to be actively involved in society, in the opportunity for human contact and inter-human relations offered in the workplace, in avoiding idleness, in satisfying the need to structure ones' pattern of life, or in confirming or regaining ones' position in the family or community. This change in attitudes would tend to increase the tendency of social agencies who work with the handicapped (special schools, regional physical rehabilitation advisory teams, social-psychiatric services, institutions of social work, and municipal social services and clinics) to guide their clients into the Social Employment program.

These changing attitudes towards work is sure to have influenced the growth of the Social Employment program. However, because these changing attitudes over the past three decades have had both work inducing and work inhibiting components, it is hard to say whether they have had a net upward or downward effect on the number of program participants.

B. Pressure from the Social Security System

A second factor likely to influence the number of W.S.W.-employees is the obligation imposed on the beneficiaries of some of the Social Insurance Laws to accept suitable work, if available. The Wet Werkloosheids Voorziening (Unemployment Assistance Law) and the Algemene Bijstandswet (complementary to Unemployment Assistance Law) both terminate payments when a beneficiary refuses to accept employment judged to be suitable to him. This includes a refusal by the beneficiary to enter Social Employment if he or she is considered to be eligible for and admitted to the program.

The Wet op de Arbeidsongeschiktheidsverzekering (Disability Laws) substitutes benefits for earnings when a worker is no longer able to secure employment fitting his training and former position, because of physical or mental disability [23]. In some cases, such workers are urged to enter the Social Employment program, in part to facilitate observation and to encourage rehabilitation. In most instances, a beneficiary's refusal to enter Social Employment has no consequences for the continuity of payments. Nevertheless, pressure on such individuals to enter Social Employment as a consequence of these regulations does exist. As indicated later, the extent of this pressure appears to have diminished in recent years.

C. The State of the Economy

The preamble of the Social Employment Law (W.S.W.) states that those persons who are able to do work, but for whom employment under normal conditions is not, or not readily, available due to personal circumstances (e.g. physical or mental handicaps) are eligible for employment in the program. Hence, it is clear that the number of people who will be eligible for Social Employment is closely related to the willingness on the part of both private industry and the public sector to employ handicapped workers.

Employers above a certain size are, through the Wet Plaatsing Mindervalide Arbeidskrachten (mentioned above), required to employ a minimum percentage of handicapped workers. The willingness to offer employment beyond this minimum -- employment which would naturally reduce the population of eligible Social Employment participants -- will be influenced by business profitability (which in turn is dependent on economic conditions) and by changes in technology implying a substitution of high for low-skill workers. In a recession, the willingness of open industry to hire handicapped workers is reduced. This will enlarge the pool of handicapped workers desiring work and, will likely increase the flow into Social Employment.

---

23) This is true of both of the Disability Laws; that for employed workers and that for the self-employed.

While the adverse effect of a lagging economy is likely to be reduced by the wage-dispensation regulation linked to the Wet Plaatsing Mindervalide Arbeidskrachten, the impact of other factors constraining private and normal public sector employment opportunities for handicapped and other low productivity workers is less easily met by government-subsidies to employers. Some have argued that extending the wage-dispensation by making the temporary subsidy into a permanent one and by increasing the volume of the compensation would increase private and normal public sector employment opportunities for handicapped workers. However, it should also be noted that extending the subsidy-arrangement would tend to reduce employers' willingness to hire non-subsidized handicapped workers. And, it might also make the employment position of workers whose productivity declines during their service more tenuous.

In this regard, it should also be mentioned that the Disability Law (W.A.O.) offers provisions aimed at preserving or improving the productivity of physically handicapped workers (e.g. adapted cars, wheelchairs, braille shorthand machines and typewriters, magnifying glasses, adaption on installment of tools and machines, and other devices to meet physical shortcomings) to reduce the employer burden from hiring physically handicapped people.

These factors notwithstanding, the number of W.S.W. participants or aspiring participants is likely to increase in times of economic recession, as the willingness on the part of private and public employers to employ them is reduced.

D. The Market for Social Employment Products

It is the objective of the Social Employment program to provide adapted and useful work to handicapped workers. Hence, the size of the program is limited by the demand for the products and services which the program can produce. The size of the workforce in Social Employment is consequently not only determined by the number of applicants, but also by the extent to which the management of the program succeeds in marketing its output. This is true for the industrial centers and other revenue-yielding activities, but not for those activities not designed to produce salable output.

Among other things, Article 17 sub b. of the W.S.W.-Organizational Decree of 1969 states that the work done in a social employment workshop should answer an economic or social need. This does not mean that work done in the workshop must be only market-oriented. It does mean that the emphasis laid on therapeutical and other benefits of the program should not lead to the performance of useless work. By some criterion -- quite unstated -- the output of workshops must be judged to be of use to society. In fact, market sales are a primary outlet for workshop production, especially in the case of the industrial centers.

Hence, the state of the national economy also affects the size of the program in this way. While slightly overstated, it can be claimed that an economic recession will simultaneously increase the supply of participants (and the pressure placed on municipalities and center directors to accept workers) and decrease the demand for the output of centers. Private business, increasingly constrained in altering the size of their work force in response to changing business conditions, has sought other means of achieving flexibility. One of these has been to rely more heavily on Social Employment industrial centers to perform certain functions. In periods of high sales, contracts with W.S.W. centers can be expanded. These same contracts can be reduced when sales lag.

This dependence on market demand conditions is increased by the provisions of Article 17 sub c of the W.S.W. Organizational Decree of 1969 which states that sales of the workshops may not jeopardize the employment of private sector or normal public sector workers. This provision limits the aggressiveness with which the centers can pursue contracts, especially in a lagging market.

Related to the dependence of program sales on the state of the economy, is the diversity of the activities in which the program is engaged. It is clear that reliance on one or few markets would render the program highly vulnerable to market fluctuations in these sectors, and its objective would consequently be jeopardized. The distribution of workers over various production branches shown earlier, reduces this sensitivity to market conditions.

A factor that has contributed to the apparent adequacy of the available work-volume is the fact that centers can contract with

public sector agencies or institutions. Hence, if sales to the private sector are reduced, government or public orders can be increased often at the discretion of municipalities.

Through the combined mechanisms of the requirement that the work done must be economically or socially useful and not job-creation for its own sake, and the provisions that the program must not jeopardize private or normal public sector employment, market fluctuations will constrain the size of the workforce of handicapped workers which the Social Employment program can absorb. Again, it should be noted that this constraint applies to those activities designated to produce a salable output.

One final comment: Although sales opportunities would seem to be a constraining factor, the high rate of growth of employment in the program in combination with lagging sales would imply that the availability of outlets for production is not a terribly tight constraint.

E. Outflow from Social Employment to Open Industry

One of the objectives of the Social Employment Law is to offer employment ot the handicapped in order to improve their working capacity and consequently to stimulate their re-entry into the production-process, preferably in open industry [24].

The offer of employment by W.S.W. to an unemployed and eligible person appears to stimulate that person's re-entry into open industry in two ways. First, there is the quite-unexplained phenomenon that workers who have been unemployed for a long period of time do indeed find a job after a W.S.W.-contract has been offered to them. According to findings of research carried out in 1971, in seven out of twenty cases in which a W.S.W.-contract has been offered to a W.W.V. (Unemployment Law)-beneficiary, the offer has been refused and, shortly after,

---

24) The preamble of the Social Employment Law expresses this objective: "... to provide employment, aimed at preserving, restoring, or improving (the handicapped worker's) workcapacity", ...

the unemployment payment stopped [25]. This could be called the re-activating effect of W.S.W. The mere offer a Social Employment contract appears to stimulate certain of the unemployed encouraging them to make more serious job search efforts. This effect both reduces the inflow into W.S.W. below what it otherwise would be and it reduces the number of persons relying on unemployment benefit for income support. Second, work experience withtin Social Employment appears to have a positive influence on a person's capacities, his fitness for work, and adaptability to a work atmossphere. This effect more clearly reflects one of Social Employment's objectives. It is hoped that the beneficial influence of actual employment, or being integrated into productive society at an appropriate level which is not overdemanding to the worker, will help him to move from a chronically unemployed to a productive member of society hired and employed in private industry or in normal public sector employment. Viewed in this way, Social Employment is a transitional program from long-term unemployment to regular employment.

Clearly, the size of this outflow from the program will depend on numerous factors some of which have been mentioned earlier. These include the willingness of employers to employ ex-W.S.W. participants (which will itself depend on general business conditions), the incentive for W.S.W. participants to seek work outside of the program, and the effectiveness of the program in preparing participants for normal employment in private industry or the public sector. Moreover, a number of former W.S.W.-employees will, after re-entering open industry, fail to remain employed. Such individuals will again rely on government support or Social Employment, for they remain a vulnerable group among the entire laborforce.

Nevertheless, the size of the outflow from Social Employment is of significance both socially and for judging the extent to which the

---

25) Research carried out in 1971 at the initiative of the Werkgroep Sociale Werkvoorziening (Social Employment Commission of Ministry of Social Affairs and Finance). See Social Employment Report of the Joint Ministryof Social Affairs and Finance Commission, Ministry of Social Affairs, March, 1973, p. 29.

objectives of the Social Employment policy are realized.

Table 8 presents the size of the outflow from 1967 to 1975. As can be seen there, the peak of outflow in both absolute and percentage terms was 1969. In that year, over 3400 people made the transition from Social Employment to employment in open industry - over 8 percent of the Social Employment workforce. Since that date, both the absolute number and the percentage of workers moving out of Social Employment has fallen dramatically. This is true especially in the 1969-1970 period and in the period since 1973. In 1975, only 1000 persons made the transition -- 1.6 percent of the total Social Employment labor-force. Both of these recent periods are characterized by increasing unemployment and a slack economy.

Table 8

Outflow of Social Employment Workers to Open Industry Employment

Year	Number of Persons	Percent of W.S.W. Employment
1967	1938	5.4
1968	3151	7.7
1969	3426	8.4
1970	2092	4.8
1971	1900	4.1
1972	1899	4.0
1973	1946	3.9
1974	1413	2.6
1975	1000	1.6

Source: Social Employment Report of the Joint Ministry of Social Affairs and Finance Commission, Ministry of Social Affairs, March, 1973.

F. Increase in Total Number of People Eligible for Social Employment

An important factor influencing the number of people employed in the Social Employment program is the size of the pool of eligibles. If an increasing number of prime-age individuals are classified as handicapped, the program is likely to grow, and with warrant. Progress in medical science has increased the survival chances of people with minimal life chances at birth and those whose health has severely deteriorated at later age. Many of these, however, remain physically or mentally hindered in finding employment. In addition, improvement in medical rehabilitation techniques has significantly contributed to a greater possibility for people recovering from disease or accident to re-enter the production process. Similarly, with improved social education, social work, and coaching of handicapped, public and private enterprises are better able to accomodate handicapped persons, even though many of them will still encounter difficulties in attempting to work under normal conditions. These improved medical and social assistance facilities have been made available to larger groups of society by innovations in social legislation, of which the W.A.O. (Disability Law) and the A.W.B.Z. (Special Health-costs Law) are the most significant. Also as a result of these developments, then, the population of the hard-to-employ who can only be integrated into an adapted production process is a growing one.

Finally, with development of Social Employment more people are "discovered" who can be classified as "handicapped". This goes hand in hand with medical and technological developments and the ability of workshop managers to adapt work to the handicapped worker, in creating a greater pool of individuals who are able to work and interested in working in social employment.

G. Unwarranted Expansion of the Eligible Group

The definition laid down in art. 7 sub 1 of the W.S.W. Law, which defines who is eligible for acceptance in W.S.W., is rather vague. This could nurture a tendency toward accepting workers because of simply the presence of unemployment due to low-skill or age alone. An economy with increasing unemployment could stimulate this increased acceptance of the hard-to-employ.

Mrs. Veder-Smit, a Member of Parliament, expressed her concern regarding this matter during the parliamentary debates on the Social Employment Law in 1967. She stated [26]:

"One wonders whether it isn't likely that, during an economic recession, a number of persons will be accepted for whom the social workshops are not meant. I could imagine that unskilled workers - those who are hard-to-employ due to factors related to their person - will be employed under this Law. I emphasize that this cannot be the meaning of this Law..... To great an inflow might damage the interests of the really handicapped".

Without undertaking a careful examination of the characteristics of those offered a W.S.W. contract, and changes in these characteristics over time, it is impossible to determine with certainty if such changes in de facto eligibility criteria are occurring. However, one indication that such changes might be occurring is the growth rate of the "Non-Elsewhere Classifiable" group mentioned earlier. As will be recalled this group grew from 4940 individuals in 1969 to 6767 in 1974, representing a growth of 37 percent -- the highest growth rate of all groups [27].

There are some indications that another type of abuse of the program is occuring: This type of abuse would consist of accepting as a W.S.W. worker a person who may not fulfill the requirements for acceptance in W.S.W. strictly interpreted, but who is able to fulfill a task which the municipality wants to be done. Such a person, upon the certifications of a doctor that some emotional, mental, or physical problem exists which makes normal employment difficult, could be accepted in the program as one with a Non-Medically Diagnosable (or NEC) handicap. This is particularly true in the administrative activities of the program.

Through such a procedure, the municipality can accomplish a function it considers desirable, but that cannot be accomplished otherwise because of constraints on the normal municipal budget.

---

26) Handelingen II, buitengewone zitting 1967, blz. 602.
27) Preliminary data show that this number increased to over 8200 in 1975. This represents a growth of 21 percent in a single year.

Given the subsidy-arrangements for non-revenue-yielding administrative and open air activities (to be explained in the following chapter), the municipality in so doing, can transfer most of the costs of such a function to the expenses of the national budget leaving only a small fraction of these costs for its own budget.

That such abuse may exist is given credence when the growth of white-collar or administrative workers in the program is considered. The percentage of white-collar workers (administrative section) of the total program has increased from 10.2 percent in 1969 to 14.4 percent in 1974. The relevant NEC- (or nonmedically diagnosable handicap) group within the administrative section of Social Employment has grown from 26.6 percent of the total of white-collar workers in 1969 to 30.4 percent of the total in 1974, thus surpassing the mentally handicapped as the largest group [28]. As indicated earlier, preliminary data suggest that this percentage increased to 31.9 percent in 1975.

Clearly, these numbers have serious shortcomings. As indicated above, it is not possible to determine definitively if such abuse is occurring without a detailed investigation. The numbers are, however, suggestive. This is especially true of the Not Elsewhere Classified statistics. Given the elaborate set of illness and disability categories employed in the program, explanations for the large number and rapid growth in the NEC category other than abuse are difficult to imagine.

H. Placing W.S.W. Workers in Regular Municipal Positions

Related to the previous point is the substitution of W.S.W. workers for regular municipal employees, when regular positions become vacant or expanded. This substitution does not involve any necessary relaxation of eligibility criteria; it simply involves the perception by municipal officials that, because of the program subsidy arrangements, filling some positions under their jurisdiction with W.S.W. workers rather than regular employees can save substantial municipal budgetary costs. In a period of tight municipal budgets, this could well lead to municipal recruitment of W.S.W. workers. Some of the recent rapid expansion in the open-air and administrative components of the program can likely be traced to this substitution.

---

28) Sociale Werkvoorziening voor Hand- en Hoofdarbeiders, Resultaten Enquêtes 1969-1974, Ministry of Social Affairs.

CHAPTER II

THE ENABLING LEGISLATION FOR THE SOCIAL EMPLOYMENT PROGRAM

De Wet Sociale Werkvoorziening (Social Employment Law) of November 23, 1967 contains rules concerning the provision of adapted employment to the handicapped. It provides the legal framework for the Social Employment program, which is designed to provide employment to persons who are hard to employ under normal circumstances in open industry or regular public service due to personal factors, namely, handicaps. This law and its accompanying ministerial decrees 1) set standards and guidelines for the manner in which employment is provided, 2) establish requirements which operating staff in the program should fulfill, 3) provide regulations for the program's organization, 4) stipulate subsidy arrangements to the municipalities responsible for the execution of the law, and 5) define eligibility for participating in the program.

In this chapter, the primary provisions of the Law will be summarized. Understanding of these provisions is basic to appraising the structure and performance of the program. In this discussion, we will first present some background to the passage of the law, emphasizing the issue of "the right to work" which underlay much of the Parliamentary debate. Then, the broad objectives of the law will be described by reference to the Law's Preamble. Finally, we will proceed through the main provisions of the law (and the ministerial decrees which accompnay it), summarizing the structure and organization of the program which the law envisions.

I. The Basis of the Law -- The Right to Work

As indicated in Chapter I, the issue of the individual's right to a job pervaded international discussions of social policy after the Depression of the early 1930's. The passage of the Social Employment Law grows out of the growing acceptance of this right to work in the 1940's

and 1950's. And it establishes this right for certain categories of citizens -- the disabled -- which previously did not have their rights in this area clearly spelled out.

For example, Mr. Roolvink, Minister of Social Affairs and Health at the time of introduction of the Wet Sociale Werkvoorziening, observed in a report on National Health in 1966 (Chapter I, sub. 4):

> "I do not consider these (right to work and right to health) rights as strict personally enforceable rights, but as an obligation of government to create the conditions for employment for everyone (and to provide extensive health-provisions)".

And, during the parliamentary debates several Members of Parliament also emphasized this motivation for the law. Mrs. van Leeuwen, a Member of Parliament, treats the right to work from a more philosophical point of view [1]:

> "Work -- as an order of creation -- belongs to the essence of being human. It is a vital function that every human being, if at all possible, must be able to fulfill in order to develop his personality, to fulfill his cultural rolé in society, to serve his fellow man, and to provide for his own livelihood. From this point of view, a right to work -- a claim on work, if you like -- emanates automatically".

These views and others as well support the view that the individual's right to work should be translated into a governmental obligation to provide as fully as possible opportunities for employment for all members of society, including the disabled.

In opposition to this view of the meaning of "rights", Mr. Nypels, also a Member of Parliament, advocated the right to work as a formal enforceable right. He stated [2]:

> "... the law does not entail a personal right to work in Social Employment. Instead art. 7 of the law obliges the municipal authorities to promote employment for all eligible persons. We regret that the law does not realize a formal right to work in Social Employment. ... but we hope that through expansion of Social Employment the right will be materially -- if not formally -- realized".

He also proposed an amendment to the law which would grant the right of appeal to the W.S.W. employee on certain decisions concerning matters of labour-conditions, which right would extend to the right of appeal to potentially eligible workers for whom employment in W.S.W. had been refused.

---

1) Handelingen II, buitengewone zitting 1967, blz. 602.
2) Handelingen II, buitengewone zitting 1967, blz. 603.

In his response at the conclusion of the parliamentary debates, the Minister restated his position toward the right to work, acknowledging the moral right to work as expressed in art. 23 of the Universal Declaration of Human Rights: "Our laws and regulations (must) transfer this moral -- not legally enforceable right -- into a positive obligation for the government". He, however, refused to accept the opposition's amendment, as this amendment would entail a formal right.

These quotes from the parliamentary debates illustrate the extent to which the principle of a person's right to employment and the attempt to substantiate this right were basic to both the motivation for and the objective of the Social Employment Law.

II. The Preamble to the Social Employment Law -- A Statement of Objectives

The preamble of the Wet Social Werkvoorziening reads as follows [3]:

> "We have considered it desirable to provide regulations concerning the provision of adapted employment, aimed at conservation, restoration or stimulation of the working capacity, on behalf of persons, who are capable to work, but for whom, mainly due to factors connected to their person, employment under normal circumstances is not or not yet available".

Embodied in this statement are three central purposes of the legislation. First, the preamble of the law prescribes the character of the employment to be provided: it must be adapted to the worker. It also stipulates a training objective for the program: it should help the worker to either maintain or restore or improve his capacity to work and his fitness for work. Finally, the preamble describes the persons eligible for the Social Employment program: he or she should be capable of doing work (in other words, he or she should have a minimum productivity level), but be hard to employ due to some personal handicap. It is noteworthy that a person's eligibility does not imply an obligation to enter Social Employment. Employment is offered to a person on the basis of his or her eligibility as described in the law, but he or she is free to refuse the offer. However, if the person is a

---

3) Wet Sociale Werkvoorziening (Stb. 1967, 687).

beneficiary of the Unemployment or Disability Program, such refusal might have consequences for the continuation of the support received.

In addition to this statement of purposes, the early portion of the law assigns responsibility to provide employment to the municipalities. In turn, the municipalities can delegate responsibility for the running of a "werkverband" (defined below) to a private or public body. And most of them do so delegate. Nevertheless, the obligation to provide employment is assigned to the municipality.

III. The Chapters of the Social Employment Law

The Wet Sociale Werkvoorziening of 1969 consists of nine chapters: I. Definitions; II. Advisory bodies; III. The municipality's task; IV. "Werkverbanden en Werkobjecten"; V. The work contract; VI. The worker's legal remedies; VII. Supervision and advice; VIII. Subsidy arrangements for the municipalities; IX. General regulations. In addition, the regulations laid down in the law are complemented with a series of ministerial decrees. In the following brief sections, the key provisions of the substantive chapters will be described.

A. Advisory Bodies

There are two types of advisory committees functioning within the framework of the W.S.W. law. The first is the local Social Employment Commission installed by the City Council to give advice to the municipality on matters concerning the fulfillment of the assigned task (art. 4 sub. 1). The second is the Central Commission (a subcommission of the Social Economic Council) which gives advice to the Minister of Social Affairs in his capacity as supervisor of the Social Employment (art. 3 sub. 1).

These committees have responsibility for giving advice to the municipality and the Ministry, respectively, on request or at their own initiative. In addition, the law states the matters on which the Minister (as supervisor) and the municipality (as executor) must consult the respective committees. For the local Social Employment Committee,

the law also prescribes its composition [4].

Article 4 sub 2 compels the municipality to name a committee with the following composition:

a. one representative of the City Council, who acts as chairman;
b. three persons proposed by the Trade Unions;
c. the rijksconsulent (an official of the Ministry of Social Affairs, supervising the activities within the Ministry's field of responsibility in a specific region) in whose region the municipality is located, or his representative;
d. the director of the government employment agency (G.A.B.) in whose region the municipality is located, or his representative.

Article 4 sub. 3 allows the municipality to install up to six additional members. These additional members can be representatives of employers, the social security system, and other organizations and institutions. As to the matter of employer-members of the local Social Employment committee, two Members of Parliament (Mrs. van Leeuwen and Mrs. Veder-Smit) underlined the desirability of admitting employers' representatives to committee membership in order to stimulate better relations between Social Employment and open industry. Minister Roolvink observed that he too welcomed employer-members in the committees, but was opposed to making their presence obligatory.

This committee of up to twelve members, then, is consulted on matters directly concerning the fulfillment of the municipality's task to provide employment to the handicapped. The Municipal Board or City Council will hear the committee's advice prior to taking decisions on the following policy-matters:

- The designation of an organisational unit as a "werkverband" (a management unit for organising the work activities)of the W.S.W. (art. 10 sub 1)
- the cooperative association of a municipality with other municipalities in arranging commercial operation of Social Employment-werkverbanden (art. 8 sub 1)
- the termination of a "werkobject" (a work activity carried out within

---

4) This is not true for the Central Committee as this committee is installed ex art. 6 of the Unemployment Law and ex art. 43 Wet op de Bedrijfsorganisatie.

the werkverband), when such a werkobject does not live up to the standards of the law (art. 15 sub 2)
- the installation and the mode of operation of boards of consultation (worker-participation) within the werkverband (art. 24)
- organization of educational activities for younger and older workers (arts. 25 and 26)
- legal procedures mentioned in articles 32 sub 1, 38 sub 4 and 39 sub 1
- requests for higher than regular government subsidy

The committee also plays a major role in the admission of workers to the program and in termination of their contracts with the municipality.

The Central Committee has a similar position towards the Minister on matters concerning his supervisory task.

B. The Municipality's Task

Article 7 sub 1 of the W.S.W. law delegates the responsibility for the execution of the law (i.e., the actual providing of employment to the eligible group of persons) to municipal authorities. This article also defines the population group for which the municipality is responsible. In sub 1, the definition of eligibility contained in the preamble of this law is reiterated; sub 2 adds that the eligible person should be under 65 years of age and resident in the municipality.

To fulfill this task, the municipality has to determine the number of residents within its borders who are both eligible for and willing to accept employment in W.S.W.. In addition, the municipality must consider how these people can be employed in W.S.W. in such manner that their work-capacity can be improved or at least maintained. In practice, this requires continuous contacts with institutions involved in care for the handicapped, such as physical disability and mental clinics, the public bodies of the Disability Program, and the government Employment Agencies.

In addition to recruiting a work force, the municipality has to ensure that an adequate volume of adapted work is available. To achieve this, the municipality can designate a W.S.W. werkverband (see section C) which is either under direct municipal control or under the control of a private institution responsible to the municipality. This werkverband

is then responsible for providing work to the participants who have been offered a W.S.W. contract by the municipality. Alternatively, the municipality can cooperate with other municipalities in order to employ handicapped residents.

In providing employment to handicapped residents, then, the municipality has the following options:

1. The municipality can employ handicapped residents according to the law and place them in a werkverband under direct municipality control (the "gemeentelijke vorm").
2. The municipality can employ handicapped residents and place them in a werkverband under control of a corporate body created under civil law, to which the municipality has delegated authority under certain conditions (the "Stichtingsvorm").
3. The municipality can approach the Board of another municipality to have its handicapped residents employed by that other municipality and placed in a werkverband designated by the other municipality.
4. The municipality can form a cooperative association with one or more other municipalities, delegate the responsibility of employment to this association, and thereby share authority and responsibility with other municipalities (the "Werkvoorzieningsschap vorm").

The last form finds its legal basis in de Wet Gemeenschappelijke Regelingen (Communal Arrangements Law) of 1950 [5] that allows lower authoritative bodies of the state (such as municipalities) to create communal institutions with other municipalities to serve communal interests [6]. Either a communal organ of the cooperating municipal bodies is formed, or a new corporate body of public law is created. In many instances of cooperation between several municipalities, a new corporate body of public law (the "werkvoorzieningsschap") has been created to which executive responsibility is then delegated. Article 8 of W.S.W. mentions this possibility.

The "sociale-werkvoorzieningsschap" form of organization can appear in the form of a "light schap" and a "heavy schap". The "heavy" werk-

---

5) Wet Gemeenschappelijke Regelingen, 1 april 1950, Stb. K120.
6) Legal basis is also provided in art. 162 of the Constitution, allowing the law to create new organs of state.

voorzieningsschap is quite independent of the municipality, in the sense that substantial authority and responsibility for determining activities, scale, investments, etc. has been delegated to its board. In the "light schap" form, actual decision-making power remains with the municipality (usually the largest of the cooperating municipalities; the others functioning as advisors). In this case, the schap is primarily an operating entity.

In Figure 1, the organizational arrangements for a typical "heavy" sociale werkvoorzieningsschap are depicted.

C. Werkverbanden and Werkobjecten

> In order to fulfill its assignment described in article 7 of this law the municipality having heard the committee, designates one or more organizational units whose aim it is to execute the "werkobjecten" designated in accordance with article 13 of this law, as a werkverband.
>
> Article 10 sub 1.

In his explanatory memorandum accompanying the introduction of the Social Employment Law in Parliament, Minister Roolvink described a werkverband as follows [7]:

> "A werkverband should be viewed as an organizational structure with its own management and administration, whose objective is the execution of Social Employment in either an industrial workshop, an office, or in the open air. A werkverband in the terms of the law comes in to being when a municipality designates an organizational unit as such".

> The municipality, in order to fulfill its assignment described in article 7, designates workobjects to be carried out in a designated werkverband.
>
> Article 13 sub 1.

The term "werkobject" -- in the words of the Minister -- indicates a coherent set of activities. A work object can be any coherent job carried within the framework of a werkverband, such as the manufacturing of a product, the building or maintenance of recreation facilities in the open air or administrative sector of Social Employment. There are also "buiten-objecten" (individual work objects). In these cases, a

---

7) Verg. Wetsontwerp Wet Sociale Werkvoorziening (buitengewone zitting 1967), Memorie van Toelichting, blz. 15.

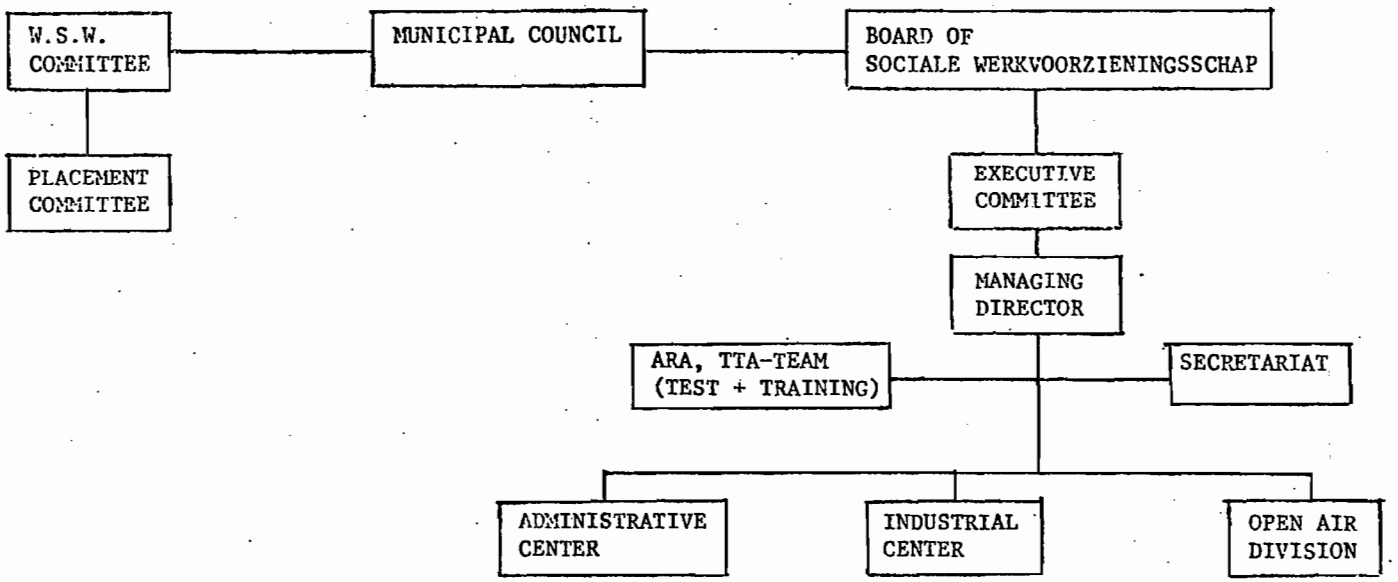


Figure 1.

Organizational Scheme for a Typical "Heavy" Sociale Werkvoorzieningsschap.

W.S.W. employee does not work in an administrative center but is leased to a private company or a public institution. A werkobject must be carefully described prior to its formation to determine whether it is acceptable to Social Employment.

The basic standards and requirements imposed upon werkverbanden and werkobjecten are set forth in the Social Employment Organizational Decree of September 30, 1968 (Besluit Organisatie Sociale Werkvoorziening) [8] and the Ministerial Decree of December 2, 1968. Other decrees have supplemented these provisions.

Article 2 of the Organizational Decree contains a general requirement for the werkverband:

> A werkverband must guarantee, through its management, its structure, and its facilities, the opportunity to its workers to work in adapted circumstances, aimed at conservation, rehabilitation, or stimulation of their working capability.

The subsequent articles are an elaboration of this general requirement, and emphasize procedures for management and administration. It is stipulated that a werkverband will have one manager, who is assisted by workmasters and coaching staff. The tasks of the management are to arrange the work, to fulfill social, medical and economic tasks in the interest of the werkverband and its workers, and to establish administrative procedures for the day-to-day functioning of the werkverband.

In the case of revenue-yielding werkverbanden the administrative tasks should be carried out in accordance with the principles of modern business-administration (art. 10 sub 3). This includes the keeping of standard cost accounts and the providing of data to the responsible municipality necessary to fulfillment of the reporting requirement to the Ministry of Social Affairs [9].

Several werkobjecten can be carried out by a werkverband. These werkobjecten are classified as either manual labor or white-collar (administrative) work. And, within the manual labor category, werkobjecten

---

8) Besluit Organisatie Sociale Werkvoorziening (Stb. 1968, 512).

9) Art. 48 of W.S.W. compels the municipality to report to the Ministry on the execution of the Law. According to art. 41 of the Ministerial Decree of December 2, 1968, the municipalities must provide, within 6 months after the termination of a bookkeeping-year, a full account of their revenue-yielding werkverbanden, to the Ministry. Note that this article excludes the need for municipal reporting on the non-revenue-yielding activities.

can be either industrial or open-air activities. While all of the industrial werkobjecten are revenue-yielding, only a portion of either the open-air or administrative werkobjecten provide outputs which yield revenue.

Hence, a werkverband may contain werkobjecten of different types in the manual labor area -- manufacturing in the industrial workshops or open-air work, such as the maintenance of sport fields or the operation of revenue-yielding nurseries [10]. In addition, a werkverband may contain administrative werkobjecten which are either revenue-yielding or not. This administrative-manual labor distinction undoubtedly derives from the original Social Employment regulations the S.W.H. and C.S.W., which provided separate regulations for white-collar and manual laborers, respectively.

This organization of the program is illustrated in Figure 2. There the distinctions among industrial, open-air, and administrative activities are shown, as well as the distinction between revenue-yielding and non-revenue-yielding activities. In addition to the categories shown on the chart, there is the possibility of placing W.S.W. workers into external jobs in the private sector.

In article 17 of the Organizational Decree, the requirements for a werkobject are set forth. First, the werkobject must serve the basic goal of Social Employment as described in article 2 of this Decree and in the preamble and article 7 of the law. It must conserve, rehabilitate, and stimulate the worker's working-capacity. In practice, this means that the work, its methods, and its nature must be adapted to the worker's handicap and be designed to increase his productivity [11].

Second, the work provided should respond to an economic or social need. This does not mean that the work must be primarily aimed at such needs. It is meant to be a guarantee against useless work -- the Social Employment-participant may not be engaged in work that

---

10) Article 15 Organizational Decree of Social Employment, September 30, 1968.

11) In discussions with managers of werkverbanden, it was emphasized that the assigned work should not be too easy. To employ a worker below his level of capability does not help the worker to improve his working capacity. Moreover, excessively simple work leaves him time to worry about his ailments, which often detracts from his productivity and his well-being.

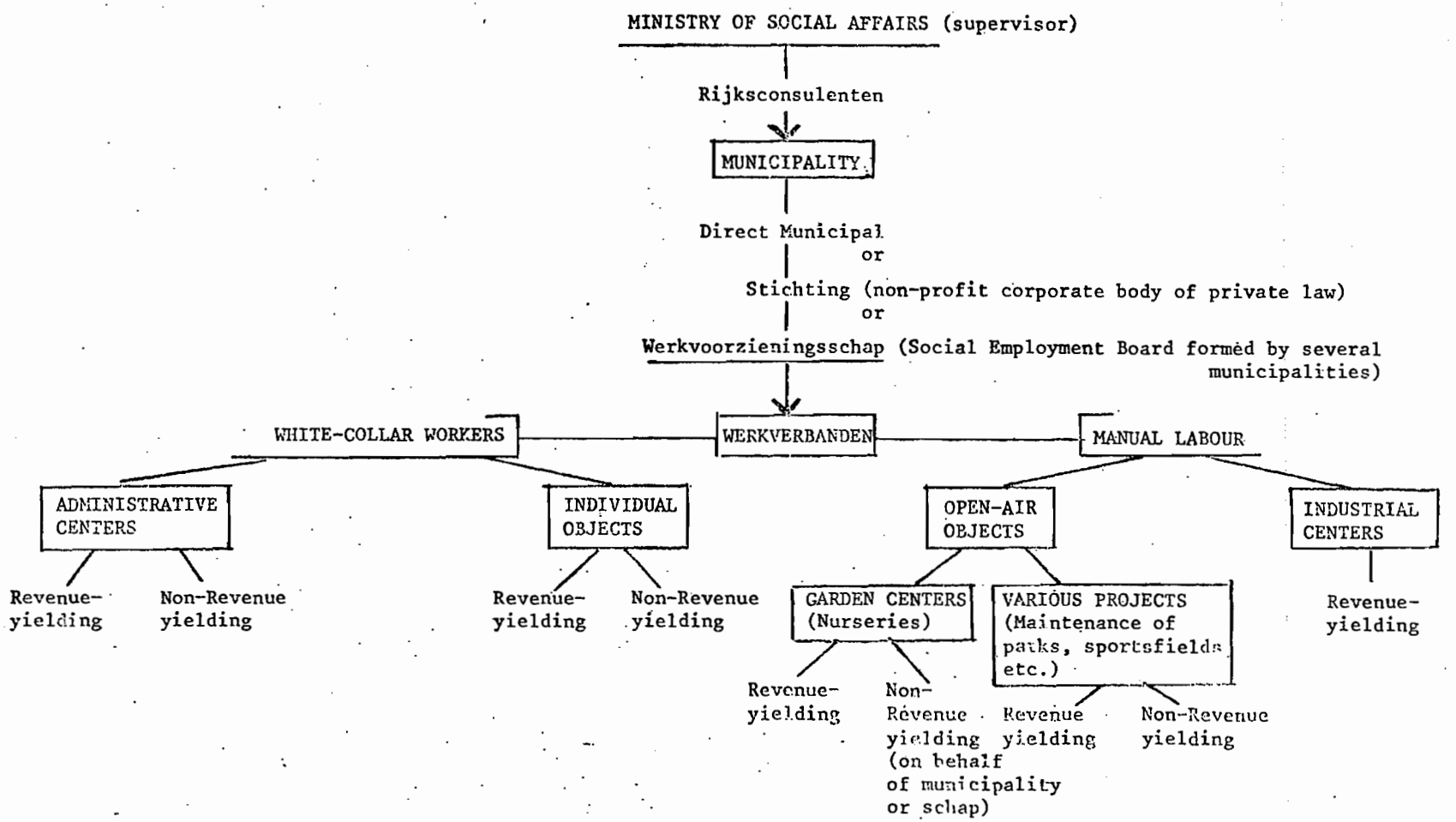


Figure 2.

The Basic Organizational Scheme of the Social Employment Program

lacks sense or usefulness.

Third, the work done within the framework of Social Employment is not to endanger the employment of others in an irresponsible way. The rationale for this mandate is clear -- workers in open industry may not be deprived of their employment in order to provide work opportunities to the handicapped. Some conflict of interest is of course inevitable. Hence, the accent is placed on the phrase "an irresponsible way" [12].

In a circular letter of August, 1976, Staatssecretaris (Under-Secretary) of Social Affairs Mertens again brought this issue to the attention of municipalities and workshop managers. The responsible Municipal Councils are urged to pay special attention to complaints from private companies alleging unreasonable competition by Social Employment industrial centers. They were also urged to handle any expansion of workshops with utmost caution, so as to avoid competition and overlaps with other W.S.W. workshops. It is suggested that workshops consult with each other prior to taking any expansion decisions. In sub d, this latter stipulation is strengthened: in the case of a revenue-yielding werkobject, price, supply, and payment conditions may not be employed so as to create unfair competition against other workshops or private companies.

Finally, it is stipulated that the product of a werkobject may not be marketed in a way which might damage the image of Social Employment. This is meant to indicate that Social Employment should resemble open industry as closely as possible, including marketing methods. The image of Social Employment as an institution of charity should be avoided. And, in order that Social Employment will afford its participants the sense of being useful, productive members of society, it must be regarded as a full-fledged branch of industry of its own kind.

The municipality as the executor of the law and the Minister of Social Affairs as its supervisor are responsible for the maintenance of these standards set on werkverband and werkobject operation. In case

---

12)This was emphasized by Minister Roolvink in the explanatory memorandum. Verg. Wetsontwerp Wet Sociale Werkvoorziening (buitengewone zitting 1967), Memorie van Toelichting, blz. 4.

that a werkverband does not live up to the requirements, article 15 sub 1 of the law permits the Minister to terminate its designation as a werkverband of W.S.W. According to article 15 sub 2, when a workobject is found to fail to fulfill the standards set, the municipality is entitled to terminate its designation.

D. The Employment Contract and the Wage Groups

According to article 16 of the law, the municipality is the employer of W.S.W. workers defined in art. 7. In addition, article 19 states that with the worker's entrance into employment, a work contract between him and the municipality will be arranged. This contract is not the same as that offered to civil servants, but is particular to W.S.W. employment, with its own set of legal regulations.

The procedure to be followed prior to the municipality's offering an employment contract is set forth in article 2 of the Besluit Dienst betrekking Sociale Werkvoorziening(The Social Employment Program Employment Decree) of September 30, 1968.

First, a proposed participant must be determined to be eligible in terms of the law. Also, a number of other matters must be resolved. Information must be obtained on the candidate's schooling, the work he or she has done previously, and the factors (handicaps) which make him or her hard to employ under normal circumstances. Then, it must be determined which category -- A or B -- the candidate should be placed, in which type of werkobject -- manual or white-collar -- he or she is to be located, and whether there is a need for further study of his or her fitness to work or for specific measures to improve his or her fitness to work (for example, placement in the work rehabilitation or test and training-centers). Finally, it must be determined if specific types of work or working circumstances should be arranged for the worker.

The selection of workers is done primarily by a permanent placement sub-committee of the local Social Employment Committee. This sub-committee will act upon the proposal of a worker by one of the responsible institutions or, in some cases, at the worker's own initiative. The placement sub-committee then advises the Municipal Council on admission or non-admission of the worker.

If a contract is offered, the Municipality must determine the category -- A or B -- into which the worker will be placed. If placement is to be in category A, the worker must be judged capable of attaining a minimum of one-third of normal productivity under adapted circumstances. If it is judged that the worker cannot attain this minimum, he is placed in category B.

Having been admitted to the program, the W.S.W. employee's remuneration is fixed according to the wage-group into which he or she is placed. The Besluit Arbeidsvoorwaarden Sociale Werkvoorziening (Decree on Wage-Conditions in Social Employment) of September 30, 1968 [13] specifies ten wage-groups, which are distinguished by the skill and responsibility required of the person in this job. The worker placed in wage-group I is required to do very simple work that can be mastered with minimal instruction, while the worker in wage-group X is engaged in "difficult , varying, and independent work that requires allround education, extensive skills from schooling or past years of experience, and largely independent judgement". Guidelines and job-descriptions have been issued by the Ministry to facilitate the placement of workers in a wage-group. The manager of the werk-verband is responsible for making the assignment.

Prior to Augsut, 1976, the wage a worker earned consisted of the basic wage linked to the wage-group he is placed in plus bonusses determined on the basis of a merit-rating system [14]. In August, 1976, a new wage-system was introduced. In the new system, the wage-groups are maintained but the merit bonusses were dropped. Instead, scales were introduced within every wage-group, implying automatic wage-increases based on longevity. Table 1 presents the

---

13) Besluit Arbeidsvoorwaarden sociale werkvoorziening (Stb. 1968, 518).

14) The merit rating system incurred sharp criticism during the Parliamentary debates from M.P.'s Mrs. van Leeuwen, Mr. Daams, Mr. van der Lek, and Mr. Wolff: Handelingen II, buitengewone zitting 1967, blz. 599, 605, 606, 607.

current wage structure [15].

Table 1.

Wages in the W.S.W. Program, as of July 1, 1976

wage-group	category A wages (guilders per month)								
	0	1	2	3	4	5	6	7	8
I	1,441	1,501	1,531	1,562	1,594				
II	1,501	1,562	1,594	1,625	1,656	1,688			
III	1,562	1,625	1,688	1,719	1,750	1,782			
IV	1,625	1,688	1,750	1,782	1,813	1,844	1,876		
V	1,688	1,750	1,813	1,876	1,907	1,938	1,970		
VI	1,750	1,813	1,876	1,938	1,970	2,001	2,033	2,064	
VII	1,844	1,907	1,970	2,033	2,095	2,127	2,158	2,189	
VIII	1,938	2,001	2,064	2,127	2,189	2,252	2,315	2,346	
IX	2,064	2,127	2,189	2,252	2,315	2,377	2,440	2,503	
X	2,252	2,315	2,377	2,440	2,503	2,565	2,628	2,691	2,722

Source: De Ambtenaar, Wekelijks orgaan Algemene Bond van Ambtenaren (ABVA), September 10, 1976.

---

15) It should be noted that some Social Employment workers are entitled to supplemental income in addition to the W.S.W. wage, as a benefit from the Disability Program. The objective of this supplementation is to assure W.S.W. participants of an income equal to 90 percent of the workers previous income. In practice, however, W.S.W. workers have often received substantially more than this 90 percent figure, often over 100 percent and up to 125 percent. Prior to August, 1976, supplementation from the Disability program was based on a "standard" W.S.W. wage which was very low. Hence, even if a workers actual W.S.W. wage was substantially above the "standard" wage, he reveived supplemental benefits as if his wage was at the "standard". Hence, W.S.W. workers in the higher wage groups often received total income well above 90 percent. Since August, 1976, a new "standard" wage arrangement has been in effect. This scheme sets 10 "standard" wage levels, one for each of the wage groups. Now, a workers supplementation is based on the "standard" wage of the wage group in which he is placed. Hence, for workers in higher levels of a wage group, total income may still exceed the 90 percent figure to some extent.

A final word about the process from proposed candidacy to actual employment: In practice, employment will proceed as follows. First, the institution proposing a W.S.W. candiate submits a document to the placement committee presenting all of the information on the worker necessary to ascertain his or her eligibility and his or her readiness to accept employment in W.S.W. Then, the worker is medically and psychologically tested and is taken through the werkverband. His or her work references, if any, will be discussed. On the basis of all this information, the placement committee reaches a decision, and reports it to the W.S.W. Committee. The W.S.W. Committee then advises the municipality on acceptance of the candidate, as well as his or her placement in a particular werkverband. Upon entering service, the worker is placed in a work rehabilitation center or a test and training center, where he or she is introduced to the work and coached in the case of any adaptation difficulties. After a suitable period in these adaptation centers, the worker is employed in the workshop, and the wage-group is determined according to the applicable job-description.

E. Subsidy Arrangements

Chapter VIII of the law stipulates the arrangements under which the national government provides subsidies to municipalities for their provision of social employment. The subsidy paid is not based on the total cost of the operation of a Social Employment-werkverband or on its total deficit. Rather, the various expenses of the werkverband are classified into several categories, and a specific percentage subsidy is attached to each category. For some of the categories, the percentage subsidy is zero. This system is a legacy of the pre-1968 legislation and has its roots in the early co-operation between the government and associations aiding the handicapped. (See the discussion in Chapter I).

The need for some public subsidization of social employment is clear. By definition, the productivity of handicapped workers is below that of their counterparts in the private sector. Yet W.S.W. workers are paid a wage which is approximately equivalent that of private sector workers. Given that the product is sold in a com-

petitive market, deficits are inevitable. The expected deficit in the non-revenue-yielding projects is larger than that for those producing a product which is sold [16].

In the subsidy arrangements, a distinction is made between revenue-yielding and non-revenue-yielding "werkobjecten". The revenue-yielding werkobjecten -- those which have a salable product, such as the industrial workshops, some of the open-air development projects such as nurseries, and some of the administrative projects -- receive a regular subsidy of 75 percent of wages and associated wage costs, and transport costs of W.S.W. workers (art. 40 c sub 1). The non-revenue-yielding projects receive a regular subsidy of 90 percent of these costs (art. 40 b). Upon request of the municipality, the Minister of Social Affairs can grant a higher percentage subsidy to the revenue-yielding projects if a deficit remains after the basic subsidy. The sum of the basic subsidy and the special subsidy cannot exceed 90 percent of the sum of the costs indicated above (art. 42 and art. 2, Increase of Government Subsidy Social Employment Decree, September 30, 1968) [17].

Other cost-categories are also covered by government subsidies, indicating a desire by the government to expand expenditures on these items. A 100 percent subsidy is given for the wages and associated wage costs of workers engaged in "werkobjecten" carried out on behalf of the national government (as well as some other specific groups of workers as stipulated in art. 40 sub 1 and 2). Also eligible for the 100 percent subsidy are the travel and lodging expenses of members and consultants of the W.S.W. Committee (described

---

16) As will be shown in Chapter III, the reverse pattern is in fact the reality.

17) This subsidy will not be granted if the werkverband budget for the year for which the subsidy is applied for is not approved by an independent auditor nominated or accepted by the municipality or if the deficit is due to a failure of management of the werkverband or the municipality (art. 3). The determination of a failure of management would be made by the Minister upon the recommendation of a Ministry evaluation group.

This 90 percent figure may be increased if economic circumstances, either nationally or regionally, warrant such a measure. A special ministerial decree is necessary in this case.

in article 4) and its sub-committees (art. 40 a). A 75 percent subsidy is paid for medical care expenses on behalf of W.S.W. workers (art. 40 c sub 2), and a 50 percent subsidy is granted on werkverbanden expenses for salaries and associated salary costs of managing personnel of the werkverband, [i.e., manager(s) and work supervisors (art. 40 d sub 2)], salaries, honoraria, and other costs of officials hired for compiling the evaluation reports on proposed program-participants (art. 40 d sub 1), necessary costs of schooling and educational activities (art. 25 and 26) for younger and older employees (art. 40 d sub 4 and 5), and some additional costs for savings and compensation arrangements for workers (art. 40 d sub 3, 6, 7). All remaining costs must be covered either by sales revenues or the municipality. Thus, the werkverband deficit (total werkverband costs less the set of basic subsidies, less the special subsidy, and less sales revenue and miscellaneous income) is on the account of the municipality.

One final subsidy provision exists. If after the basic and special subsidies have been paid and the sales and other revenue sources have been accounted for, a deficit for the werkverband still exists, this deficit may be added to the municipality's social affairs costs. These costs, in turn, are subsidized at an 80 percent rate by the Municipal Fund of the Ministry of Interior Affairs [18].

In Figure 3, the items of cost eligible for the various subsidy rates are identified.

This subsidy arrangement guarantees that the municipality, although responsible for the execution of the law, will ultimately be liable for a very small share, and perhaps none, of the costs of the werkverband. At the same time, the municipality receives many of the benefits of the activities of the werkverband.

---

18) The deficit attribuable to a denial of the special subsidy by the Ministry of Social Affairs cannot be added to the municipality's social affairs costs (see footnote 17). Such a deficit, then, is not eligible for the Municipal Fund subsidy.

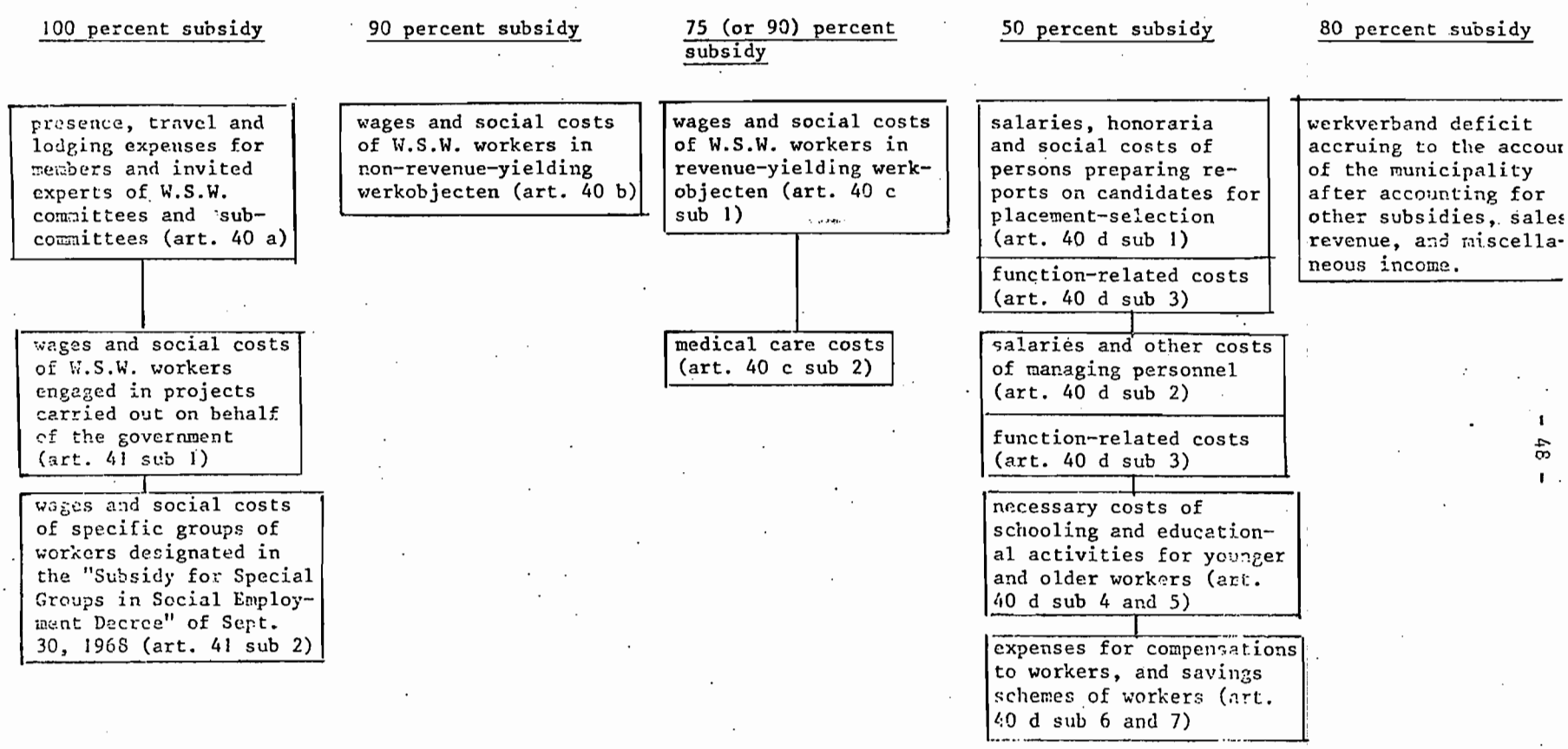


Figure 3.

Subsidy Categories in the Social Employment Program

CHAPTER III

RECENT TRENDS IN PROGRAM EMPLOYMENT AND COSTS -- 1970-1975

In this chapter, some aspects of the W.S.W. program since 1970 will be described. This has been a period of very rapid development in both the size and the structure of the program. This development will be discussed in this section, first in terms of employment in the program and then in terms of the aggregate revenues of the program and the components of aggregate revenue. Finally, some indicators of program growth will be presented.

I. Program Employment -- 1970-1975

Table 1 presents data on the level of employment in the W.S.W. program since 1970. Two types of people are employed in the program --handicapped workers and workers who provide leadership and direction to the program participants. Both of these classifications of worker are described in Table 1, for the industrial centers, the combination of open-air and administrative projects, and for the program as a whole.

In recent years, the employment of handicapped workers in the program has grown rapidly. In 1970, there were nearly 44,000 such employees in the program; by 1973 this had risen to nearly 49,000; and by 1975 to more than 56,000[1)]. The bulk of this growth has been in the open-air and administrative projects. In 1970, this segment of the program employed less than 13,000 workers, or about 30 percent of the total. By 1973, over 17,000 workers were employed in this segment of the program, which then accounted for 35 percent of total employment in the program. By 1975, open-air and administrative projects employed nearly 24,000 handicapped workers and accounted for 42 percent of total program employment.

---

1) This data includes only workers with W.S.W. certification. The program also employs some workers without certification. In December 1975, the total number of workers was 59,400.

TABLE 1

Employment levels of the WSW program 1970 - 1975 *)

	1970	1971	1972	1973	1974	1975
Employees - Handicapped [a]						
- Industrial Centers	31,167	28,895 [b]	30,306	31,607	31,342 [b]	32,358 [b]
- Open air and Administrative	12,552	15,490 [b]	15,679	17,200	20,886 [b]	23,880 [b]
- Total	43,719	44,375	45,985	48,807	52,228	56,238
Employees - Subsidized Supervisory						
- Industrial Centers	2619	2721	2698	2659	2743	2855
- Open air and Administrative	833	934	1034	1139	1246	1418
- Total	3452	3655	3741	3798	3989	4273
Supervisory Workers as a percent of Handicapped Workers						
- Industrial Centers	8.4	9.4	8.9	8.4	8.8	8.8
- Open air and Administrative	6.6	6.0	6.6	6.6	6.0	5.9
- Total	7.9	8.2	8.1	7.8	7.6	7.6

*) These data are statistically calculated averages designed to represent average employment over the year.

Source: Ministry of Social Affairs.

a) These data represent workers with W.S.W. certification.

b) The breakdown of the total between industrial centers and open-air and administrative projects is based on the relative breakdown in the two categories on December 31 of the relevant year.

During this same period, the employment levels in the industrial centers remained relatively constant. In 1970, these centers employed 31,000 workers; in 1973, they employed 31,600 handicapped workers. By 1975, employment growth in this sector had risen to 32,400 workers.

The employment of directing and supervisory personnel in the program also rose during this period. In 1970, 3450 supervisory people were employed by the program, a figure which had risen to 3800 by 1973 and 4300 by 1975. The growth in this category of employee as between industrial centers and open-air and administrative projects parallelled the growth in handicapped employment in these two program categories. Supervisory personnel in administrative and open-air projects totalled 830 in 1970, or 24 percent of the program total. By 1973, over 1100 supervisory personnel were employed in open-air and administrative projects. These workers accounted for 30 percent of such employees in the total program in that year. By 1975, the employment of supervisory workers in this program segment rose to 1400 employees, accounting for 33 percent of total program employment of supervisory personnel.

Since 1970, the employment of supervisory personnel by industrial centers has remained nearly constant at 2600 - 2800. As a consequence, supervisory workers employed in industrial centers has fallen as a percentage of the total number of supervisory and directing personnel in the program.

It should be noted that these data include only subsidized supervisory and directing personnel. Other non-handicapped personnel are also employed in the program. Inclusion of them would raise the level of non-handicapped personnel.

In the bottom panel of Table 1, the ratio of directing and supervisory personnel to program participants is shown for the post-1970 period. There it is indicated that, in the industrial centers, the number of supervisory workers is about 9 percent of the number of participants, while in the open-air and administrative projects the figure is about 6 percent. Since 1970, as the size of the industrial centers portion of the program has stabilized, the ratio of supervisory to handicapped workers has fallen. From a height of 9.4 percent in 1971, it has fallen to about 8.8 percent in 1975. During the same period,

the ratio for the open-air and administrative centers has remained stable. For the program as a whole, the percentage has remained in the 7.5 - 8.0 range, showing a tendency to fall slightly in the most recent years.

II. Program Revenue -- 1970-1975

The previous section discussed the developments in program employment since 1970. Related to these developments is the change in the income of the program in total, and from various sources. Because the operation of the program requires that operating deficits be covered by a subsidy from some level of government (except for some very small amounts of net borrowing), the estimates of total program revenue (or total revenue, by program component) will also be estimates of total costs. Because the bulk of program costs are for wages and salaries, employment developments are related to total revenue changes.

In the top panel of Table 2, revenue flows for the entire W.S.W. program and its two components (industrial centers and other projects) are shown for the 1970 - 1975 period. These revenue flows are also disaggregated into their main components: subsidies from the national government, subsidies from municipal governments, sales revenues, and miscellaneous sources. For the total program, total revenues (costs) have grown from ƒ 660 million in 1970 to over ƒ 1700 million in 1975, an increase of 260 percent. The subsidy provided by the national government has also grown rapidly over the period -- from ƒ 460 million in 1970 to ƒ 1270 million in 1975. Hence, over the period, annual total revenues (costs) increased by over ƒ 1 billion and the national subsidy by over ƒ 800 million.

While the other two sources of revenue-- municipal subsidies and sales revenues --also increased over the period, their change was not so large. The municipal subsidy rose from ƒ 25 million in 1970 to ƒ 46 million in 1975, while sales revenues rose from ƒ 168 million to ƒ 362 million in the 1970 - 1975 period.

Both of the components of the program experienced substantial revenue (cost) growth during the period. Even though the number of

TABLE 2

Financial Aspects of the Program, 1970 - 1975, in millions of guilders

	1970	1971	1972	1973	1974 a)	1975 a)
Industrial Centers						
Total Revenue	497.8	572.9	670.6	792.2	997.7	1203.8
- National Subsidy b)	321.1	372.0	442.7	529.6	675.0	834.5
- Municipal Subsidy	12.2	12.9	11.4	13.5	17.5	21.7
- Sales Revenue	159.6	180.0	204.3	231.7	285.0	323.5
- Miscellaneous Sources	4.9	8.0	12.2	17.4	20.2	24.1
Open air and Administrative Projects						
Total Revenue	158.2	194.0	238.2	336.8	416.9	498.4
- National Subsidy b)	138.6	171.8	200.4	291.3	361.2	435.9
- Municipal Subsidy	13.0	13.0	17.8	19.6	23.7	24.5
- Sales Revenue c)	6.6	9.2	20.0	25.9	32.0	38.0
Total Program Revenue	656.0	766.9	908.8	1129.0	1414.6	1702.2
- National Subsidy b)	459.7	543.8	643.1	820.9	1036.2	1270.4
- Municipal Subsidy	25.2	25.9	29.2	33.1	31.2	46.2
- Sales Revenue and Miscellaneous Sources	171.1	197.2	236.5	275.0	337.2	385.6
Industrial Centers						
- National Subsidy b) ÷ Total Revenue	.65	.64	.66	.62	.68	.69
- Municipal Subsidy ÷ Total Revenue	.02	.02	.02	.02	.02	.02
- Sales Revenue ÷ Total Revenue	.32	.31	.30	.29	.28	.27
Open air and Administrative Projects						
- National Subsidy b) ÷ Total Revenue	.88	.89	.84	.86	.87	.87
- Municipal Subsidy ÷ Total Revenue	.08	.07	.07	.06	.06	.05
- Sales Revenue ÷ Total Revenue	.04	.05	.08	.08	.08	.08
Total Program						
- National Subsidy b) ÷ Total Revenue	.70	.70	.71	.73	.73	.75
- Municipal Subsidy ÷ Total Revenue	.04	.03	.03	.03	.02	.03
- Sales Revenue ÷ Total Revenue	.26	.25	.25	.23	.22	.21
Industrial Centers						
Total Revenue ÷ Number of Workers d)	15,972	19,827	22,523	25,593	30,817	35,906
Sales Revenue ÷ Number of Workers	5,121	6,229	6,862	9,486	8,803	9,649
Subsidy ÷ Number of Workers	10,303	12,874	15,252	17,547	21,390	25,538
Open air and Administrative Projects						
Total Revenue ÷ Number of Workers	12,604	12,524	15,192	19,581	19,961	20,871
Sales Revenue ÷ Number of Workers	526	1,109	1,276	1,506	1,532	1,591
Subsidy ÷ Number of Workers	11,042	11,091	13,917	18,076	18,429	19,280

Source: Ministry of Social Affairs.

a) Data for these years are preliminary and are estimated to be consistent with current trends.
b) This figure includes the basic subsidy, the special subsidy, and the subsidy from the Municipal Fund.
c) This figure includes some small amount from miscellaneous sources.
d) The data on number of workers are from Table 1.

handicapped workers in the industrial centers component of the program grew only modestly from 1970 to 1975, total revenue (cost) in this component more than doubled - from ƒ 497 million to ƒ 1204 million. Revenue (cost) growth in the open-air and administrative projects also grew rapidly during the period. From a total revenue (cost) of about ƒ 150 million in 1970, total revenue (cost) grew to ƒ 500 million in 1975.

All of the components of total revenue for both segments of the program also increased during the period. A very large increase was in the national subsidy for the industrial centers. It increased from ƒ 321 million in 1970 to ƒ 834 million in 1975 -- a 260 percent increase in the six-year period. The national subsidy for the open-air and administrative projects grew even faster. At the beginning of the period, this subsidy stood at ƒ 139 million; by the end of the period the annual subsidy was over ƒ 435 million.

While the growth in sales revenue for the industrial centers was over ƒ 160 million from 1970 to 1975, this represents scarcely a doubling in the annual revenue from this source. For the open-air and administrative projects, sales revenue in 1970 stood at a very low level of ƒ 7 million; by 1975, however, revenue from sales had increased more than five times, standing at ƒ 38 million. For both segments of the program the municipal subsidy grew more slowly than any of the other components of revenue.

In the discussion of program employment, it was noted that, because of the more rapid growth in the open-air and administrative project segment of the program, its share of total employment in the program rose from 30 percent of total employment in 1970 to over 40 percent in 1975. This significant shift in program composition is not reflected so strongly in the data on revenues (costs). In 1970, the open-air and administrative project segment of the program accounted for 24 percent of total program revenues (costs); in 1974, this component of the program accounted for about 29 percent of total program revenues (costs).

This shift in the composition of revenues in both the industrial centers and the open-air and administrative projects is shown in the second panel of Table 2. Let us first note the patterns in the industrial centers, and then those in the open air and administrative activities.

In 1970, revenue from the sale of output accounted for about one-third of the total revenue (cost) incurred by the industrial centers. Nearly all of the remaining portion of revenue came from the national government subsidies (65 percent) and municipal subsidies (2 percent). During the six years, 1970-1975, sales revenue as a proportion of the total fell continuously. By the end of the period it accounted for only 27 percent of total revenues. Similarly, the municipal subsidy fell as a share of total revenue from slightly more than 2 percent to slightly less. As a result of these two shifts, the national subsidy was required to bear an increasing share of the total costs of the industrial centers: from 65 percent in 1970, the share rose to nearly 70 percent in 1975. The net result, then, is a significant shift in the financing of the centers: the relative contribution of sales and municipalities has fallen, and the burden of increased costs has been shifted to the national government.

The pattern for the open-air and administrative projects is different. In this sector of the total program, sales revenues as a percent of the total have shown an upward trend, rising from 4 percent in 1970 to 8 percent in 1971, and then remaining constant at 8 percent through 1975. During this same period, however, the contribution of municipalities to program costs fell from 8 percent to 5 percent. The effect of these two trends is reflected in the share of the budget covered by the national government subsidy. From a high of 89 percent in 1971, the national government burden fell to 84 percent in 1972. By 1975, however, it had again risen to 87 percent.

Because of these patterns, the industrial center financing arrangement is becoming increasingly similar to that of the open-air and administrative projects. While the burden of the national government appears to have stabilized at about 85 percent of total costs in the open-air and administrative project sector of the program, the national government burden for industrial centers has shown a clear upward trend over the period, and in 1976, stands at about 70 percent.

These patterns in the two segments of the program are reflected in the data for the program as a whole. The share of the national subsidy has risen over the period from 70 to 75 percent, while the shares of municipal governments and sales have fallen. Whereas sales revenue covered 26 percent of total program costs in 1970, it fell to only 21 percent in 1975.

The third panel of Table 2 captures the combined effect of the patterns of revenue and employment growth in the two segments of the program. Because the growth of revenues (costs) has exceeded the growth of employment in the industrial centers, the total revenue (cost) per worker has risen rapidly over the period. In 1970, total revenues (costs) per industrial center worker stood at ƒ 16,000; by 1975, six years later, per worker costs had more than doubled, totalling ƒ 36,000. The changing pattern of revenue sources caused an even more radical change in the public subsidy per worker. In 1970 taxpayers were contributing about ƒ 10,000 in subsidy for each handicapped or low-skill worker employed; by 1975, the per worker taxpayer contribution had more than doubled to a total of nearly ƒ 26,000. This per worker figure, it should be noted, is about one-third more than the national minimum wage and about 110 percent of median wage income.

While per worker costs have also increased in the open-air and administrative centers, both the absolute level and the growth has been less than in the industrial centers. Total costs per worker stood at about ƒ 13,000 in 1970, and had risen to nearly ƒ 21,000 in 1975. This 1975 figure is only about 60 percent of per worker costs in the industrial centers. Clearly, this is to be expected as the costs for raw materials and supervision in the latter type of center are greater than in the former.

What is not expected is the pattern of growth in the subsidy per worker in the open-air and administrative projects relative to the industrial centers. This subsidy stood at ƒ 11,000 in 1970 for the open-air and administrative projects, which was 107 percent of the per worker subsidy in the industrial centers. By 1975, the per worker subsidy in the open-air and administrative projects had risen to over ƒ 19,000. While this growth is, in itself, significant, it is nothing like the more than doubling in the per worker subsidy over the five-year period observed in the industrial center segment of the program. As a result, by 1975, the subsidy per worker in the open-air and administrative projects stood at 75 percent of the per worker subsidy in the industrial centers.

In sum, these substantial increases in the taxpayer subsidy per worker stand as the most striking aspect of the data on employment and revenue. While the causes of this increase cannot be identified with

precision, the following are likely to be of primary importance:

- the significant increase in the minimum wage over the period in particular, the large one-time adjustment in 1973.
- the increase in social premiums which must be covered by the W.S.W. centers over the period.
- the failure of sales revenue to grow as rapidly as program costs.
- increase in raw material and supervisory personnel costs due to the general inflation over this period.

III. A Summary of Employment and Revenue Growth Patterns -- 1970-1975

These patterns of growth and development are summarized in Table 3., which presents annual growth rates of the various revenue and employment variables of the program. Also, in the final column, the ratio of 1975 to 1970 values of the variables is shown.

Because the growth patterns in these tables summarize the developments described in Tables 1 and 2, there is no need to discuss them in detail. Only a few of the most important figures will be noted. Compare first the growth patterns between the industrial centers and the open-air and administrative projects over the six-year period, 1970 - 1975. In the industrial centers, employment grew by only 4 percent over the period; for the open-air and administrative projects, employment in 1975 was 90 percent greater than in 1970. However, while there was this enormous disparity in the employment growth in the two programs, the growth in total revenue (cost) was not nearly different between the two -- a growth of 315 percent in the open-air and administrative component, versus a growth of 242 percent for the industrial centers.

The changing patterns in the division of revenue between sales and public subsidy is also seen in Table 3. For the program as a whole, sales revenue increased by over 100 percent-- that is, it more than doubled. The volume of subsidy increased by over 170 percent --that is, it nearly tripled. This disparity is even greater for the industrial centers alone; for the open-air and administrative projects, sales revenue, though small, grew at a substantially faster rate than the subsidy. Hence, for industrial centers, the subsidy per worker in 1975 was 250 percent of its value in 1970. For open-air and administrative projects the 1975 value is 175 percent of the 1970 value.

TABLE 3

Growth of W.S.W. Program, 1970 - 1975

	1971/1970	1972/1971	1973/1972	1974/1973	1975/1974	1975/1970
REVENUE (= EXPENDITURES):						
Industrial Centers						
Total Revenue	1.15	1.17	1.18	1.26	1.21	2.42
- National Subsidy	1.16	1.19	1.20	1.27	1.24	2.60
- Sales Revenue	1.13	1.13	1.13	1.23	1.13	2.03
Open air and Administrative Centers						
Total Revenue	1.23	1.23	1.41	1.24	1.20	3.15
- National Subsidy	1.24	1.17	1.45	1.25	1.21	3.15
- Sales Revenue	1.39	2.17	1.30	1.24	1.19	
Total Program						
Total Revenue	1.17	1.19	1.24	1.25	1.20	2.59
- National Subsidy	1.18	1.18	1.28	1.26	1.23	2.76
- Municipal Subsidy	1.03	1.13	1.13	1.24	1.12	1.83
- Sales Revenue	1.15	1.14	1.15	1.23	1.14	2.15
EMPLOYMENT:						
Employees - Handicapped						
- Industrial Centers	.93	1.05	1.04	.99	1.03	1.04
- Open air and Administrative	1.23	1.01	1.10	1.21	1.14	1.90
- Total	1.02	1.04	1.06	1.07	1.08	1.29
Employees - Subsidized Leading						
- Industrial Centers	1.04	.99	.98	1.03	1.04	1.09
- Open air and Administrative	1.12	1.11	1.10	1.09	1.14	1.70
- Total	1.06	1.02	1.02	1.05	1.07	1.24
REVENUE (= EXPENDITURES) PER WORKER						
Industrial Centers						
- Sales Revenue per Worker	1.22	1.10	1.09	1.17	1.10	1.88
- Subsidy per Worker	1.25	1.18	1.15	1.22	1.19	2.48
- Total Revenue per Worker	1.24	1.14	1.14	1.20	1.17	2.25
Open-air and Administrative Projects						
- Sales Revenue per Worker	2.11	1.15	1.18	1.02	1.04	3.02
- Subsidy per Worker	1.00	1.25	1.30	1.02	1.05	1.75
- Total Revenue per Worker	1.00	1.21	1.29	1.02	1.05	1.66

For the program as a whole, total revenue (cost) grew at a rate of about 20 percent per year, sales revenue grew at a rate of about 16 percent per year, and the subsidy grew at a rate of about 22 percent per year. The rate of growth of employment averaged about 6 percent per year. Because the rate of growth of subsidized leading personnel was less than 5 percent per year, the ratio of handicapped to supervisory personnel grew slightly over the period.

The primary patterns observed in Tables 1 - 3 can be summarized in the following statements:

- The growth in total program costs has been very rapid, averaging about 20 percent per year from 1970 - 1975.
- The growth in the number of handicapped workers employed has been greater than growth in the total population, but not nearly as great as growth in total program costs. Growth in employment has been about 6 percent per year.
- Employment growth in the open-air and administrative projects has averaged about 11 percent per year, while that in the industrial centers has grown by less than 1 percent per year.
- The breakdown of total revenue (cost) between the two segments of the total program has remained relatively constant from 1970 - 1975. The industrial centers have accounted for about 75 percent of total cost in 1970 and 71 percent in 1975. Their share of employment has fallen from 71 percent of the total to 58 percent.
- Growth in the subsidy component of total program revenue -- about 20 percent per year - has been far more rapid than growth in the sales revenue component - about 16 percent. As a result, sales revenue for the total program has fallen from 26 percent of total costs to 21 percent. For the industrial centers, sales as a percent of total cost has fallen from 32 percent to 27 percent.
- Costs per worker have doubled over the 1970 - 1975 period. For the industrial centers, costs per worker rose from 16,000 guilders to 36,000 guilders over the period. The subsidy per worker rose from 10,000 guilders to 26,000 guilders.

IV. Real Program Growth and its Burden -- 1970-1975

The patterns of cost and revenue growth shown in Tables 2 and 3 are, as indicated, based on current prices. Hence, the magnitude of growth is, in part, caused by the relatively high inflation rates in the Netherlands during this period. It is also caused by the deliberate and policy-induced growth in wages during the period -- in particular growth in the minimum wage to which the wage of many W.S.W. workers is tied. In Table 4, the growth in four aggregate indicators of the Dutch economy are shown. Comparison of the growth in these indicators relative to program growth provides a basis for appraising the expansion of the program relative to the economic base which sustains it. These indicators are:

- the legislated minimum wage
- labor cost per worker in the private sector
- net national income at market prices
- worker wage income of a modal family

All of these indicators also show rapid growth during the 1970 - 1975 period. From 1970 to 1975, the legislated minimum wage grow by 97 percent, labor cost per worker by 93 percent, net national income by 75 percent, and modal family wage income by 89 percent. These are to be compared to the growth in costs of the total W.S.W. program (and both of its components) which was about 160 percent during the same 5-year period.

In Table 5, the effect of the price increases on program growth is largely eliminated. There the growth of certain aspects of the program is compared to the growth of relevant variables in the economy as a whole. In columns 1, and 2, program growth is related to growth in the economic base of the Dutch economy, as represented by net national product. In the first column, total program revenue (cost) is compared to net national product from 1970 to 1975. In 1970, the total program budget stood at six-tenths of 1 percent of net national product. Over the succeeding years, this percentage increased steadily until in 1975 it was over nine-tenths of 1 percent of total production.

Table 4

Growth in Selected Wage and Output Indicators in the Netherlands, 1970 - 1976

Year	Legislated Minimum Wage, 23 years or more, July of year		Labor Cost per Worker in the Private sector		Net National Income at at Market Prices		Wage Income of Worker in Modal Family	
	guilders per week	Index	guilders per year	Index	billions of guilders per year	Index	guilders per year	Index
1970	157.50	100.0	15,335	100.0	105.3	100.0	12,400	100.0
1971	177.90	112.9	17,349	113.1	118.5	112.5	14,300	115.3
1972	198.60	126.1	19,533	127.4	134.3	127.5	15,800	127.4
1973	227.40	144.4	22,578	147.2	154.7	146.9	17,680	142.5
1974	274.80	174.5	26,099	170.2	171.1	162.5	19,700	158.9
1975	310.20	197.0	29,579	192.9	184.5	175.2	23,400	188.7
1976	339.30	215.4	32,283	210.5				

Source: Ministry of Social Affairs; Netherlands Bank; and Statistisch Zakboek, 1974, Central Bureau of Statistics.

Table 5

Indicators of Program Growth Relative to Growth in Selected Aggregate Economic Indicators, 1970 - 1975

Year	Total Program Cost as a percent of Net National Product	Total Governmental Subsidy to the W.S.W. Program as a Percent of Net National Product	Subsidy per Industrial Center Worker as a Percent of Labor Cost per Private Sector Worker	Subsidy per Administrative and Open-Air Center Worker as a Percent of Labor Cost per Private Sector Worker	Subsidy per Industrial Center Worker as a Percent of Modal Family Wage Income	Subsidy per Administrative and Open-Air Center Worker as a Percent of Modal Family Wage Income
1970	.62	.46	67.2	72.0	83.1	89.0
1971	.65	.48	74.2	63.9	90.0	77.6
1972	.68	.50	78.1	71.2	96.5	88.1
1973	.73	.55	77.8	80.1	99.4	102.2
1974	.83	.62	82.0	70.1	108.6	93.5
1975	.92	.71	86.3	65.1	109.1	82.4

In 1976, it will likely have passed the one percent mark. The rapid growth in this percentage reflects the fact that the program's budget grew at a higher rate than did the Netherlands economy. Much the same picture is seen in column 2 which shows the ratio of government subsidies to the program to net national product. That percentage stood less than .5 percent in 1970; by 1975, governmental subsidies were nearly three-quarters of 1 percent of net national product.

Columns 3 and 4 show the per worker governmental subsidy to the two components of the program as a percent of the labor cost per worker in the private sector. This is a relevant comparison because the growth in governmental subsidies is closely related to labor costs in the program. The patterns in the two components of the program is quite different. For industrial centers (column 3), the per worker subsidy was 67 percent of private labor costs in 1970. By 1975, it had risen to over 86 percent. The trend in this percentage for the open-air and administrative centers of the program was in the opposite direction, falling from 72 percent in 1970 to 65 percent in 1975. While per worker subsidies to industrial centers rose faster over this period than did private labor costs per worker, the per worker subsidies to the open-air and administrative projects rose more slowly.

The final two columns compare growth in the per worker subsidy to growth in worker wage income in the modal family. In 1970, 83 percent of this wage income was required to support the subsidy payment for one industrial center worker. This percentage rose rapidly in the 1970's; by 1975, it took all of the worker gross wage income in a modal family plus 10 percent of such wage income in a second family to support the subsidy for one industrial center worker. While this burden was higher for the open-air and administrative centers at the beginning of the period (89 percent), it first rose to 102 percent in 1973 and then fell. In 1975 it stood at about 92 percent. This pattern reflects the same divergence as shown in columns 3 and 4 and Table 3.

In sum, then, the growth in the program was substantially greater than the growth in the Dutch economy over the 1970-1975 period. As a result, the economic burden of the program increased -- by 1976 the program's budget was over 1 percent of net national product. This increasing burden is attributable primarily to the rapid growth in per worker costs and subsidies in the industrial centers component of the program.

This is so even though employment in the open-air and administrative centers component grew faster than employment in industrial centers. By 1975, it took 110 percent of the worker wage income in a modal Dutch family to pay the subsidy for one industrial center worker.

CHAPTER IV

THE INDUSTRIAL CENTERS PROGRAM IN 1970 -- A PROFILE

In this chapter, the segment of the W.S.W. program organized as industrial centers will be described and analyzed. Our purpose in this discussion is simply to describe in detail the structure of the program and its characteristics. A second purpose is to evaluate the effectiveness of the program in achieving its objectives, and to observe the variance in effectiveness among the various centers. Finally, some estimates will be made of the determinants of program performance. In this analysis, the phenomena which determine why some centers appear to perform more efficiently than others will be explored.

All of the data employed in this analysis were obtained from the Ministry of Social Affairs. They were collected by the office of the Director-General for Social Employment as part of the annual statistical report which is required of each center by the Ministry.

A part of these data were obtained in tabular form from the Ministry. Additional raw data were collected from the detailed statistical reports submitted by the centers. Because the data for the annual reports of the Ministry, Resultaten Enquête, are obtained from center reports based on observations taken at the end of each year, there are some small discrepancies in some of the variables between that publication and the data supplied by the Ministry. These latter data are calculated as averages over the year. The magnitude of these discrepancies is sufficiently small that the general patterns reported here will not be altered in any noticable way.

I. The Dimensions of the Program in 1970

In 1970, the industrial centers program consisted of 171 work places, which employed 32,314 workers including the sick (or 26,922 workers, excluding the sick). Hence, the average center employed 189 workers.

Table 1

Distribution of Industrial Centers, by Number of Workers (including the sick), 1970

Number of W.S.W. Workers (including the sick)	Average Number of Workers (excluding the sick)	Average Number of Workers (including the sick)	Sick Percentage	Number of Centers
less than 25	15.0	19.0	21	1
25 - 50	31.8	37.6	15	10
50 - 75	51.9	61.0	15	23
75 - 100	72.7	86.3	16	21
100 - 125	96.2	112.9	15	25
125 - 150	113.5	135.7	16	17
150 - 175	135.6	161.1	16	15
175 - 200	159.3	183.1	13	12
200 - 250	183.7	221.8	17	15
250 - 300	230.4	279.4	18	8
300 - 350	269.3	315.0	15	4
350 - 400	307.7	372.8	17	6
more than 400	576.3	707.3	19	14
Total		189.0	16	171

In Table 1, the size distribution of centers, by number of workers including the sick, is presented. The smallest center had less than 20 workers; the largest, over 1000. Over one-half of the centers employed between 50 and 150 workers. On the other hand, nearly a third of the workers were employed in centers with more than 400 employees.

Of the 32,000 workers, 16,737 had some form of mental handicap. This is 52 percent of the total. Mental retardation characterized most of the mentally handicapped; 11,617 non-sick workers were mentally retarded. This accounts for 36 percent of total employment.

The centers often contain special facilities to aid the handicapped workers. These include both mental and physical testing and training

facilities. 65 of the 171 centers - thirty-eight percent of the total - had mental testing and training facilities. Only 20 centers had physical testing and training facilities.

Two additional characteristics of the centers are relevant to the success of their activities. The first relates to the presence of a non-governmental body or association which oversees the functioning of the center. Over 60 percent of the centers -- 102, by count -- had such an organization. The second characteristic has to do with the presence of an organized arrangement for the director of a center to consult with the workers on issues of working arrangements and so on. Such a consultation body was present in 150 of the 171 centers.

Considering the entire 171 industrial centers as a single program, it is of interest to inquire into the financial structure of the entire program. In Table 2, the total costs of the program -- all 171 centers -- is stated, along with the composition of these costs. In total, the 171 centers spent about one-half billion guilders in 1970. Of this amount, nearly 60 percent (293 million guilders) was spent for wages and associated costs for the program participants. Nearly 90 million guilders was spent to pay the salary and other costs of the staff and supervisory workers. These two salary cost items account for over three-fourths (76 percent) of the total costs of the centers. The other major cost items are for materials and sales (48.9 million guilders) and for facilities (28.8 million guilders). Together these items accounted for 16 percent of total costs.

In the final column of Table 2, the cost components are stated in per non-sick worker terms. In total, the costs of the centers were about 18,500 guilders per worker. Nearly 11,000 guilders per worker was accounted for by the cost of employing the workers themselves; that is, their wages and associated costs such as social security premiums. The staff and supervisory costs totalled about 3200 guilders for each non-sick W.S.W.worker employed. These staff and supervisory costs are 30 percent of the W.S.W. wage costs. That is, for every guilder paid out for W.S.W. worker salaries, 30 cents was paid out for the supervision of the worker and for other staff costs associated with the program.

Table. 2

The Cost Structure of the Industrial Centers Program, 1970

Cost Category	guilders (in millions)	percent of total	guilders per non-sick worker
Wages and Other Employment Costs for W.S.W. and Related Workers	292.8	58.8	10,876
Transportation Costs	13.4	2.7	497
Staff and Supervisory Costs	85.9	17.3	3,191
Medical Care Costs	1.6	.3	59
Materials and Sales Costs	48.9	9.8	1,850
Facility Costs	28.8	5.8	1,070
Depreciation Costs	4.8	1.0	178
Interest Costs	5.1	1.0	189
Other Costs	16.4	3.3	609
Total	497.8	100.0	18,490

Table 3 depicts the structure of revenues in the industrial centers program. Total revenue (defined to be equal to total costs) is nearly one-half billion guilders. Fifty two percent of this total was covered by the basic government subsidy; sales revenue of 160 million guilders covered 32 percent of total costs. Stated in terms of guilders per non-sick worker, the basic government subsidy was nearly 10,000 guilders per worker. Sales revenue accounted for nearly 6000 guilders per year per worker. The basic national subsidy per worker, it should be noted, is only about 1000 guilders less than the wage costs per non-sick worker. Municipality subsidies covered less than 500 guilders per non-sick worker.

Table 3

The Revenue Structure of the Industrial Centers Program, 1970

Revenue Category	guilders (in millions)	percent of total	guilders per non-sick worker
Basic Government Subsidy	260.2	52.3	9,665
Other Government Subsidy	60.9	9.5	2,262
Municipal Subsidy	12.2	5.2	453
Sales Revenue	159.6	32.0	5,925
Other Revenue	4.9	1.0	182
Total	**497.8**	**100.0**	**18,491**

II. Does the Size of Center Matter?

From this overview of the dimensions of the 1970 program, let us move to a consideration of some of the relationships within the industrial centers program. In this section, we will relate several characteristics of the program to the size of the individual centers to determine if a relationship between size of center and these variables exists. The characteristics which are related to the size of center are both non-financial (e.g., the ratio of mentally handicapped to all workers) and financial (e.g., the sales revenue per worker).

In Table 4, a series of non-financial program characteristics are related to center size. Table 5 relates a few financial variables to center size.

From the data presented in Table 4, what can be concluded? First, with respect to the concentration on mentally handicapped or mentally retarded, no strong pattern exists by size of center. The larger centers (those above 250 workers) show only a slightly higher tendency to employ such persons than do the smaller centers (those below 125 workers). This slight pattern is somewhat stronger for mentally retarded

Table 4

Average Values of Selected Non-Financial Program Characteristics by Size of Center, 1970

Number of non-sick W.S.W. workers	Ratio of mentally handicapped	Ratio of mentally retarded to all workers	Ratio of centers with Non-Governmental Sponsoring Organization to total	Ratio of centers with mental training to total	Ratio of centers with physical training to total	Ratio of centers with a worker consultation body to total
less than 25	.21	0	1.0	0	0	1.0
25 - 50	.50	.30	.60	0	0	.70
50 - 75	.55	.38	.57	.04	0	.87
75 - 100	.45	.35	.62	.14	0	.81
100 - 125	.50	.37	.64	.36	.12	.92
125 - 150	.49	.34	.59	.18	.06	.76
150 - 175	.55	.37	.67	.53	.20	1.0
175 - 200	.60	.46	.42	.67	0	.92
200 - 250	.51	.35	.67	.67	.07	.93
250 - 300	.47	.31	.75	.75	.25	1.0
300 - 350	.65	.46	.50	1.0	.75	1.0
350 - 400	.51	.36	.17	.50	.17	.83
400 or more	.51	.34	.64	.71	.43	.86
Mean	.52	.36	.60	.38	.12	.88

than mentally handicapped workers. For both variables, the highest percentage in a class interval appears in the 300 - 350 worker class. Centers in the 175 - 200 range also have a high value for the mentally retarded.

Second, the smaller centers appear to have a slightly larger probability of having a non-governmental sponsoring organization than do the large centers. The centers with the lowest ratios are the 175 - 200 and 350 - 400 classes with ratios of .42 and .17, respectively. The mean is .60.

Third, the presence of both mental and physical testing and training centers is strongly related to the size of the center, with larger centers being far more likely to have such facilities than smaller centers. For example, only 1 of the smallest 34 centers has mental testing and training facilities, while 23 of the largest 32 centers have such facilities. None of the smallest 34 centers had physical testing and training facilities, while 12 of the largest 32 centers have these facilities.

Finally, the larger centers are somewhat more likely to have a consultation body than are smaller centers, although the relationship is not a terribly strong one. Thus, the median ratio is .82 for the smallest 5 class intervals, while it is .93 for the largest 5 classes.

The relationship of selected financial variables to center size is shown in Table 5. First, the W.S.W. wage cost per worker variable appears quite constant across the size distribution of centers. Because of the close dependence of the basic and municipal subsidies on W.S.W. wage costs, this variable too is quite constant over the distribution. If anything, a slight tendency of this variable to fall with center size is indicated. The same cannot be claimed for the staff costs per worker. These costs decline from about 4000 guilders for centers of less than 75 workers to about 3000 guilders for the larger centers sizes. With the exception of the 250 - 300 range class, all of the classes above 100 workers have an average equal to or less than the mean of 3200 guilders per worker. The lowest cost --2900 guilders -- is registered for centers in the 350 - 400 worker class.

Table 5

Average Values of Selected Financial Program Characteristics by Size of Center (000 guilders)

Number of non-sick W.S.W. workers	W.S.W. wage cost per worker	Subsidy per worker	Staff cost per worker	Total cost per worker	Sales Revenue per worker
less than 25	14.3	14.2	7.1	28.3	13.8
25 - 50	11.7	11.8	4.4	20.6	5.1
50 - 75	10.8	10.9	3.7	20.4	7.7
75 - 100	11.0	10.8	3.3	19.9	6.8
100 - 125	11.0	10.9	3.0	17.9	5.9
125 - 150	10.8	10.6	3.0	18.0	5.8
150 - 175	11.0	11.0	3.2	18.4	6.0
175 - 200	10.3	10.6	3.3	17.9	5.8
200 - 250	11.2	11.2	3.0	18.5	5.6
250 - 300	11.1	10.9	3.7	18.8	4.9
300 - 350	10.9	10.8	3.2	17.6	5.2
350 - 400	11.2	10.9	2.9	17.6	5.0
400 or more	10.7	10.0	3.2	18.6	6.3
Mean	10.9	10.6	3.2	18.5	5.9

The pattern of staff cost per worker is reflected in the total cost per worker variable. Only the smallest 3 centers have costs in excess of 20,000 guilders per worker, compared to an average cost of 18,500 guilders. Costs per worker appear to decrease strongly, until a size of 100 workers is attained. From 100 to 300, average costs per worker hovers around the mean of 18,500 guilders. From 300 to 400 workers, per worker costs are the lowest -- 17,600 guilders -- and beyond 400 workers they again increase to above the mean value.

Largely because of the staff costs per worker variable, then, the costs of the centers, per worker, has a shallow U-shape. Per worker costs decrease at first, then remain relatively constant over a substantial range, and then increase to above the mean for the very largest centers.

Like the staff and total cost per worker variables, sales revenue per worker also decreases with the size of center,-- at least up to the very largest center sizes. The decrease is the sharpest up to center size of about 100. From 100 to 250 workers, sales per worker decline slightly, but hover in the 5600 guilder to 6000 guilder range. Centers employing from 250 to 400 workers have the lowest sales per worker, averaging about 5100 guilders per worker (compared to a mean of 5900 guilders). The largest class --centers with more than 400 workers - has average sales of 6300 guilders --a performance which is above the mean.

The data in Table 6 focus more clearly on center performance and, hence, address more directly the question of whether the size of a center matters. In Table 6, seven indicators of center performance are presented for classes which span the distribution of center size. These indicators are defined in Appendix C -- as indicated there, each indicator captures an aspect of economic performance which may be of interest in making an overall evaluation of efficiency or effectiveness. The best performance for each indicator is noted with a *. The indicators in Table 6 are:

1. Opbrengsten-kosten ratio
2. Gross Deficit per worker
3. Netto-opbrengst per worker
4. Social cost per worker
5. Sales as a percent of social cost
6. Staff wage cost as a percent of W.S.W. wage cost
7. Staff wage costs as a percent of Sales

The first indicator -- the opbrengsten-kosten ratio -- reflects the extent to which sales revenue in excess of materials and sales costs is able to cover those center costs which remain after the basic government subsidy and miscellaneous sources of revenue. The higher this ratio, the larger the contribution of sales to remaining costs. Excluding the smallest class interval which contains but a single center, the highest ratio (.71) is for the centers with 100 to 125 employees. The lowest ratios are for the very smallest (.43) and very largest (.54) centers. There appears to be a tendency for this ratio to fall with center size -- 4 of the 5 top classes have an opbrengsten-kosten ratio below the mean for all centers.

Table 6

Selected Performance Indicators, by Size of Center, 1970

Number of non-sick W.S.W. workers	Opbrengsten-Kosten ratio	Deficit per worker (000 guilders)	Netto opbrengst per worker (000 guilders)	Social cost per worker (000 guilders)	Staff wage costs as a percent of W.S.W. wage costs	Sales as a percent of social costs	Sales as a percent of staff wage costs	Average Rank (Rank)
Less than 25	.91	-.10	13.70	-.10	50	101	200	--
25 - 50	.43	3.39	3.86	3.74	38	60	82	11.4(12)
50 - 75	.61	1.46	4.90 *	1.72	34	79	156	5.9(6)
75 - 100	.59	2.22	4.23	2.10	30	78	175	7.1(7)
100 - 125	.71 *	.93 *	4.64	.92 *	28	87 *	175	1.8(1)
125 - 150	.66	1.42	4.19	1.29	28	85	164	4.0(3)
150 - 175	.64	1.20	4.33	1.25	29	83	179	3.2(2)
175 - 200	.62	1.52	4.35	1.73	33	73	130	7.7(8)
200 - 250	.57	1.79	3.55	1.74	27	76	154	7.9(9)
250 - 300	.48	2.82	3.62	2.82	33	64	128	10.6(11)
300 - 350	.68	1.30	4.22	1.32	29	79	156	4.6(4)
350 - 400	.60	1.37	3.80	1.27	26 *	78	149	5.6(5)
400 or more	.54	2.13	3.64	1.68	28	72	123	8.6(10)
Mean	.61	1.70	4.28	1.70	30	78	147	

The deficit per worker --defined as total center costs per worker less revenue from sales, the municipal subsidy, the basic national subsidy and other income sources--is shown in the second column of Table 6. In this case, the lowest value indicates the best performance. Again neglecting the smallest class interval, centers in the interval 100 to 125 workers have the best indicated performance --an average deficit of 930 guilders per worker. The centers with the largest deficit are those with from 25 to 50 workers (3,390 guilders) and from 250-300 (2,820 guilders). Three of the 5 largest class intervals have a deficit per worker in excess of the average of 1700 guilders.

The third column present the netto opbrengst per worker. This figure represents the number of guilders in sales revenue which is in excess of the materials costs of the center. This remaining revenue can be used to defray other non-subsidized, non-materials costs incurred by the center. For the program as a whole, the netto-opbrengst was 4280 guilders in 1970. The class interval with the largest netto opbrengst is that with 50-75 workers. Its value of 4900 guilders is only slightly in excess of the netto opbrengst of the centers in the interval of 100-125 workers (4640 guilders), which interval had the highest score on the previous two indicators. Using this indicator, center performance again appears to decrease as one moves from smaller to larger centers. The netto opbrengst of all of the 5 largest class intervals is below the mean.

The fourth indicator is the social cost per worker. This value represents the number of guilders of real resources which the citizens of the Netherlands contribute to the W.S.W. industrial centers program, again expressed on a per worker basis. Again, excluding the smallest class interval, the best performance is indicated for centers employing from 100-125 workers, in which the social cost per worker is 920 guilders. The worst performance was for centers with from 25 to 50 workers (3740 guilders) and from 250-300 workers (2820 guilders) Although three of the largest 5 classes have social costs per worker in excess of the average, the tendency for performance to decrease with center size is not as pronounced with this indicator as with some of the others.

The final three columns of indicators are based upon the relationship of various cost and revenue components of the centers. The first of these indicators is the relationship of staff wage costs to W.S.W. wage costs. Because large relative administrative and supervisory costs may be an indicator of inefficiency, a low ratio may indicate efficient performance of a center. On average, staff wage costs are 30 percent of W.S.W. wage costs. The class intervals with less than 100 workers have relatively high values for this indicator --all of them are above the mean. The lowest value is recorded for the centers with 350-400 workers. There is some tendency for this ratio to fall with center size--4 of the 5 largest class intervals have an indicator value which is below the mean.

The final two columns of indicators relate sales revenue to various cost components. The first column shows sales as a percentage of social costs. Those centers with high values for this indicator display a relatively high degree of success in diminishing the taxpayer's burden by raising revenue through product sales. The highest ratios are indicated for the centers hiring from 100 to 175 workers. While the mean value of this indicator is 78, all of the class intervals in the 100-175 range have values in excess of 83. The lowest values are found for the very smallest centers and for the largest. Of the six largest classes, only one has an indicator above the mean for the entire program.

In the last column of indicators, sales revenue as a percentage of staff wage costs is shown. This indicator is a more limited version of the previous indicator, using as the denominator only one component of social costs. The best performance on this indicator is for centers in the 150-175 worker range. The centers in this range raise sales revenue equal to 179 percent of staff wage costs. Centers in the 25-50 range have an indicator value of 82: these centers fail to cover even staff costs with sales revenue. Again, the largest centers appear to have poorer performance than the average. Of the largest six class intervals, three have an indicator far below the mean value of 147, while the other three have indicator values at or slightly above the mean.

The final column in Table 6 presents the average rank of the classes among the seven performance indicators and, in parentheses, the ranking of this average. The higher the average and the rank, the better the performance of the class interval over the seven performance indicators. The ranking on each indicator excluded the lowest class interval, as it contains but a single center. As can be seen in that column, the classes with the highest ranking represent centers employing from 100 to 175 workers. The three classes in this range have the top three rankings. The smallest class has the worst ranking (12) and the largest class ranks 10th out of 12. With the exception of centers with from 300 to 400 employees the low rankings of 8, 9, 10, and 11 out of 12 belong to the classes representing the largest center sizes. The pattern of performance reduction with larger center size, noted often in the individual indicators, seems verified in this overall indicator.

III. Does the Province Matter?

In the previous section, the relationship of selected non-financial and financial program variables to center size was shown. In this section, the relationship of some of these same variables to the province in which a center is located is identified. In addition, a few additional variables are related to the province of center location. These relationships are shown in Table 7.

The non-financial characteristics-- center size, mental handicap intensity, and worker qualification level-- are shown for each province in the first three columns. On average, the largest centers are found in Limburg (350 workers) and Drente (234 workers). Friesland has an average center size (119 workers) which is far below that of the other provinces. The highest concentration of mentally handicapped workers is in the centers in Utrecht, which have an average ratio of .69 compared to a total program average of .52. Limburg again stands out in this dimension; it has by far the smallest concentration of mentally handicapped workers of any province -- only 31 percent of the workers in the Limburg centers are mentally handicapped. The pattern of mental handicap

Table 7

Average Values of Selected Program Characteristics, By Province, 1970

Province	Average size of center (no. of workers, including the sick)	Ratio of mentally handicapped to all workers	Ratio of workers above wage group I to all workers	Average W.S.W. cost per worker (000 guilders)	Average Staff cost per worker (000 guilders)	Total cost per worker (000 guilders)	Sales revenue per worker (000 guilders)
Groningen	212	.53	.61	10.6	3.5	19.2	6.4
Friesland	116	.55	.58	10.7	3.7	19.6	6.6
Drente	234	.56	.66	10.8	3.2	18.1	5.7
Overijssel	194	.57	.59	10.9	2.8	16.8	4.0
Gelderland	175	.53	.50	10.8	3.2	18.7	6.0
Utrecht	191	.69	.34	10.0	2.7	15.1	4.0
Noord-Holland	143	.53	.34	10.0	3.1	17.2	4.7
Zuid-Holland	195	.61	.46	10.9	3.2	17.9	4.7
Zeeland	178	.46	.60	11.8	2.7	18.2	5.1
Noord-Brabant	180	.53	.62	11.2	2.7	18.5	6.5
Limburg	350	.31	.79	11.6	3.8	21.5	9.5
Mean	189	.52		10.9	3.2	18.5	5.9

intensity is inversely related to the percentage of workers above wage group I. Hence, Limburg has the highest qualification ratio -- .79 -- while Utrecht and Noord-Holland have the lowest -- .34.

The next three columns of Table 7 present the pattern of cost variables over the provinces. As would be expected, the average wage cost is highest for those provinces with the most qualified workers (highest percentage of workers above wage group I) and lowest for those provinces who are the least qualified. Thus, Limburg has the highest average W.S.W. cost per worker (11,600 guilders) and Utrecht and Noord-Holland the lowest (10,000 guilders).

Interestingly, even though Limburg has the most highly qualified workers, it also has the highest average staff cost per worker -- 3800 guilders. Utrecht, Zeeland, and Noord-Brabant all have very low average staff cost per worker-- 2700 guilders. Utrecht's low staff cost is, in addition, combined with the highest average percentage of handicapped workers.

The pattern of total cost per worker closely parallels the pattern of staff costs per worker. Limburg is the highest with a total cost per worker of 21,500 guilders. This compares with the mean value of 18,500 guilders per worker and a low value among the provinces of 15,100 per worker for Utrecht.

The final column in the table presents the sales revenue per worker raised in the various provinces. Again, Limburg stands out. Its average sales revenue of 9,500 guilders per worker is 3000 guilders higher than the next highest province (Friesland). The lowest sales revenue per worker-- 4000 guilders-- was raised by the centers in Utrecht and Overijssel.

A few comments on these patterns. First, Limburg has an extreme value on every one of the indicators shown. Centers in that province are the largest, have the most qualified and the least mentally handicapped workers, the highest staff and total costs, and the highest sales revenue per worker. Conversely, Utrecht ranks at the other end of the spectrum on almost all of the variables. This raises questions of whether some of these patterns persist among the centers generally. In particular, why should centers with the most qualified workers require the highest staff and total costs per worker? And,

why should centers with the highest sales revenues per worker appear to have the highest staff and total costs per worker? Do large sales revenues induce a relaxation in the control over staff expansion, or do high costs per worker stimulate sales activity, or is there no causal relationship? These patterns will be investigated further in the analyses of the individual center data.

Table 8 presents the variation by province of the seven performance indicators analyzed in Table 6. These indicators incorporate a number of relationships between financial and non-financial center characteristics, and each records some aspect of the economic performance of a center.

The data in the table are largely self-explanatory. The entries with a * are those with the best performance for the particular indicator. The primary provincial pattern is summarized in the final column which shows the average ranking of each of the 11 centers among these seven indicators, and the ranking of these averages. The two southern interior provinces, Limburg and Noord-Brabant, rank first and second, respectively, in the average performance ranking. In particular, the performance of the centers in Limburg is of note. On six of the seven performance indicators, Limburg ranked first, typically substantially higher than the center ranking second. Utrecht ranks third, only slightly below Noord-Brabant.

The regions with the worst performance are Gelderland and Noord-Holland, with Zuid-Holland's performance being only slightly better.

A few of the statistics in the table should be noted. First, the social cost per worker varies significantly among the regions. In Limburg, the social cost per worker is virtually zero. At the other end of the scale, the average worker in Friesland imposes a social cost over 2500 guilders. Second, the variation in the ratio of sales to the cost of W.S.W. employment is substantial. While sales barely cover staff costs in the centers in Noord-Holland (112 percent), they are more than double staff costs in Limburg (227 percent).

Table 8

Selected Performance Indicators, by Province, 1970

Province	Opbrengsten-Kosten Ratio	Deficit per worker (000 guilders)	Netto opbrengst per worker (000 guilders)	Social cost per worker (000 guilders)	Staff wage costs as a percent of W.S.W. wage costs	Sales as a percent of social costs	Sales as a percent of staff wage costs	Average Rank (Rank)
Groningen	.62	2.00	4.75	2.21	35	78	182	5.79(6)
Friesland	.57	2.21	4.21	2.51	36	74	167	8.57(8)
Drente	.69	1.10	4.30	1.58	31	77	161	5.07(4)
Overijssel	.54	1.68	3.51	1.52	25	77	143	6.86(7)
Gelderland	.55	2.30	4.17	2.34	32	72	141	9.14(10.5)
Utrecht	.71	.75	4.00	.85	28	85	152	4.00(3)
Noord-Holland	.53	2.11	4.27	2.14	33	69	112	9.14(10.5)
Zuid-Holland	.58	1.81	3.88	1.69	30	75	132	9.02(9)
Zeeland	.59	1.62	3.77	1.47	23 *	76	175	5.29(5)
Noord-Brabant	.69	1.07	4.30	1.10	25	88	182	3.64(2)
Limburg	.81 *	.61 *	5.93 *	.19 *	29	99 *	227 *	1.57(1)
Mean	.61	1.70	4.28	1.70	30	78	147	

IV. Some Regression Results

While the evidence of the two previous sections indicates that both center size and province are important in explaining center performance, it is not possible to make definitive statements about these relationships from such cross tabulations. Because some provinces have larger centers on average than other provinces, for example, it is possible that the tabulated differences among provinces might well reflect center size rather than the effect of the province. One procedure to reduce this problem is to subject the detailed data to multiple regression analysis. Through this statistical technique, the influence of variables on center performance can be measured independent of the effect of other variables.

In Table 9, the results of 7 multiple regression analyses are shown -- one regression for each of the performance indicators presented in Tables 6 and 8. In each regression, the variation in the performance indicator is related to six variables which might be expected to influence performance. Each regression was run on the data for the 171 centers in the program in 1970. The six explanatory variables are:

1. Province
2. The size of the center (number of non-sick workers)
3. Percent of mentally handicapped workers
4. Sick percentage
5. Percentage of workers above wage category I
6. Presence of a consultation body for workers

Let us describe briefly the results yielded by these regressions, proceeding seriatem through the six independent variables.

First, the effect of province. We have already seen that the centers in some provinces seem to have a better average performance than the centers in other provinces. In the regression, the provinces are entered in dummy variable form, with Groningen being the omitted province. Hence, all of the coefficients on the provinces are stated as deviations from the value for Groningen. In the first column, for example, the coefficient for Friesland is -.074. This means that, holding all the other variables in the regression constant, the estimated opbrengsten-kosten ratio of the centers in Friesland is .074 smaller than the ratio for Groningen. Similarly, the opbrengsten-kosten ratio for Utrecht

Table 9

Regression Results Explaining Center Performance, 1970

Explanatory Variable	Opbrengsten-kosten ratio	Deficit per worker (000 guilders)	Netto op-brengst per worker (000 guilders	Gross social cost per worker (000 guilders)	Staff wage costs as a percent of W.S.W. costs	Sales as a percent of social costs	Staff wage costs as a percent of sales (*)
Province:							
Groningen	--	--	--	--	--	--	--
Friesland	-.074	+.228	-.725	+.266	+.0043	-.0474	+.067
Drente	+.072	-.957	-.388	-.651	-.0453	+.0026	+.076
Overijssel	-.096	-.399	-1.478	-.750	-.1074*	-.0120	+.178
Gelderland	-.036	+.088	-.158	-.095	-.0304	-.0019	+.069
Utrecht	+.158*	-1.349*	+.091	-1.747*	-.0651	+.1792**	-.057
Noord-Holland	-.044	-.229	+.062	-.404	-.0186	-.0197	+.204*
Zuid-Holland	-.006	-.390	-.429	-.743	-.0493	+.0302	+.110
Zeeland	-.042	-.334	-1.036	-.755	-.1216**	-.0178	+.023
Noord-Brabant	+.057	-.935	-.543	-1.104*	-.1021**	+.0922	+.020
Limburg	+.175**	-1.679**	+.832	-2.026**	-.0577	+.1857**	-.064
Number of workers	-.0002**	+.0011	-.0018*	+.0003	-.00004	-.0002	+.0002
% Mentally handi-capped	+.0004	-.0001	+.0028	+.0015	+.0005	-.0002	-.0015
Sick percentage	-.0008	+.0441*	+.016	+.0208	+.0006	-.0007	+.001**
% Above wage group I	+.0025**	-.0125*	+.029**	-.0133*	+.0004	+.0034**	-.007**
Consultation body	+.0891	-.4342	+1.012*	-.1534	+.0176	+.0627	-.1318*
Constant	.4163	.2342	2.055	2.724	.2856	.5644	1.094
R^2 (corrected)	.18	.05	.11	.06	.02	.21	.20

+ Note that the regression was run on the inverse of the variable displayed in Tables 6 and 8.

is, on average, .158 higher than the ratio for Groningen. When a coefficient has one * behind it, it means that the estimate is statistically significant with .9 probability --that a coefficient of that magnitude would occur by chance only once out of ten times. A coefficient with two * indicates that the coefficient is significant statistically with .95 probability.

For nearly all of the indicators, the results suggested in our previous tabulations are verified here. Limburg, for example, has the right sign on the coefficient in all seven cases, and in 4 of the 7 cases the coefficient is significant with .95 confidence. Utrecht, too, has the proper sign on the coefficient and in 4 of the 7 cases the coefficient is significant with .9 probability. The case of Noord-Brabant is interesting, however. In our tabulations in Table 8, this province ranked second--just after Limburg--in terms of its performance. However, when other variables are entered into consideration, the sign on Noord-Brabant is as would be expected in but 5 of the 7 cases and in only 2 cases is the coefficient significant at the .9 probability level. One would have to conclude that when all of the other factors are taken into consideration, Utrecht --not Noord-Brabant --has the second best performance.

In Table 8 the worst performing provinces were Gelderland, Noord-Holland, and Zuid-Holland. In the regression analysis, Gelderland has the expected sign in 6 of the 7 cases, but in no case is it statistically significant at the .9 probability level. Noord-Holland, however, has the expected sign in only 3 of the 7 cases, and again none of the coefficients are statistically significant. When the other factors are taken into consideration, Noord-Holland's performance is not as bad as its rank in Table 8 would indicate. The same is true of Zuid-Holland, in which the sign on the coefficients is as expected in, again, only 3 of the 7 cases. The situation is just the opposite for Friesland. In Table 8, Friesland ranked 8 out of the 11 provinces. In the regression analysis, the sign on the coefficients indicates low performance on all seven of the indicators. And, even though no statistical significance is shown, the size of the coefficients indicates that the performance is in most cases below the other provinces. Taking the other factors in the regression into account would appear to move Friesland below Gelderland and Noord- and Zuid-Holland in its performance.

In Table 6, it was observed that size of center tended to be inversely related to economic performance. The regression analysis confirms this. In six of the seven cases, the sign on the coefficient, number of workers, indicates this inverse relationship. The only exception is for staff wage costs as a percent of W.S.W. wage costs. Moreover, in two of the six cases with the expected sign the coefficient is statistically significant with at least .9 probability.

The relationships of the other variables to performance can be summarized briefly. The mental handicap intensity is, surprisingly, positively related to center performance in four of the seven cases, though in no case is the coefficient statistically significant. The sick percentage is, as expected, negatively related to center performance in 6 of the seven cases -- and in two cases it is statistically significant at the .9 level. This would seem to be an important variable in determining center performance. Another important variable is the percentage of workers above wage group I. In 5 of the 7 cases, this variable is positively related to performance and in all cases the coefficient is statistically significant at the .9 level. In one of the two cases where the sign on the coefficient is not as expected --staff wage costs as a percent of sales-- the coefficient is significant as well. Finally, the presence of a consultation body for workers seems to be an important variable. In 6 of the seven regressions, the signs on the coefficient indicates that the presence of such a body contributes to center performance, and in 3 of the six cases the coefficient is statistically significant at the .9 level.

As can be seen in Table 9, the explanation of the variance in performance is much better in some of the regressions than in others. The extent of variance explained is given by the R^2 statistic. In three cases -- the opbrengsten-kosten ratio, sales as a percent of social costs, and staff wage costs as a percent of sales -- about 20 percent of the variance in performance is explained by the variables in the regression. In the remaining regressions, about 10 percent or less of the variation in performance is explained by the six independent variables.

The regression coefficients presented in Table 9 indicate the direction of the relationship between various indicators of economic performance and six center characteristics which are hypothesized to influence performance. Table 9 also indicates whether these relationships are statistically significant or not. However it is difficult to determine

how responsive center performance is to changes in these independent variables. This degree of responsiveness is indicated in Table 10 for the four regressions with the highest R^2, for all of the variables except region and presence of a consultation body. The estimates in this table are, in effect, simulations suggesting what would happen to mean center performance if the values of the independent variables are changed from their mean values by certain specified amounts.

The first column of Table 10 shows the mean values of the independent variables and of the four performance indicators which were dependent variables in the regressions. The next five columns are the simulated effects on mean center performance from altering the independent variables one at a time. Hence, in the first of these columns the simulated effect on the performance indicators of doubling the mean size of centers while keeping the mean values of the other independent variables fixed. It shows, for example, that if the mean center size was raised from 157.4 to 315 non-sick workers, the opbrengsten-kosten ratio of the mean center would fall from .61 to .58 and the netto opbrengst per worker of the mean center would fall from 4280 guilders to 3996 guilders. Similarly, the second of these columns shows the effect on the mean values of the performance indicators if the mean percent of mentally handicapped workers were raised by 10 points from 52 to 62 percent. The remaining three of these columns are interpreted in a similar fashion. In general, they suggest that the variable "percent of workers above wage group I" is a very powerful variable. When it -- and no other variable -- is changed, the values of the performance indicators show a substantial change.

The simulation in the final column involves changing the mean values all of the independent variables simultaneously, and then observing the effect on the mean values of the performance indicators. First, the general direction of the relationship between the independent variable and the performance indicators was ascertained. These directions are summarized as follows:

- The larger the center size, the worse the performance
- The higher the mental handicap intensity, the better the performance
- The higher the sick percentage, the worse the performance
- The higher the qualification level of the workers, the better the performance

Table 10

Some Performance Simulations Using Regression Results, 1970

	Mean Value of Variable	Assumed Values of Independent Variables and Predicted Values of the Performance Indicator				
Number of non-sick workers	157.4	315	--	--	--	118
Percent mentally handicapped	52	--	62	--	--	65
Sick Percentage	15.7	--	--	25.7	--	11.7
Percent of workers above wage group I	53.0	--	--	--	63.0	66
Opbrengsten-kosten ratio	.61	.58	.61	.60	.64	.66
Netto-opbrengst per worker (guilders)	4280	3996	4308	4440	4570	4710
Sales as a percent of gross social costs	78	75	78	77	81	83
Staff wage costs as a percent of sales	68	71	67	69	61	55

Then, each of the independent variables were changed in the direction of improved center performance. In each case, the value of the variable was changed by 25 percent of its mean value.

For this simulation in which all of the independent variables are changing in the direction of improved center performance, the impact on the performance indicators is substantial. These results can be stated as follows:

- The opbrengsten-kosten ratio is increased by 10 percent from .61 to .66
- The netto-opbrengst per worker is increased by 10 percent from 4280 guilders to 4710 guilders

- Sales as a percent of social costs is increased by 8 percent from 78 to 83 percent
- Staff wage costs as a percent of sales is decreased by 19 percent from 68 to 55 percent

While these results are indicative of the impact on economic performance from altering center characteristics, they must be interpreted with caution. First, they are based on changes in all of the independent variables -- both those which show statistical significance and those which do not. Hence they presume that the estimated coefficients are accurate point estimates of the relevant relationships. Second, they presume that the linear relationships which are estimated by the regression are accurate over the range by which the mean value of the variable is changed. Third, they presume that there is no significant interaction among the independent variables. While these assumptions may not all be true, the results nevertheless suggest that improving center performance may be possible by altering these center characteristics.

V. Which Centers Perform Relatively Well and Which Do Not?

One final set of results will be presented in this discussion. As noted previously, 12 performance indicators were calculated for each center. Hence, it is possible to isolate the centers with the best and the worst performance on each of the indicators. Indeed, this is done in Appendix D, where the top 20 and bottom 20 centers are shown for each indicator.

Table 11 summarizes the results in Appendix D. There the centers appearing at least six times in the bottom 20 and the top 20 of the performance indicators are shown, along with the number of times which they appear in the bottom or top 20. This listing of centers is self-explanatory. Efforts to improve the economic performance of the program should be concentrated on the centers with the worst performance. And the particular factors for the relative success of the centers with the best performance should be examined to determine if they are transferable to the other centers.

Table 11

Centers With the Best and the Worst Economic Performance, 1970 [a]

Centers With Best Performance		Centers With Worst Performance	
Center	Number of Times in Top 20 Centers	Center	Number of Times in Bottom 20 Centers
Noord-Brabant--G	11	Noord-Holland--N	10
Limburg--G	9	Gelderland--B	10
Zuid-Holland--O	9	Noord-Holland--O	10
Utrecht--A	9	Zuid-Holland--F	9
Noord-Brabant--F	9	Noord-Holland--F	9
Gelderland--E	9	Zuid-Holland--T	9
Limburg--F	8	Noord-Brabant--I	9
Groningen--C	8	Noord-Brabant--J	8
Limburg--H	8	Friesland--B	7
Noord-Brabant--A	7	Noord-Holland--B	7
Zuid-Holland--P	7	Zuid-Holland-U	7
Zuid-Holland--Q	7	Zuid-Holland--D	7
Limburg--B	7	Noord-Holland--L	6
Zuid-Holland--G	7	Noord-Holland--P	6
Noord-Holland--I	6	Zuid-Holland--V	6
Zuid-Holland--R	6	Noord-Holland--G	6
Zuid-Holland--S	6	Zuid-Holland--W	6
		Overijssel--A	6

a) Centers in the table are identified only by province and a letter. Each center retains its province-letter code throughout the study. Inquiries regarding more specific identification of centers should be addressed to the Ministry of Social Affairs.

CHAPTER V

THE INDUSTRIAL CENTERS PROGRAM IN 1972 -- A PROFILE

This chapter will, to the extent possible, replicate the 1970 analysis of the industrial centers program for 1972. Again, several dimensions and characteristics of the program will be discussed.

However, this discussion must of necessity be somewhat less comprehensive than that for 1970. The primary cause of this is the unavailability of data on the sources of revenue for each of the centers. As a result, the revenue structure cannot be analysed. More seriously, none of the performance indicators which rely on revenue information (e.g., the opbrengsten-kosten ratio and the social cost indicator) can be calculated. Moreover, the data supplied by the Ministry on some of the centers were missing. Hence, while there were 162 centers which were presumably functioning in 1972, complete non-cost data were available on 156 of them and complete cost data were available on but 129. The cost data on the remaining 30 centers were obtained too late to be incorporated into this chapter.

I. The Dimensions of the Program in 1972

The industrial centers program consisted of 162 operating centers in 1972. These centers employed nearly 31,000 workers including the sick (or about 26,700 workers, excluding the sick). Of the 156 centers for which data were available, the average size of the centers was 197 including the sick and 169 excluding the sick.

Table 1 presents the size distribution of the centers, by number of workers including the sick.

The smallest center, as in 1970, employs less than 20 workers. The 10 largest centers --those with over 400 employees -- averaged 777 workers. The heaviest concentration of centers was in the range from 50 to 250 workers. There were 112 centers in this range -- 72 percent of the total. However, over one-fourth of the workers were employed in centers with more than 400 employees.

Table 1

Distribution of Industrial Centers, by Number of Workers (including the sick), 1972

Number of WSW workers (including the sick)	Average Number of Workers (excluding the sick)	Average Number of Workers (including the sick)	Sick Percentage	Number of Centers
less than 25	15.0	18.2	18	1
25 - 50	35.8	41.0	13	8
50 - 75	55.9	64.5	13	18
75 - 100	75.8	88.2	14	20
100 - 125	99.0	114.2	13	20
125 - 150	117.3	136.3	14	15
150 - 175	140.7	162.8	14	10
175 - 200	158.5	188.8	16	16
200 - 250	185.2	216.9	15	13
250 - 300	231.3	276.4	16	11
300 - 350	269.8	316.6	15	6
350 - 400	324.3	378.4	14	8
more than 400	634.0	777.4	18	10
Total	169.4	197.5	14	156

Table 1 also relates the sick percentage to the various center sizes. (The sick percentage is the percent of the total number of workers including the sick which report being sick on the date of the survey.) For the program as a whole, the sick percentage is 14. The percentage varies with the size of center, however, with all of the intervals of less than 175 workers having an average sick percentage of 14 or less, while all of the intervals above 175 workers having an average sick percentage of 14 or more. The interval with the highest sick percentage is for the centers with more than 400 workers [1]. The sick percentage for these very largest centers is 18.

---

1) This neglects the very smallest interval, which contains but a single center.

In the 160 centers for which data were available, 54 percent of the workers were mentally handicapped. This is an increase of 2 percentage points from 1970. An increase was also recorded in the percentage of centers which had a responsible social employment board--from 60 percent in 1970 to 64 percent in 1972. Similarly, the percentage of centers with mental testing and training facilities and physical testing and training facilities increased from 1970 to 1972. The percentage for mental facilities rose from 38 to 44 and the percentage for physical facilities rose from 12 to 13. The percentage of facilities with a worker consultation body for workers remained at 88 percent.

Table 2 presents the cost structure of the 129 centers for which data were available [2]. This table again considers the 129 centers as a single program, and hence reflects the cost structure for the entire program.

In total, the 129 centers spent 570 million guilders in 1972 [3], about 57 percent of which was for wages and associated costs for W.S.W. workers. Yearly, 106 million guilders were spent for the wage and salary cost of staff and supervisory workers -- about one-third the amount spent for handicapped workers. These two labor components of cost account for over 75 percent of total program costs. The other major cost items are for materials and sales (59.1 million guilders) and for facilities (21.6 million guilders).

---

2) Cost data were available for 129 of the 162 centers. The analysis of these data will not provide an accurate description of the total costs of the industrial center program. However, if the 31 centers for which data are missing are a random selection of the 162 centers, the estimates of cost structure and cost per non-sick worker should be applicable for the entire program. We will treat them as such.

3) The data in Chapter III indicated that the total costs for the entire industrial centers program was 670.7 million guilders in 1972. Hence, the centers in this analysis account for 84 percent of the total program cost. Because the 129 centers are 81 percent of the total of 162 centers, this implies that the average size of the centers on which cost data are missing are, on average, slightly smaller than the average center in the total program.

Table 2

The Cost Structure of 129 Centers in the Industrial Centers Program, 1972 a)

Cost Category	guilders (in millions)	percent of total	guilders per non-sick worker
Wages and Other Employment Costs for W.S.W. and Related Workers	320.4	56.6	13,788
Transportation Costs	15.3	2.7	653
Staff and Supervisory Costs	105.5	18.6	4,540
Materials and Sales Costs	59.1	10.4	2,543
Facility Costs	21.6	3.8	930
Depreciation Costs	12.4	2.1	534
Interest Costs	16.5	2.9	710
Other Costs	15.5	2.7	667
Total	566.3	100.0	24,370

a) As indicated in the text, cost data were available for 129 of the 162 operating centers.

In the final column of Table 2, the components of cost for the 129 centers are stated in per non-sick worker terms. In total, the program cost 24,370 guilders per worker in 1972, of which nearly 14,000 guilders was accounted for by W.S.W. wage costs. Staff and supervisory costs totalled about 4,500 guilders per non-sick worker.

In comparing Table 2 with the corresponding data for 1970 (in Table 2 of Chapter IV), a number of interesting points appear. First, as a percent of total costs, W.S.W. salary costs declined slightly--from 58.8 percent of the total to 56.6 percent. Staff and supervisory costs, on the other hand, increased from 17.3 percent of the total to 18.6 percent. Facility costs decreased substantially from 5.8 percent of the total to 3.8 percent. Major increases were registered for both depreciation and interest costs--both rose

from 1 percent of the total to 2.1 percent and 2.9 percent respectively.

Stated in per non-sick worker terms, costs rose substantially from 1970 to 1972. For example, W.S.W. per worker wage costs rose by 27 percent and total costs per non-sick worker rose by 32 percent. Of the major cost components, staff and supervisory costs rose by the greatest amount -- over 42 percent.

Unfortunately, the revenue structure of the individual centers is unavailable. Hence, the only 1972 revenue information which can be presented is that shown in Chapter III. It indicates that the total revenue of the centers is 671 million guilders -- up over 200 million guilders from 1970. Over 66 percent of that revenue was accounted for by subsidies from the national government, an increase of 4 percentage points from 1970. Sales revenue as a percent of the total was 30 percent in 1972, down 4 percentage points from 1970.

II. Does the Size of Center Matter?

As in the analysis of 1970 data, some of the important characteristics of the centers will be related to center size. Again, the purpose is to discern if a relationship between these variables and center size exists. These relationships are presented in Table 3 for the non-financial center characteristics.

Columns 1 and 2 of Table 3 relate the ratio of mentally handicapped and mentally retarded workers to the size of centers. As in 1970, the relationship of these variables to center size is not very strong. For the handicapped, a slight positive relationship exists, as in 1970. This relationship is not clear for the mentally retarded in 1972, even though it was present in the 1970 data. Indeed, the two categories with a mentally retarded ratio above .4 are below 175 workers.

Column 3 shows the ratio of centers with a non-governmental body or association overseeing the program in each of the size intervals.

It suggests that the largest and the smallest centers have a somewhat lower probability of having such a board. With the exception of centers with 175 - 200 workers, all of the middle size intervals -- those from 75 - 250 workers — have a ratio above that for the program as a whole.

Table 3

Average Values of Selected Non-Financial Program Characteristics by Size of Center, 1972

Number of non-sick W.S.W. workers	Ratio of mentally handicapped to all workers	Ratio of mentally retarded to all workers	Ratio of centers with social employment board to total	Ratio of centers with mental training to total	Ratio of centers with physical training to total	Ratio of centers with a worker consultation body to total
less than 25	.28	0	1.0	0	0	1.0
25 - 50	.51	.32	.50	0	0	.75
50 - 75	.56	.41	.56	.28	0	.89
75 - 100	.53	.35	.65	.25	0	.95
100 - 125	.55	.36	.70	.20	.05	.75
125 - 150	.54	.37	.73	.47	0	.93
150 - 175	.56	.43	.90	.60	.20	1.0
175 - 200	.51	.32	.50	.50	.06	.94
200 - 250	.46	.34	.85	.85	0	.92
250 - 300	.53	.36	.64	.55	.45	.91
300 - 350	.60	.38	.50	1.0	.33	1.0
350 - 400	.57	.39	.50	.88	.50	1.0
400 or more	.54	.38	.66	.50	.50	.70
Mean	.54		.64	.44	.13	.89

The ratio of mental and physical testing and training facilities by size of center is shown in columns 4 and 5. Both of these variables are strongly related to center size. For the mental facilities, no interval below 125 workers has a ratio as large as the mean, while

all intervals above 125 workers have a ratio larger than the mean ratio for the program. This pattern is even stronger for the physical facilities-- only 1 center less than 150 workers has physical testing and training facilities. Fifty percent of the centers with 350 or more workers have such facilities.

The final column relates the ratio of centers with a consultation body for workers to center size. Again, as in 1970, this ratio appears to vary positively with center size but not strongly. The mean ratio for the 5 largest intervals is .91; that for the smallest 5 is .85. The extremely low ratio for the very largest center sizes --those with more than 400 workers-- is unexplained. This ratio was .86 in 1970 and .70 in 1972.

The relationship of a few financial variables to center size is shown in Table 4. While these relationships included both revenue and cost characteristics for the 1970 data, only cost patterns are available for 1972.

Table 4

Average Values of Selected Financial Program Characteristics for 129 Centers in the Industrial Centers Program, By Size of Center, 1972

Number of non-sick workers	W.S.W. Wage cost per worker	Staff Cost per worker	Total Cost per worker
less than 25	15.4	9.3	30.1
25 - 50	14.3	4.7	23.0
50 - 75	13.2	4.7	24.2
75 - 100	15.1	5.2	30.1
100 - 125	14.1	5.0	26.2
125 - 150	14.5	4.6	24.2
150 - 175	14.1	4.3	23.1
175 - 200	14.5	4.3	26.6
200 - 250	14.0	4.4	25.4
250 - 300	14.4	5.2	25.1
300 - 350	14.1	4.7	24.8
350 - 400	14.0	4.4	23.7
400 or more	14.5	4.7	26.3
Mean	13.8	4.5	24.4

The first column presents the W.S.W. wage cost per worker by size of center. The range of this value is from 13,200 guilders to 15,200 guilders in 1972. For 1970, the range was from 10,300 to 11,700 guilders. As in 1970, however, this variable shows little, if any, relationship to the size of center.

As in the 1970 data, staff cost per worker does appear to be related to center size. The highest per worker values are for the centers with less than 125 workers, where the value is above 4700 guilders in all of the intervals. The value then declines to 4300 - 4400 in the range from 125 to 250 workers, and then rises to the 4400 to 5000 guilder range for center sizes above 250 workers. Again, this staff cost per worker pattern is reflected in the data for total costs per worker -- although not so strongly as in the 1970 data. The class intervals with the largest total costs per worker are the 175 - 200 interval and the interval with centers having more than 400 workers.

III. Does the Province Matter?

As in the analysis of the 1970 data, the characteristics of the centers in 1972 will be examined by province. First, a selection of non-financial center characteristics will be examined, and then a few financial variables.

The first three columns of Table 5 present non-financial variables by province. The first column is center size measured by number of workers including the sick. This mean center size varies substantially over the provinces -- the range is from 132 (Friesland) to 373 (Limburg). Average center size has increased from 1970 to 1972 in all of the regions except Groningen, Overijssel, and Noord-Holland. The largest increases were in Noord-Brabant with an increase in average center size of 49 workers, and Limburg with an increase of 23 workers. The decrease in the average size of centers in Groningen by 59 workers is unexplained.

Again, the ratio of mentally handicapped workers is greatest in Utrecht (.70), compared to the program average of .52. Limburg, in addition to having the largest average center size, has the lowest proportion of mentally handicapped (.30). As in the 1970, this pattern is reflected in the ratio of workers above wage group I. For Utrecht this ratio is .36; it is .83 for Limburg. While the mentally handicapped ratio for Noord-Holland is about the average of the program as a whole, it has an exceedingly low ratio of workers above wage group I (.38 compared to a mean of .60). This variance is unexplained.

Columns 4, 5, and 6, show the variance of a few financial variables by province. Average W.S.W. wage cost by province is shown in column 4. The range of values over the provinces is 12,900 guilders to 16,900 guilders. The range in 1970 was much smaller -- 10,000 to 11,600 guilders. Again, Limburg, with the highest average qualification of workers, has the highest average wage cost. While Utrecht and Noord-Holland had the lowest average wage cost in 1970, Gelderland is substantially below the others in 1972.

Average staff cost per worker ranges from 3600 guilders (Zeeland) to 5400 (Limburg). This range of 1800 guilders is substantially greater than in 1970, when the range was 1100 guilders. In that year, Limburg also had the highest figure. Again, note that Limburg also had the largest proportion of highly qualified workers. Utrecht, with the highest percentage of mentally handicapped (70 percent), has a very low staff cost per worker (4200 guilders).

The figures on total cost per worker again parallel staff costs per worker-- as they did in 1970. Limburg has the highest value (29,800 guilders), with Zeeland (22,900 guilders), Utrecht (22,000 guilders), Overijssel (22,800 guilders) and Gelderland (23,000 guilders) being substantially below the other provinces.

Table 5

Average Values of Selected Program Characteristics, By Province, 1972 [a]

Province	Average size of center (no. of workers including the sick)	Ratio of mentally handicapped to all workers	Ratio of workers above wage group I to all workers	Average WSW wage cost per worker (000 of guilders)	Average Staff cost per worker (000 of guilders)	Total cost pe worker (000 o guilder
Groningen	159	.53	.69	14.0	5.6	27.8
Friesland	132	.57	.66	14.1	5.3	26.9
Drente	238	.5	.72	14.3	4.8	26.6
Overijssel	187	.58	.60	13.8	4.1	22.8
Gelderland	191	.56	.53	12.9	4.2	23.1
Utrecht	193	.70	.36	13.8	4.2	22.8
Noord-Holland	137	.56	.38	13.6	5.3	25.5
Zuid-Holland	208	.64	.50	14.1	4.7	24.7
Zeeland	197	.49	.68	14.8	3.6	22.9
Noord-Brabant	229	.57	.71	14.8	4.1	25.4
Limburg	373	.30	.83	16.0	5.4	29.8
Mean	197.5	.54	.60	13.8	4.5	24.4

a) Columns 1-3 reflect data from 160 of the 162 centers; columns 4-6 reflect data on the 129 centers for which cost data were available.

IV. Center Performance -- By Size and Region

Because of the unavailability of data on revenues by center, none of the performance indicators save one can be calculated for 1972. The indicator which is calculated is the ratio of staff and supervisory costs to W.S.W. wage costs.

In Table 6, this ratio is shown for centers of various sizes; in Table 7, the ratio is displayed by province.

Table 6

Staff Wage Costs as a Percent of W.S.W. Wage Costs, by Size of Center, 1972

Number of non-sick W.S.W. workers	Staff wage costs as a percent of W.S.W. wage costs	Percentage Point Change, 1970 - 1972
less than 25	60	-
25 - 50	30	- 5
50 - 75	37	+ 3
75 - 100	35	+ 5
100 - 125	39	+ 11
125 - 150	32	+ 3
150 - 175	31	+ 2
175 - 200	30	+ 3
200 - 250	32	- 5
250 - 300	36	+ 3
300 - 350	33	+ 4
350 - 400	31	+ 5
400 or more	33	+ 5
Mean	34	+ 4

As noted in the discussion of the 1970 data, this percentage can indicate poor economic performance. It focusses on the extent of administrative and supervisory personnel in the program relative to W.S.W. workers. On average staff wage costs were 34 percent of W.S.W. wage costs. As in 1970, the centers with less than 125 workers have the highest ratios. With the exception of the 25 - 50 class interval, the ratio for these intervals ranges from 35 to 39. The only other interval with a high value is the 250 - 300 worker interval, with a value of 36 percent. The lowest ratio for the centers with from 175 - 200 workers.

The final column in Table 7 shows how this percentage has changed for each of the class intervals. For 10 of the 12 relevant intervals,

the percentage rose -- from 2 to 11 percentage points. The largest increase -- 11 points -- was for centers in the 100 - 125 workers range. The increase in the mean percentage was 4 percentage points from 1970 to 1972 [4].

In Table 7, this same percentage is displayed by region. As in 1970, the region with the lowest ratio is Zeeland, with 24 percent. In 1970, the province with the highest ratio was Friesland; in 1972, Noord-Holland and Groningen both have ratios above 40 -- at least 4 percentage points higher than the Friesland percentage in 1970.

All of the provinces except Gelderland showed an increase in this ratio from 1970 to 1972. The increases range from 1 percentage point to 8 percentage points for Noord-Holland.

Table 7

Staff Wage Costs as a Percent of W.S.W. Wage Costs, by Province, 1972

Province	Staff wage costs as a percent of W.S.W. wage costs	Percent point change, 1970 - 1972
Groningen	40	+ 5
Friesland	39	+ 3
Drente	34	+ 3
Overijssel	30	+ 5
Gelderland	32	-
Utrecht	32	+ 4
Noord-Holland	41	+ 8
Zuid-Holland	35	+ 5
Zeeland	24	+ 1
Noord-Brabant	26	+ 1
Limburg	35	+ 6
Mean	34	+ 4

---

4) It should again be noted that the calculation for 1972 is based on the 129 centers with data available, and not on the full population of centers as in 1970. This could bias the results in some unknown way for some of the intervals.

CHAPTER VI

THE INDUSTRIAL CENTERS PROGRAM IN 1973 -- A PROFILE

This section is the third profile analysis of the industrial centers. It presents the analysis of this component of the program for the year 1973, and compares the results for this year with those of 1970.

Of the three years for which the analysis is done, the data of this year are the most complete. In addition to both revenue and cost components for each of the centers, data were collected on the composition of both W.S.W. and Non-W.S.W. workers. In 1973, there were 155 centers for which complete data were available (out of a total of 157 workplaces). Primarily because of the closing of a few centers, and the consolidation of several others, this number is smaller than the 171 workplaces analyzed for 1970.

I. The Dimensions of the Program in 1973

In the 155 operating industrial centers in 1973, 32,714 workers were employed, of which 26,626 were classified as non-sick. The average size of a center was, therefore, 211 workers (or 178 non-sick workers). This compares with an average size of 189 workers in 1970.

Table 1 presents the size distribution of centers, in which size is measured by the total number of workers. There were two centers with less than 25 workers and 15 with more than 400. Again, nearly one-third of the workers were employed in these very large centers. It should be noted that the size of these very large centers has decreased since 1970. In that year, the average size of centers in this class was 707; in 1973, the average size was 685.

Table 1 also displays the sickness percentage by size of center Overall, the sickness percentage decreased from 16 to 14.3 percent from 1970 to 1973. Again, however, the smaller centers show a lower sick percentage than do the larger centers. For centers with less

than 150 workers, the sick percentage is in the 12-14 percent range [1]. For centers larger than 250 workers, the percentage ranges from 15 to 19 percent (with the exception of the centers in the 350-400 worker range with the very low percentage of 11).

Of the nearly 33,000 workers in the program, 17,757 had some form of mental handicap. This is 54 percent of the total, a slight increase from the 52 percent shown in 1970. Mentally retarded workers totalled 12,334, or 38 percent of the total. This is again an increase of 2 percentage points from 1970.

The number of centers with mental testing and training facilities remained fixed at 65 -- the same number as in 1970. The number with physical testing and training increased by one since 1970, from 20 to 21.

In 1970, 102 of the centers had a non-governmental body or association which organized and operated the centers. By 1973, this form of organization had increased by 5 -- to 107. Perhaps this form of organization accompanied the consolidation of some of the centers. During this same 4 year period, however, the number of centers which had an organized arrangement for the workers to consult with the management decreased from 150 to 147. This reduction is likely caused by the consolidation of some of the centers from 171 to 155. In percentage terms, the centers with such an arrangement increased from 88 to 95 percent of the total.

Table 2 presents the cost structure of the 155 centers. In total, these 155 centers expended 822 million guilders [2], 58 percent of which went for W.S.W. wage and other employment costs. This is nearly the same percentage as in 1970. The next largest cost item is for staff and supervisory personnel. Again, as in 1970, about 17 percent of total costs were spent on administration and supervision. This compares with materials and sales costs which accounted for about 80 million guilders of expenditure, or 10 percent of the total. Of the total non-W.S.W. wage costs, the costs for administrative and supervisory workers accounts for 42 percent.

---

1) This ignores the 2 very small centers, with an average sick percentage of 21.

2) This figure is about 3.5 percent greater than that shown in Chapter 3. This discrepency is in the process of being reconciled by the Ministry and the Principal Investigator.

Table 1

Distribution of Industrial Centers, by Number of Workers (including the sick), 1973.

Number of W.S.W. Workers (including the sick)	Average Number of Workers (excluding the sick)	Average Number of Workers (including the sick)	Sickness percentage	Number of centers
less than 25	10.0	12.6	21	2
25 - 50	33.9	38.7	12	10
50 - 75	57.9	66.7	13	14
75 - 100	76.4	88.4	14	17
100 - 125	96.1	110.5	13	20
125 - 150	119.6	137.2	13	15
150 - 175	139.6	163.6	15	10
175 - 200	156.6	185.4	16	11
200 - 250	193.0	221.9	13	14
250 - 300	230.2	272.3	15	11
300 - 350	268.1	320.5	16	8
350 - 400	332.0	372.9	11	8
more than 400	552.6	684.9	19	15
Total	178	211	14.3	155

Table 2

The Cost Structure of the Industrial Centers Program, 1973.

Cost Category	guilders (in millions)	percent of total	guilders per non-sick worker
Wages and other Employment Costs for W.S.W. and Related Workers	479.9	58.4	18,024
Transportation Costs	20.4	2.4	766
Staff and Supervisory Costs	142.5	17.3	5,352
Materials and Sales Costs	82.1	10.0	3,083
Facility Costs	28.1	3.5	1,055
Depreciation Costs	16.6	2.0	623
Interest Costs	22.1	2.7	830
Other Costs	30.2	3.7	1,134
Total	821.9	100.0	30,868

The third column of Table 2 expresses costs per non-sick worker. In 1970, the total value was 18,490 guilders. The 1973 value of nearly 31,000 guilders represents an increase of 62 percent -- representing about 13 percent growth per year. Of the 31,000 guilders, 18,000 guilders was accounted for by W.S.W. wage costs and 5,400 guilders by staff and supervisory costs.

Table 3 displays the income side of the industrial centers program. Again, total income is defined to be equal to total costs. In 1973, 52 percent of total expenditures were accounted for by the basic government subsidy. This is the same percentage as in 1970. Subsidies from other government sources -- both municipal and national government -- covered 17 percent of total expenditures. This is an increase from 1970, when these other subsidies accounted for less than 15 percent of total costs. In 1973, sales covered less than 30 percent of total expenditures -- down from 32 percent in 1970. In 1973, sales revenue was 107 percent of the sum of supervisory, administrative, and materials costs. In 1970, sales were over 118 percent of these costs.

Table 3

The Revenue Structure of the Industrial Centers Program, 1973

Revenue Category	guilders (in millions)	percent of total	guilders per non-sick worker
Basic Government Subsidy	425.6	51.7	15,984
Other Government Subsidy	122.5	14.9	4,601
Municipal Subsidy	13.5	1.6	507
Sales Revenue	239.8	29.2	9,006
Other Revenue	20.5	2.5	770
Total	821.9	100.0	30,868

II. Does the Size of Center Matter?

As with the 1970 data (and to some extent the 1972 data), several characteristics of centers can be related to center size. These characteristics are both financial and non-financial. In Table 4, the same set of non-financial characteristics are related to center size as in Table 4 of the 1970 analysis in Chapter IV.

The patterns shown there are not substantially different from those in 1970. Again, very little pattern in hiring of mentally handicapped workers is evident over the size distribution. Smaller centers -- those below 175 workers -- tend to hire a higher percentage of mentally retarded workers than do the larger centers. All of the ratios above the mean ratio of .38 are in intervals with less than 175 workers. This is the reverse of the 1970 pattern, but in both cases the relationship is not strong. The centers of moderate size tend to a non-governmental sponsoring organization somewhat more than do either the very large or small centers. All of the ratios above .8 are in intervals between 125 and 300.

Again the presence of testing and training centers -- both physical and mental -- are strongly related to center size. Indeed, only one center of the 78 centers with less than 150 workers has physical training facilities. Finally, as in 1970, the larger centers are somewhat more likely to have a consultation body for workers than are the smaller centers. Only one center of the 77 centers with from 125 - 400 workers does not have such a body. The surprisingly low ratio for the centers with more than 400 workers is present in both 1970 and 1973.

The final column of Table 4 relates the ratio of subsidized supervisory workers to total W.S.W. workers to the size of centers. There it is seen that the highest intensity of supervisory personnel is in the smaller centers. Excluding the smallest class interval, the ratio is above .12 for all intervals with centers of less than 100 workers. The ratio is .09 for all intervals with centers of more than 300 workers.

Table 4

Average Values of Selected Non-Financial Program Characteristics by Size of Center, 1973

Number of non-sick W.S.W. workers	Ratio of mentally handicapped to all workers	Ratio of mentally retarded to all workers	Ratio of centers with a non-governmental sponsoring organization to total	Ratio of centers with mental training to total	Ratio of centers with physical training to total	Ratio of centers with a worker consultation body to total	Ratio of subsidized supervisory personnel to total non-sick workers
less than 25	.82	.58	.50	0	0	.50	.09
25 - 50	.52	.33	.60	0	0	.90	.14
50 - 75	.54	.42	.71	.21	0	1.0	.12
75 - 100	.59	.43	.53	.18	.06	.94	.13
100 - 125	.47	.34	.75	.25	0	.95	.10
125 - 150	.61	.44	.87	.33	0	1.0	.11
150 - 175	.55	.39	.70	.50	.10	1.0	.10
175 - 200	.54	.38	.64	.55	.09	1.0	.09
200 - 250	.54	.37	.86	.79	.07	.93	.08
250 - 300	.51	.35	.82	.64	.27	1.0	.10
300 - 350	.52	.37	.38	.63	.38	1.0	.09
350 - 400	.69	.38	.63	.75	.63	1.0	.09
400 or more	.51	.34	.67	.60	.40	.80	.09
Mean	.54	.38	.69	.42	.14	.95	

Table 5 presents selected financial variables and relates them to center size. Again, the W.S.W. wage cost per worker is quite constant across the distribution. The sum of the basic plus special subsidy per worker also shows little pattern, although the highest values are associated with the very largest and very smallest centers. As with the 1970 data, the staff costs per worker decline form the 5500 - 6000 guilder range for the centers with less than 100 workers to the 4500 - 5000 guilder range for the medium size centers -- those with from 100 to 400 workers. The very largest centers show somewhat higher staff costs than the average. Total costs per worker also tend to fall with center size, again up to centers of the very largest size. This general pattern of the very largest centers having higher costs per worker and requiring larger subsidies per worker than somewhat smaller centers was not so plainly visible in the 1970 data. Finally, as in 1970, there is a tendency for sales revenue per worker to fall with size of center. The highest value is for centers in the 75 - 100 worker range -- 12,400 guilders per worker -- while the lowest is in the 350 - 400 worker interval -- 5000 guilders per worker. While the centers with more than 400 workers tend to have relatively high staff and total costs per worker, they also tend to have relatively high sales revenue per worker -- 10,000 guilders.

Table 6 presents data which address the performance question directly. Seven indicators of economic performance are presented for class intervals which span the size distribution. The indicators shown are those which were analyzed in Table 6 of Chapter IV and are defined in Appendix C. The size interval which has the value suggesting the best performance is indicated by an * for each performance indicator. Again, because of the small number of centers in the smallest class interval, it is not included in the analysis of these data.

By and large, the patterns suggested in Chapter IV for the 1970 data are maintained here. The primary pattern is the generally good performance of centers in the 150 - 200 worker range. As the final column indicates, these two intervals rank first and third, respectively, when performance on all of the indicators is taken into account. However, in this 1973 analysis, very small and very large centers perform better relative to the other size centers than was observed in 1970.

Table 5

Average Values of Selected Financial Program Characteristics by Size of Center (000 guilders)

Number of non-sick W.S.W. workers	W.S.W. wage cost per worker	Basic plus special subsidy per worker	Staff cost per worker	Total cost per worker	Sales revenue per worker
less than 25	22.7	20.8	7.6	36.5	11.6
25 - 50	18.2	19.2	5.3	29.7	7.5
50 - 75	16.8	17.5	5.8	31.0	9.6
75 - 100	17.2	18.0	6.1	33.2	12.4
100 - 125	17.7	18.3	5.1	29.5	8.1
125 - 150	16.6	17.2	5.0	28.9	8.1
150 - 175	16.6	17.0	5.2	29.1	9.9
175 - 200	17.4	18.2	5.2	30.8	9.8
200 - 250	16.2	16.8	4.5	26.9	6.7
250 - 300	16.6	17.4	5.0	28.8	8.3
300 - 350	17.2	18.0	4.9	29.7	8.2
350 - 400	16.8	17.2	5.0	27.4	5.0
400 or more	18.1	18.5	5.3	31.6	10.0
Mean	17.2	17.9	5.1	29.9	8.7

Table 6

Selected Performance Indicators, by Size of Center, 1973

Number of non-sick W.S.W. workers	Opbrengsten-Kosten Ratio	Deficit per worker (000 guilders)	Netto op-brengst per worker (000 guilders	Social cost per worker	Non-W.S.W. Salary as a percent of W.S.W. salary costs	Sales Revenue as a percent of social costs	Sales as a percent of staff wage costs	Average rank (rank)
0 - 25	.67	2.20	9.73	2.43	32	75	135	-- --
25 - 50	.62	2.08	6.82	4.08	31	73	270*	4.36 (2)
50 - 75	.63	2.27	7.63*	4.45	34	72	145	5.50 (5)
75 - 100	.59	2.11	7.08	3.61	37	70	108	6.07 (6)
100 - 125	.53	2.15	5.44	3.69	30	68	132	6.79 (7)
125 - 150	.55	2.48	5.98	4.22	30	66	154	6.79 (8)
150 - 175	.65*	1.40*	7.00	2.41*	31	77*	147	2.79 (1)
175 - 200	.59	2.03	6.01	3.65	30	71	141	4.64 (3)
200 - 250	.47	2.96	4.86	3.88	28*	63	128	8.43 (10)
250 - 300	.49	2.41	5.39	3.78	30	64	125	8.36 (9)
300 - 350	.48	3.08	5.51	4.42	29	62	135	8.71 (11)
350 - 400	.37	3.97	3.79	5.59	29	50	93	10.70 (12)
400 or more	.57	2.29	5.92	3.52	29	71	145	4.86 (4)
Mean	.55	2.39	6.04	3.88	31	68	128	

Centers with from 25 to 50 workers have an overall rank of 2, and centers with more than 400 workers have an overall rank of 4. The rank of these two intervals was 12 and 10 in 1970. This is a rather remarkable change. With the exception of the largest interval, economic performance appears to be inversely related to center size -- intervals spanning the range from 200 - 400 workers have ranks 9, 10, 11, and 12. This negative relationship appears to be substantially stronger in 1973 than in 1970.

III. Does the Province Matter?

In Table 7, the same seven performance indicators are related to province. This table can be directly compared with Table 8 in Chapter IV. Again, the province with the best performance on any given indicator is noted with a *. As in 1970, the two southern interior provinces rank first and second in the average performance ranking shown in the final column. However, from 1970 to 1973, Limburg moved from first rank to second while Noord-Brabant moved from second to first. This switch is accounted for by the substantial drop in performance of centers located in Limburg. In 1970, Limburg's performance was the best on 6 of the 7 indicators, and in nearly all cases significantly better than the performance of any other province. In 1973, Limburg's performance was the best on only 2 of the 7 indicators. Noord-Brabant had the best performance on the remaining 5 indicators. The decrease in performance between 1970 and 1973 is also notable for Utrecht. In 1970, Utrecht had the overall rank of 3; in 1973, its overall rank was 8. As in 1970, the provinces with the poorest overall performance were Gelderland (9), Noord-Holland (10), and Zuid-Holland (11).

One statistic in the table is of special note. While the average center has sales which are 128 percent of staff wage costs, the average center in Zuid-Holland is able to cover only 90 percent of its staff wage costs with sales revenue.

Finally, the change in performance from 1970 to 1973 is presented in Table 8 for each of the provinces and for the average center in the program. There the percentage change in the value of each of the performance indicators from 1970 to 1973 is shown. For the average center,

Table 7

Selected Performance Indicators, by Province , 1973

Province	Opbrengsten-Kosten Ratio	Deficit per worker (000 guilders)	Netto op-brengst per worker (000 guilders)	Social cost per worker (000 guilders)	Staff wage costs as a percent of W.S.W. wage costs	Sales as a percent of social costs	Sales as a percent of staff wage costs	Average Rank (Rank)
Groningen	.60	1.96	6.63	4.02	36	72	156	6.43 (7)
Friesland	.59	2.27	7.04	3.78	37	73	159	6.08 (5)
Drente	.64	1.28	6.76	3.06	33	76	167	4.14 (4)
Overijssel	.56	2.35	5.56	3.43	25*	70	159	6.21 (6)
Gelderland	.48	2.83	5.37	5.13	28	59	143	8.64 (9)
Utrecht	.56	1.49	5.35	2.90	31	67	118	6.93 (8)
Noord-Holland	.47	3.92	5.93	4.87	32	59	104	9.21 (10)
Zuid-Holland	.47	2.78	4.91	4.63	32	58	90	9.71 (11)
Zeeland	.58	1.30	5.99	2.34	26	77	164	4.00 (3)
Noord-Brabant	.67	1.07*	6.48	1.78*	25*	85*	189*	1.79 (1)
Limburg	.72*	1.12	8.56*	2.83	34	81	179	2.86 (2)
Mean	.55	2.39	6.04	3.88	31	68	128	

Table 8

Percentage Change Selected Performance Indicators from 1970 to 1973, by Province

Province	Opbrengsten-Kosten Ratio	Deficit per worker	Netto opbrengst per worker	Social cost per worker	Staff wage costs as a percent of W.S.W. wage costs	Sales as a percent of social costs	Sales as a percent of staff wage costs
Groningen	- 3.3	- 2.0*	+39.6*	+82.3	+ 2.9	- 7.7	-14.3
Friesland	- 3.4	+ 2.7	+67.2*	+50.6	+ 2.8	- 1.4	- 4.8
Drente	- 7.2	+16.4	+57.2*	+93.7	+ 6.5	- 1.3	+ 3.7*
Overijssel	+ 3.7*	+39.9	+58.4*	+125.7	0	- 9.1	+ 9.1*
Gelderland	-12.7	+23.0	+29.8*	+119.2	-12.5*	-18.1	+ 1.4*
Utrecht	-21.1	+98.7	+33.8*	+241.2	+10.7	-21.2	-22.4
Noord-Holland	-11.3	+85.7	+38.9*	+127.6	- 3.0*	-14.5	- 7.1
Zuid-Holland	-15.5	+53.5	+26.5*	+174.0	+ 6.7	-22.7	-31.8
Zeeland	- 1.7	-19.7*	+58.9*	+59.2	+13.0	+ 1.3*	- 6.3
Noord-Brabant	- 2.9	0	+50.7*	+61.8	0	- 3.4	+ 3.8*
Limburg	-11.0	+83.6	+44.4*	+1389.5	+17.2	-18.2	-21.1
Mean	- 9.8	+40.6	+41.1	+128.2	+ 3.3	-12.8	-12.9

these changes can be summarized as follows. From 1970 to 1973,

- the opbrengsten-kosten ratio for the average center declined by 10 percent
- the deficit per worker increased by 41 percent
- the netto opbrengst per worker increased by 41 percent
- the social cost per worker increased by 128 percent
- staff wage costs as a percent of W.S.W. wage costs increased by 3 percent
- sales as a percent of social costs decreased by 13 percent
- sales as a percent of staff wage costs decreased by 13 percent

For all the indicators except netto opbrengst per worker, substantial decreases were recorded in the 1970 to 1973 period. These ranged from a 128 percent increase in social costs per worker to an increase in staff wage costs as a percent of W.S.W. wage costs of 3 percent. This decrease in performance is apparently due to a decrease in sales revenue and an increase in costs for administrative and supervisory personnel.

The variance among the provinces in changed performance is substantial. Some of the provinces recorded an increase in performance on some of the indicators. These are indicated by an asterisk in Table 8. Aside from the improved netto opbrengst per worker (for which every province showed an increase), the following incidence of improved performance was recorded:

- Croningen – 1 indicator
- Drente – 1 indicator
- Overijssel – 2 indicators
- Gelderland – 2 indicators
- Noord-Holland – 1 indicator
- Zeeland – 2 indicators
- Noord-Brabant – 1 indicator

Friesland, Utrecht, Zuid-Holland, and Limburg showed reduced performance on all of the indicators. The decrease for Limburg and Utrecht are particularly large. And, it will be recalled, these provinces ranked first and third, respectively, in overall performance in 1970. This explains their drop in the overall ranking from 1970 to 1973.

IV. Some Regression Results

In this section, we will replicate the regression models presented in Chapter IV, but in this case using the 1973 data. Again, the purpose is to seek to disentangle some of the relationships between center characteristics and center performance. So far we have looked at these relationships one at a time. Now, we shall view them in a model which allows us to measure the effect of individual variables while holding constant statistically the other variables.

Table 9 is the same format of Table 9 in Chapter IV. It presents the results of 7 multiple regression analyses -- one regression for each of the primary 7 performance indicators. Again, the same 6 independent variables are used. These are variables for which there is some expectation that their value is related to center performance. Each regression was run on data for the 155 centers in the 1973 program [3]. These six independent variables are:

1. Province
2. The size of the center (number of non-sick workers)
3. Percent of mentally handicapped workers
4. Sick percentage
5. Percentage of workers above wage category I
6. Presence of a consultation body for workers

By and large the results are similar to those presented for 1970. Rather then describing them again here, only the more significant differences between the 1970 and 1973 regressions will be noted.

First, in all of the regressions the size of the corrected R^2 is higher in the 1973 regressions than in the 1970 regressions, indicating that a larger percentage of the variance in performance is being explained in the 1973 estimates. The highest R^2 (.27) in the 1973 estimates is in the staff wage costs as a percentage of sales regression. The regressions for the opbrengsten-kosten ratio, the deficit per worker,

---

3) Because of time constraints, only these regression specifications are presented here. Other more complete and complex specifications are in the process of being estimated.

Table 9

Regression Results Explaining Center Performance, 1973

Explanatory Variable	Opbrengsten-kosten ratio	Deficit per worker (000 guilders)	Netto op-brengst per worker (000 guilders	Gross social cost per worker (000 guilders)	Staff wage costs as a percent of W.S.W. costs	Sales as a percent of social costs	Staff wage costs as a percent of sales (%)
Province:							
Groningen	--	--	--	--	--	--	--
Friesland	-.04	+.493	-.159	+.075	+ .84	- 2.06	+ .17
Drente	+.02	-.757	-.279	-.804	- 2.83	+ 1.77	+2.70
Overijssel	-.05	+.486	-1.231	-.552	-11.6*	- 3.20	+ .955
Gelderland	-.09	+.680	- .859	+.814	- 9.31*	- 9.06	- 8.82
Utrecht	+.01	-.924	- .896	-1.634	- 7.62	+ 1.78	+ 4.59
Noord-Holland	-.07	+1.575*	- .433	+.504	- 5.97	- 7.41	+ 6.73
Zuid-Holland	-.07	+.567	-1.037	+.241	- 4.98	- 8.44	+28.58*
Zeeland	-.01	-.621	- .268	-1.77	-9.83	- 4.64	- 2.09
Noord-Brabant	+.08	-.872	+ .056	-2.24*	-11.76**	+12.96	-17.49
Limburg	+.11	-1.008	+1.554	-.875	- 1.48	+ 6.40	- 4.09
Number of workers	-.003**	+.0024**	- .0041**	+.0018	- .0054	- .022*	+ .007
% Mentally handi-capped	+.0020**	+.0018	+.031*	-.0090	- .0040	+ .130	- .69**
Sick percentage	+.0035	+.0333	+.129**	-.054	- .014	+ .377	- .62
% Above wage group I	+.0031**	-.0232**	+.023*	-.020	+ .067	+ .326**	- 1.02**
Consultation body	+.058	-.110	+1.58	+.507	+ 2.91	+ 3.24	-49.92**
Constant	.22	2.68	.711	5.86	39.90	37.57	231.5
R^2 (corrected)	.23	.20	.12	.08	.05	.22	.27

* Note that the regression was run on the inverse of the variable displayed in Table 6 and 8.

and sales as a percent of gross social costs also explain more than 20 percent of the variance in performance.

In the overwhelming number of cases (62 out of 77 possible cases), the signs on the province coefficients coincide with the signs in the 1970 analysis. Again, the omitted observation is Groningen, so that all of the coefficients are to be interpreted as deviations from its value. However, while several of the coefficients were significant in the 1970 analysis, only a few are significant in the 1973 regressions. Noord Brabant has significantly low social costs and significantly low staff wage costs as a percent of W.S.W. wage costs. Overijssel and Gelderland also have low and significant values on the latter variables. Zuid-Holland has significantly high staff wage costs as a percent of sales, and Noord-Holland has a deficit per worker coefficient which is large and statistically significant.

In the 1970 analysis, Limburg and Utrecht had substantially better performance than the other provinces, and the values of their coefficients were often significant. For 1973, Limburg often has coefficents indicating better performance than the other provinces, but in no case is the value of the Limburg coefficient statistically significant. Overall, Utrecht's coefficient also indicate somewhat better performance than the other provinces, but again in no case is statistical significance present. This decrease in the statistical significance of the province variable is the second major difference from the 1970 analysis. As the preceding section in this Chapter indicated, this change is attributable to the substantial decrease in the economic performance of centers in Utrecht and Limburg from 1970 to 1973 (see Table 8).

A third major difference is in the size of center variable (number of non-sick workers). While size was generally inversely related to performance in the 1970 analysis, in the 1973 regressions this negative relationship is also present, but is substantially more powerful. In all of the regressions but one, the 1973 value of the coefficient on center size is greater than the 1970 coefficient value. While size was statistically significant in 2 of the 7 regressions in 1970, it is a statistically significant determinant in 4 of the 7 in 1973.

This result was also anticipated earlier in this Chapter (see Table 6).

Fourth, mental handicap intensity is again positively related to center performance. And, like center size, the strength of the relationship is stronger in 1973 than in 1970. While this variable was positively related to center performance in 4 of 7 cases in 1970, it is so related to performance in 5 of 7 cases in the 1973 analyses. In 1970, none of the coefficients in the 4 cases was significant; in 1973, 3 of the 5 positive relationship signs are statistically significant.

Finally, while in 1970 the sick percentage was, by and large negatively related to performance, this variable appears to contribute to economic performance in 6 of the 7 regressions in 1973. The only explanation for this unexpected result is the positive correlation between center size and the sick percentage shown in Table 1. Apparently, sick percentage is acting as a surrogate for center size in the regressions, and in that way picking up some of its negative impact on center performance.

As in Chapter IV, Table 10 simulates the effects on center performance of 4 of the 6 independent variables (province is omitted as is the presence of a consultation body). Again the degree of responsiveness is shown for the 4 performance indicators which were analyzes in Chapter IV. These simulations suggest the effect on mean center performance if the values of the independent variables are changed from their mean values by specified amounts.

The values in Table 10 are interpreted in the same way as in Chapter IV. The first column presents the means of the variables and the performance indicators. The next four columns suggest the changes in the performance indicators if center size is doubled (column 2), the percent of mentally handicapped workers is increased by 10 points (column 3), the sick percentage is increased by 10 points (column 4), and the percentage of workers above wage group I is increased by 10 points (column 5). While the direction of the changes in performance is expected from the signs of the coefficients in Table 9, the simulations in Table 10 give a more intuitive interpretation of the meaning of the regression coefficients.

Table 10

Some Performance Simulations Using Regression Results, 1973

	Mean Value of Variable	Assumed Values of Independent Variables and Predicted Values of the Performance Indicator				
Number of non-sick workers	178.3	357	--	--	--	133
Percent mentally handicapped	54	--	64	--	--	67.5
Sick Percentage	14.3	--	--	24.3	--	14.3
Percent of workers above wage group I	63.1	--	--	--	73.1	78.9
Opbrengsten-kosten ratio	.55	.50	.57	.58	.58	.64
Netto-opbrengst per worker (guilders)	6041	5312	6341	7331	6271	7007
Sales as a percent of gross social costs	68	64	69	72	71	76
Staff wage costs as a percent of sales	78	79	71	72	68	52

The simulation in the final column again involves changing a number of independent variables simultaneously and observing the effect on economic performance. In that column, all of the independent variables (except sick percentage) are changed in the direction of improved performance by 25 percent of their mean values. Because of the unexpected sign on the sick percentage, changes in it were not simulated in this exercise. The results of this exercise can be stated as follows:

- The opbrengsten-kosten ratio is increased by 16 percent from .55 to .64.
- The netto opbrengst per worker is increased by 16 percent from 6041 guilders to 7007 guilders.
- Sales as a percent of social costs is increased by 12 percent from 68 to 76 percent.
- Staff wage costs as a percent of sales is decreased by 33 percent from 78 to 52 percent.

Again, the warning issued in Chapter IV regarding the interpretation of these simulation results must be noted. They are based on the point estimates of relationships whether statistically significant or not, presume that a linear specification is appropriate, and neglect any possible interactions among the independent variables. They are meant only to be suggestive of the potential for improvement in economic performance.

V. Which Centers Perform Relatively Well and Which Do Not?

Again it is possible to isolate the centers with the best and the worst performance on each of the performance indicators. This is done for each of the indicators in Appendix D, where the top 20 and bottom 20 centers are identified for each indicator. In the 1973 analysis, 14 indicators are identified whereas only 12 indicators were available in the 1970 analysis.

Table 11 summarizes the results in Appendix D. As in the 1970 analysis, the centers appearing at least 6 times in the bottom 20 and the top 20 of the 12 performance indicators used in 1970 are shown, along with the number of times they appear in the bottom or top 20. By comparing this table with Table 11 in Chapter IV, it is clear that a number of centers were among the best or worst performers in each of the years -- 4 of 13 on the list of best performers in 1970 and 6 of 16 on the list of worst performers in 1970. Those centers appearing in the lists for both years are identified by an asterisk in the Table. Again, the implication of the table is clear. Those centers with the best overall economic performance must possess management, product line, organizational, or employee characteristics which contribute to such performance. These centers should be examined to determine if the reasons for their success have applicability to other centers. And, as indicated before, efforts to improve the performance of the program should be concentrated on those centers with the worst economic results.

Table 11

Centers with the Best and the Worst Economic Performance, 1973 [a)]

Centers with best performance		Centers with worst performance	
Center	Number of times in top 20 centers	Center	Number of times in bottom 20 centers
Overijssel--B	11	Noord-Holland--F *	10
Friesland--A	8	Zuid-Holland--D *	10
Noord-Holland--I *	8	Zuid-Holland--E	9
Noord-Brabant--F *	8	Gelderland--F	8
Noord-Brabant--B	8	Noord-Holland--O *	8
Limburg--D	8	Noord-Holland--D	8
Drente--A	7	Noord-Holland--E	8
Noord-Holland--H	7	Noord-Holland--N *	8
Noord-Brabant--C	7	Zuid-Holland--F *	8
Noord-Brabant--A *	7	Zuid-Holland--C	7
Noord-Brabant--B	6	Zuid-Holland--A	7
Limburg--C	6	Gelderland--A	6
Limburg--F *	6	Gelderland--D	6
		Noord-Holland--C	6
		Noord-Holland--G *	6
		Noord-Holland--Q	6

* Centers appearing in the same list in 1970 (Table 11, Chapter IV).

a) Centers in the table are identified only by province and a letter. Each province retains its province-letter code throughout the study. Inquiries regarding more specific identification of centers should be addressed to the Ministry of Social Affairs.

CHAPTER VII

A BENEFIT-COST EVALUATION OF THE INDUSTRIAL CENTERS PROGRAM -- CONCEPTUAL ISSUES AND PROCEDURES

Public manpower programs have characteristics similar to those of many other public activities. They use real resources of society --labor, materials, facilities, machines --and they produce outputs which are of benefit to society. These benefits are wide-ranging, and include the products produced in the program, the increase in productivity of the participants in the program, the increase in the psychological well-being of the participants and their families, and so on. As a consequence, the standard techniques for evaluating the worth of public programs in general are also applicable to public manpower programs.

The most appropriate analytical framework for evaluation is called benefit-cost analysis. Stated most simply, this framework seeks to measure all of the social benefits which are produced by a public undertaking and all of the social costs which the program creates. After measuring these two values, benefit-cost analysis compares them by subtracting the social costs from the social benefits. The resulting value is called net social benefits. If it is a positive value, the project is viewed as a worthwhile social undertaking; if it is a negative value, special efforts should be made to increase the benefits or decrease the costs of the project. If negative net benefits cannot be eliminated, the continuation of the program should be questioned.

This discussion presumes that the evaluation of the project should be done from society's point of view. Hence, we speak of social benefits and social costs. However, there are other points of view that are also relevant. For example, one could calculate the benefits and costs of a program from the point of view of taxpayers. From this perspective, interest centers on direct public sector expenditures and receipts rather than on social benefits and costs. That this is a different perspective than the point of view of society as a whole can be seen by considering transfer payments (say, benefit payments from a social security program). From society's point of view, such payments entail no costs at all --income is simply transferred from one member of society

to another. From the taxpayers point of view, however, such payments are a cost -- they result in an increase in tax liability.

There is also a third point of view -- that of the participants in the program. From this perspective, one would wish to analyze the extent to which participants experience benefits from the program -- and then compare these benefits with the costs which are borne by the participant because of his involvement in the program. If there is no coercion for individuals to participate in the program, this perspective is redundant. Without coercion, the decision to participate means that the benefits as perceived by the participant exceed the costs. Participant coercion, however, is not absent in many manpower programs, and is likely to be a relevant consideration in the Social Employment program.

In this chapter, we will discuss some of the conceptual issues involved in doing a social benefit-cost analysis of the Social Employment program --the first and most important perspective. In applying this conceptual framework to the Social Employment program, we shall describe how an "ideal" social benefit-cost analysis of the program would be undertaken if all of the required data were available. The data required for such a complete evaluation cannot be obtained without more time and resources than is available for this study. Hence, a less comprehensive benefit-cost analysis is undertaken in this report. The final section describes the procedures and assumptions employed in the analysis actually undertaken.

I. The Social Benefit-Cost Analysis of Social Employment -- Conceptual Issues

In this discussion, we shall first discuss the benefits of social employment, then the costs of the program will be discussed, and finally a few other methodological issues will be addressed.

A. Social Benefits of the Social Employment Program

The social benefits of the Social Employment program can be categorized in a number of ways. The form chosen here is comprehensive in that all of the primary components of social benefit are included.

The first component of social benefit is the output produced by the program. In the Social Employment program, these outputs are many and varied. Some of them are material in nature, while others are services. The production of furniture is an example of the former type of output; the keeping of financial records is an example of the latter.

If the economy were an effectively competitive economy, and if the outputs of the centers were sold on the open market or arranged by competitive bids, the price at which the outputs were sold would be an accurate reflection of their social value per unit. However, if the economy is not competitive, or if the outputs are sold under special non-competitive arrangements, price would not accurately reflect social value. Depending on the circumstances, the price (or sales revenue) might be greater or less than social value. In these cases, a "shadow price" for the output would have to be calculated. This price would seek to reflect the willingness of the purchasers of the output to pay for it. In concept, this willingness to pay is an accurate measure of the real social benefit of the output. Let us call the value of this annual output, V.

The second component of social benefit is the increased productivity of the participants in the program. Because of both explicit training activities within the Social Employment program and simply the effect on workers of being in a work-setting and engaging in work activities, it is likely that the productivity of workers will increase over time.

This increase in worker productivity has characteristics of an investment-- once the increase in productivity is attained, it persists at some level into the future. This future value for any given social employment worker must also be reflected in the calculation of this component of benefit.

The way to accomplish this, at least in concept, would be to consider any particular social employment worker x, and

1. determine what his economic productivity will be in future years given that he is a participant in the program,
2. determine what his economic productivity would have been if he had not been a program participant, and
3. calculate the difference between 1. and 2. for each future year (call this stream of future year values ΔE_t, in which t stands for some future year).

If these steps were accomplished, it would be simple to add up all of these future year values and to attribute the sum to the program. However, this would give an exaggerated estimate of this component of benefits. It would be exaggerated because this gain in productivity in some future year is worth less than if the same gain in productivity could be obtained today. That is, the delay in experiencing this future increase in productivity causes its value -- as evaluated today -- to be reduced.

The correct procedure for calculating the value of this stream of benefits occurring in the future is called discounting. It involves adjusting each of the future year values downward to reflect the fact that a benefit not obtained until some year in the future is less valuable than the same benefit received today. The extent of the downward adjustment is determined by how far into the future the benefit is expected, and is based upon a compound interest-type calculation. For the benefit expected in year t-- ΔE_t -- the adjustment factor is $(1 + r)^t$, in which r is the interest (or discount) rate. The total value of a series of annual benefits (ΔE_1, ΔE_2, etc.) then is:

$$P = \frac{\Delta E_1}{(1+r)} + \frac{\Delta E_2}{(1+r)^2} + \frac{\Delta E_3}{(1+r)^3} + \ldots + \frac{\Delta E_n}{(1+r)} = \Sigma \frac{\Delta E_t}{(1+r)^t}$$

For our purposes, then, P will be taken to be the present value of this productivity increase benefit.

A third category of social benefit could be called the social-psychological well-being gains of the participants in the program. This category of benefit may have a number of sub-categories, each of which might constitute a real social value. One sub-category would be the additional well-being or satisfaction which the worker experiences by being a participant in the program. This satisfaction can stem from a number of sources-- the pleasure from contributing to an on-going productive process, the social interactions with other workers, etc. To the extent that this benefit results in increased worker productivity, it is already captured in the second category of benefits. Hence, this sub-category consists of well-being benefits over and above those reflected in productivity improvements and, in concept, are measured by the workers' willingness to pay for these benefits if he were required. Let us call this sub-category of social-psychological well-being benefit, W. Because the benefit would persist only as long as the worker

was participating in the program, it would not have the investment character of the productivity type of benefit. So, we do not have to worry about discounting it.

Another subcategory would be the reduction in real social costs or increases in social output which might result because of the improved social-psychological well-being of the worker. An example of cost reduction would be a decrease in hospital, doctor, or institutional care costs attributable to the improved psychological well-being of the worker. These benefits would be experienced by taxpayers, the workers' family, or the worker himself, depending on who bore the costs of this treatment if it were required. The value of this benefit would, in concept, be equal to the cost of the care provided to the worker if he were not in the program less the cost of the care provided the worker when he is in the program. An example of increases in social output would be the increased work activity of close relatives of the handicapped person who would be able to hold a job if the person is himself employed. Let us call this sub-category, M. Again, this form of benefit would seem to persist only as long as the worker is participating in the program. Indeed, if for some reason the worker is forced to terminate his participation in the program unvoluntarily, this benefit could turn into a cost as the person might, upon termination, require care that he would otherwise not require.

A final sub-category of benefit is what in economics is called a third-party or external benefit. Citizens generally might experience satisfaction simply by knowing that their community (nation) was undertaking a program to aid handicapped or low skilled workers. This benefit is equal to the willingness of citizens to pay for the satisfaction that they are experiencing, even if they do not have to pay for it. Let us call this benefit, T. Again, for any given worker, it would persist only as long as the worker was participating in the program.

Considering one years' operation of the program, then, we can define the total benefits (B) attributable to that years' operation to be:

$$B = V + P + W + M + T, \text{ in which}$$

$$P = \frac{\Delta E_t}{(1+r)^t}.$$

B. Social Costs of the Social Employment Program

Like the social benefits, the social costs of the program can be categorized in a number of ways. We shall again choose a comprehensive categorization.

The first category will reflect the output which will be forgone by society because the worker is participating in the program, and not doing something else. For example, if a participant might be doing some part-time work-- say, keeping the books of a local small business -- if he were not participating in the program, this output would be lost to society if the person does participate. It is a program cost and, presuming the worker would be paid the market value for his work, would be measured by the wage income which would be earned by the worker, if he were not participating in the program. Let us call this cost, O.

The operation of the program uses scarce resources, and the value of these is a second social cost to be considered in program evaluation. This category of costs includes the following components:

- the wages (including social premiums) paid to supervisory, administrative, medical, and other non-W.S.W. workers employed by the program
- the materials and sales costs of the program;
- the machinery, building, and other facilities costs incurred by the program;
- the costs of transporting W.S.W. workers to the work centers;
- the medical and physical training costs incurred on behalf of participants, to the extent that such costs are over and above the costs that would be incurred for participants if they were not working in the program;
- other program costs (for example, the costs of municipal officials, employment office officials, members of advisory committees, and employees of the Ministry concerned with the program, whether or not these costs are reimbursed) to the extent that they represent the use of real resources in the program.

Let us call this entire bundle of resource costs, R [1].

---

1) Consistent with standard benefit-cost practice, the salaries (including social premiums) paid to W.S.W. participants are treated as transfer payments -- and hence, not as requiring the diversion of real resources.

The third category of social costs would result if the functioning of the Social Employment program entails increased unemployment in other parts of the economy. This cost would exist if

1. the output of the Social Employment program would displace some private sector or normal public sector output, and
2. if some of the resources (primarily, labor) released because of this reduced non-Social Employment output, were not re-employed in some other activity.

Indeed, under the extreme conditions that the output from the program displaced alternative production on a guilder-for-guilder basis and none of released resources found alternative employments, the value of this cost would be equal to V. On the other hand, to the extent that production of the social employment program required more inputs (materials, machines, space) than equivalent output by the private sector, production by the program would create some additional employment in the economy. This increment to labor demand would tend to offset the displacement effect. Let us call this component of costs, D. In concept, it would be measured by the value of the labor and other resource services which were displaced by the program output, and which did not find alternative employment, less the incremental employment generated by the relatively low productivity of the program.

Again, considering one years' operation of the program, the total costs (C) attributable to that years' operation would be:

$$C = O + R + D$$

C. A Social Benefit-Cost Account

This categorization and compilation of social benefits and costs can be summarized by forming an account -- not dissimilar to the income statement of a private business -- which includes all of the benefit and cost components. Such an account is shown on the next page.

A Benefit-Cost Account for the Social Employment Program

Benefits	Costs
V = Value of Program Output	O = Forgone Participant Output
P = Present Value of Increased Productivity of Participants	R = Program Operating Costs, including non-W.S.W. salary costs, materials costs, machinery and facilities costs, and incremental training costs
W = Social-Psychological Well-Being Increase to Participants	D = Value of Forgone Output from Displacement of Private Sector and Normal Public Sector Resources Not Re-employed
M = Reduced Medical or Psychological Care Costs Stemming from Increased Participant Social-Psychological Well-Being	
T = Third-party Benefits Stemming from Increases Social-Psychological Well-Being	
B = Social Benefits from One-Years' Operation of the Program	C = Social Costs from One-Years' Operation of the Program

From this accounting, the crucial concept of the Net Social Benefits (N) of the program can be derived.

$$N = B - C$$

Only if $N > 0$ is it in society's interest to continue the program

II. The Social Benefit-Cost Analysis of Social Employment --Procedures

From the discussion in section I, it is seen that the data and information requirements for a comprehensive benefit-cost analysis of the Social Employment program are significant. In the case of some of the variables, data are available to allow us to make an estimate of the value for individual program years. For other variables, the

data required for an estimate do exist, though the collection and organization of them is beyond the time and budget constraints of this project. For yet other variables, the value is unmeasurable, given the state of knowledge and the available data. This is true in particular for those variables defined as the willingness to pay for some effect by certain citizens.

In this section, we will first discuss each of the benefit-cost variables shown in the benefit-cost account, indicating the extent to which they are measurable and the extent to which we have data on which to base a measurement. In those cases in which measurement will be undertaken, we will describe the procedures adopted and the assumptions on which the calculation is based. Finally, the framework of the benefit-cost analysis undertaken will be summarized, and an example of the calculation presented.

V = Value of Program Output:

For the years 1970, 1972, and 1973, data have been obtained on the sales revenue of each of the industrial centers. Because the output produced by these centers is sold either via a contract with a private sector business or a governmental unit or on the open market, it is likely that the output will be sold at a competitive price. This is especially true if the contracts are obtained through a competitive bidding process. Hence, the data on center sales revenue will be taken as a good estimate of the value of program.

There are reasons for believing that the sales revenue data may be biassed upward as an estimate of V. In some cases, buyers of output may be willing to pay a premium over the market price because of the desire to aid handicapped workers. There are also reasons to believe that the sales data may yield estimates of V which are biassed downward. For example, because so much of the labor cost of the centers is subsidized, centers may enter bids on contracts which are below the effective market price of the product or service. While the magnitude of these biasses is unknown, we will accept sales revenue as a reliable estimate of V, noting that, in our judgment, it is, if anything, biassed downward to some extent.

P = Present Value of Increased Productivity of Participants

No reliable estimates of the value of the training are available. There is some, admittedly weak, evidence that the gain in productivity from participating in the program is not substantial, however. The main piece of evidence is the very low -- and falling -- number of participants who make the transition from W.S.W. employment to private or normal public sector employment (see Table 8 in Chapter I). Indeed, even the recorded outflow data may exaggerate to some unknown extent the increase in worker productivity which is provided by the program. This is so because some of the employees leaving the program may be moving into private sector business under the aegis of the mandatory legislative requirement described in Chapter I.

As a result, we will adopt two procedures in estimating this value for this variable. First, we will assume it to be zero. Second, on the basis of some rough estimates of worker progress through the wage groups of the program and an assumed duration for which this productivity effect persists, we will calculate a value of P. In this second calculation, we will assume that

1. worker promotion through the wage groups reflects real changes in their productivity,
2. differences in wage payments among the various groups in a particular year reflects differences in real productivity,
3. average period for which productivity improvement persists is 15 years, and
4. the discount rate is 10 percent (a standard rate for public sector program evaluation)

This calculation is described in detail in Appendix E. As an upper-bound estimate of this value, we will assume that the actual value of P is about three times the value estimated in Appendix E.

W = Social-Psychological Well-Being Increase for Participants:

M = Reduced Medical or Psychological Care Costs Stemming from Increased Participant Social-Psychological Well Being:

T = Third-Party Benefits Stemming from Increased Participant Social-Psychological Well-Being:

These components of program benefits are all treated as unmeasurable.

O = Forgone Participant Output

In the absence of an experimental design, it is impossible to obtain a reliable estimate of what participants would be doing if they were not in the program. Some of them would undoubtedly be doing nothing in the way of productive work. Others would be engaging in some part-time free-lance productive activities, for which they may or may not receive remuneration. Still others would be employed in private industry under the provisions of Wet Plaatsing Mindervalide Arbeidskrachten.

In our analysis, we will make two assumptions regarding this value. These assumptions are regarded to be lower and upper bounds on the true value. The first assumption is that the true value is zero. The second assumption is that the true value is .3 times the wage costs they are generating in the program. In this assumption, we are presuming that in the absence of participating in the Social Employment program, workers would be engaging in activities which would yield them income equal to 30 percent of their wage costs in the program.

R = Program Operating Costs, including Non-W.S.W. salary costs, materials costs, machinery and facilities costs, and incremental training costs

For the years 1970, 1972, and 1973, data have been obtained on the total costs of each of the industrial centers, and the composition of these costs in from 9-16 categories (depending upon the year). These data were collected by the Ministry of Social Affairs from the individual centers, and hence represent summaries from their detailed accounts. Presuming that the inputs which these costs represent were purchases in competitive markets, these costs should be accurate reflections of the social costs which the use of these inputs implies.

If there is a bias present, it would be in the direction of understating costs. This judgment is based upon what appear to be excessively low costs for facility rental and equipment depreciation for some of the centers. One speculation would be that the buildings used by some centers are owned by the municipalities and provided

to the center for a nominal charge. The same could be true of some of the equipment used. An alternative speculation is that the centers may own the building without a mortgage and, hence, register no charge for it in their accounts. In either case, this component of costs would be too low. Because, in both cases, the services of the facility or the machinery used represent a real economic input, they should be valued at the price which they would bring if sold (rented) on the open market.

The estimates would also be biassed downward because no costs are included for the time of municipal officials, members of advisory committees to the municipality and the Ministry, members of the placement committee, and all of the employees of the Ministry who are concerned with administration of the Social Employment Program.

In spite of this likely downward bias, these cost estimates are assumed to accurately represent real social costs and are applied in the benefit-cost analysis.

D = Value of Forgone Output from Displacement of Private Sector and Normal Public Sector Resources Not-Re-Employed

Like some of the other compoments of real social costs and benefits, this component is extremely difficult to estimate. No direct data on it is available.

In our benefit-cost analysis, we employ two estimates of this value. These estimates are meant to be upper and lower bounds of the true value. These estimates were obtained as follows: First, the value of industrial center sales of goods and services in various industrial sectors was obtained. Second, the ratio of private sector sales to private sector wage costs in each of these sectors was estimated. Assuming that each guilder of industrial center sales displaces a guilder of private sector sales, and that the marginal employment-output ratio in these sectors is equal to the average output ratio, we obtain the reduction in private sector wage payments in a sector by multiplying the industrial center sales in an industry by the sales-wage cost ratio for that industry. This was the third step. The fourth step was to multiply the estimated private wage cost reduction by a number equal to the proportion of displaced private sector workers which does not find

reemployment. This yields an estimate of D. As a lower bound, we chose this number to be zero. A proportion of .3 was used for the upper bound. When multiplying by .3, we are assuming that 30 percent of the displaced labor does not find re-employment. This procedure is described in detail in Appendix F.

From this variable-by-variable discussion, then, it is clear that reliable estimates of some of the variables are available for each of the centers, rough estimates of other variables are available, and no estimates are available for still other of the variables.

The following account, similar to the one presented above, shows the status of the empirical estimates available for each of the variables.

Benefits	Costs
V - Reliable estimate, but with possible downward bias	O - Rough estimate
P - Rough estimate	R - Reliable estimate, but with possible downward bias
W - No empirical estimate available	D - Rough estimate
M - No empirical estimate available	
T - No empirical estimate available	

If we confine ourselves to those variables for which some estimate is available we have the following calculation of partial net benefits (PN):

$$PN = (V + P) - (O + R + D)$$

The resulting value of PN can be positive or negative; if it is negative, it represents a net social cost.

If, now, a calculation of PN is undertaken which, for example is - x guilders, the following statement can be made:

> Neglecting Social-Psychological Well-Being Benefits, the Social Employment Program (or industrial center z) imposes a net cost on society of x guilders. For the program (or a center) to be judged as contributing to net social welfare, the sum of psychological well-being benefits must be greater than x guilders.

Clearly, evaluation of whether the social-psychological well-being benefits of the program (or a center) are sufficiently large to warrant imposing a cost of x guilders on society can only be done by policy makers at the highest level. However, such a judgment must ultimately be made -- and it is precisely the sort of calculation presented above which can enlighten the judgment.

To place this procedure in somewhat more practical terms, consider the following example for a hypothetical center, in which the values are all stated in terms of guilders per W.S.W. worker:

Benefits	Costs
V = ƒ 12,000	O = ƒ 5,000
P = ƒ 4,000	R = ƒ 15,000
W = Unknown	D = ƒ 1,000
M = Unknown	
T = Unknown	

In this case, PN = ƒ -5000, indicating that without accounting for W, M, and T, the operation of this center imposes a social cost of ƒ 5000 per W.S.W. worker on Dutch citizens. Given this, we would conclude that the operation of this center can be considered as contributing to the welfare of Netherlands citizens only if it is judged to yield more than ƒ 5000 worth of social-psychological well-being benefits per worker employed in the center.

It is this sort of calculation which will be presented in the following chapter for each industrial center and for the industrial center program as a whole, for the year 1973.

CHAPTER VIII

A BENEFIT-COST EVALUATION OF THE INDUSTRIAL CENTER PROGRAM -- EMPIRICAL RESULTS

In this chapter, the empirical results of applying the benefit-cost concepts described in the preceding chapter to the W.S.W. program are presented. In the first section, the nature of the estimates of the benefit-cost variables are described. Then, the specific sensitivity tests used are outlined. Finally, the results themselves are presented.

I. Empirical Estimates of Benefit and Cost Variables

In the preceding chapter, the components of a benefit-cost analysis were defined. These were summarized in the benefit-cost account shown in that chapter. As stated there, the benefit-cost analysis performed in this report relies on empirical estimates for

V - Value of Program Output,
P - Present Value of Increased Productivity of Participants,
O - Forgone Participant Output,
R - Program Operating Costs, and
D - Forgone Output from Displacement of Private Sector Labor

The Net Social Costs (or Benefits) (PN) calculated from these variables are defined as $[(V + P) - (O + R + D)]$ and is taken as an estimate of the social costs imposed on the Dutch citizenry in order to produce the unmeasured (and unmeasurable) social psychological well-being benefits. These benefits were defined as:

W - Social Psychological Well-Being Benefits to Participants,
M - Reduced Health Care Costs and other Benefits Stemming from W, and
T - Third-party Benefits Stemming from W.

If it is judged by policy-makers that the social costs required to yield these benefits (W + M + T) are excessive, means of reorienting

and, perhaps, restructuring the program should be undertaken.

All of the estimates of PN presented in this report are based on data and relationships existing in 1973. All are stated in terms of net benefits or net costs per worker. And, all of the estimates are of the net benefits or costs accruing from one year's operation of a center or the program. The following summarizes the various estimates of the benefit-cost variables used in the analysis.

V - In all of the estimates, the value of program output is taken to be the sales revenue received, as stated in the center reports to the Ministry of Social Affairs.

P - The "best estimate" of the increase in participant productivity is 531 guilders per worker. The basis for this estimate is presented in Appendix E. In the sensitivity tests employed, two estimates of this variable are employed:

1. An upper bound estimate of 1531 guilders which suggests that the real benefits from this source are about three times the estimated value of 531 guilders.
2. A lower bound estimate which suggests that the real benefits from this source are zero.

O - An upper bound estimate of this value is taken to be 30 percent of the wage and associated costs of W.S.W. workers. This suggests that the output of W.S.W. workers, if they were not in the program, would be 30 percent of their program wage costs.

A lower bound estimate is taken to be zero, suggesting that W.S.W. workers would have zero productivity if they are not in the program.

R - In all of the estimates, the program operating costs are taken to be the sum of non-W.S.W. salary costs, materials costs, machinery and facilities costs, and incremental training costs, as stated in the center reports to the Ministry of Social Affairs.

D - An estimate of the private sector wage income which is lost due to W.S.W. program output depends upon the proportion of the displaced private sector employees which find alternative employment. As Appendix F indicates, if none of the displaced workers finds alternative employment, every guilder of W.S.W. sales causes lost private sector wage income of .33 guilders. In the sensitivity tests employed, two estimates of this variable are employed:

1. An upper bound estimate equal to 10 percent of per W.S.W. worker sales revenue. This estimate presumes that 30 percent of all displaced private sector workers fail to find re-employment. This estimate would be applicable in a period of general business recession.
2. A lower bound estimate equal to zero. This estimate presumes that all displaced private sector workers find reemployment. This estimate would be applicable in a period of high labor demand.

II. Sensitivity Analysis of Net Social Costs and Benefits

Using these estimates, the following three sensitivity tests were used in the benefit-cost analysis.

Estimate I: Upper Bound Values of All Benefits and Lower Bound Values of All Costs

Estimate I yields the most favorable possible evaluation of social costs required to produce the unmeasurable social psychological well-being benefits. It is a lower bound estimate of social costs.

$PN = (V + f\ 1531) - R;$

P = f 1531 (upper bound estimate);
O = zero (lower bound estimate);
D = zero (lower bound estimate).

Estimate II ; Lower Bound Values of All Benefits and Upper Bound Values of All Costs

Estimate II yields the least favorable evaluation of social costs required to produce the unmeasurable social psychological well-being benefits. It is an upper bound estimate of social costs.

PN = V - .3(W.S.W. wage costs per worker) + R + .1(Sales Revenue per worker) ;

P = zero (lower bound estimate)
O = 30 percent of W.S.W. wage costs per worker (upper bound estimate)
D = 10 percent of sales revenue per worker (upper bound estimate)

Estimate III: Only Accounting Values

Estimate III neglects all of those elements of benefit and cost on which no firm accounting estimates are available. It, in effect, assumes that P, O, and D equal zero -- the lower bound estimate of each.

PN = V - R;

P, O, and D = zero (lower bound estimate)

III. Empirical Benefit-Cost Estimates

In this section, we will first describe the overall benefit-cost estimates for the W.S.W. industrial centers program, and then present the results for the individual centers with the highest and lowest social cost estimates.

A. Total Social Costs of the W.S.W. Industrial Centers Program

From the three benefit-cost estimates described in the previous

section, it is possible to obtain three estimates of the value of total social costs for the entire program in 1973. This is obtained by multiplying the estimate of social costs per worker in each center by the number of workers in that center, and then cumulating this value over the centers.

The three estimates obtained are:

Estimate I = 65.1 million guilders
Estimate II = 273.7 million guilders
Estimate III = 107.2 million guilders

At a minimum, then, the 1973 social costs of providing the social psychological well-being benefits are ƒ 65 million, and could be as great as ƒ 274 million. A reasonable middle estimate of 1973 social costs would be ƒ 125 - ƒ 150 million. Stated in per worker per year terms, these social costs are:

Estimate I = ƒ 2365 per worker
Estimate II = ƒ 9950 per worker
Estimate III = ƒ 3896 per worker

A reasonable medium estimate would be ƒ 5000 - ƒ 6000 per worker per year.

Given the increase in costs since 1973, combined with the lagging sales revenues for the program, a reasonable estimate of social costs per worker in 1976 would be from ƒ 7500 - ƒ 10,000. If this estimate of social costs per worker applied to both industrial center and open-air and administrative workers, the total social cost of the W.S.W. program in 1976 would be on the order of ƒ 480 million to ƒ 640 million.

B. The Distribution of Social Costs (Benefits) Per Worker Among the Centers

Because the centers have substantially different results in terms of sales and costs, the net social costs (or benefits) per worker can

be estimated for each center. This has been done and, in this section the distribution of centers by net social costs or benefits is shown for each of the three estimates.

Table 1 presents this distribution for Social Cost Estimates I, II, and III. For the lower bound estimate of social costs per worker -- Estimate I -- the range of estimates extends from *f* 14,289 of social costs per worker to *f* 4341 of social benefits per worker. For the centers with non-negative values it is estimated that social benefits are being produced over and above the social psychological well-being benefits. Twenty seven of the 155 centers yield such net social benefits, if Estimate I is accepted.

The range of the upper bound estimates of net social costs per worker -- Estimate II -- extends from *-f* 21,468 to *-f* 3304. No centers display non-negative values and the bulk of the centers (119 of 155) have net social costs from *-f* 6000 to *-f* 12,000.

The distribution of net social costs for the estimate based on only accounting values -- Estimate III -- is intermediate to the other two estimates. The range of estimates is from *f* 15,820 of social costs per worker to *f* 2810 of social benefits per worker. Eleven of the 155 centers are estimated to yield net social benefits. In this distribution, 106 of the 155 centers are concentrated in the *-f* 2000 to *-f* 8000 range of social costs per worker.

C. Which Centers Have the Highest and Which Have the Lowest Social Costs?

In this section, the 20 centers with the highest and the lowest social costs will be identified for each of the three benefit-cost estimates. It should, again, be noted that some of the centers show net benefits on some of the benefit-cost estimates. If these estimates are accepted, these centers are economically justified, apart from any socio-psychological well-being benefits which they may produce.

Table 2 presents the 20 centers with the highest and lowest social costs for Estimates I, II, and III. In each case the estimated values of social costs or benefits are shown in guilders per worker. By inspecting this table, it is clear that many of the same centers appear in the top 20 of all three estimates or in the bottom 20. Unless it

can be demonstrated that very large social psychological well-being benefits are being generated, the continued operation of those centers persistently in the lowest 20 -- with the highest social costs per worker -- could well be questioned.

Table 1

Distribution of W.S.W. Industrial Centers by Social Costs (Benefits) Per Worker, Estimates I, II, and III, 1973

Net Social Costs (-) or Benefits (+) (in guilders)	Number of Centers		
	Estimate I	Estimate II	Estimate III
-14,000 or less	1	11	2
-14,000 - -12,000	1	17	0
-12,000 - -10,000	0	41	4
-10,000 - -8,000	5	47	5
- 8,000 - -6,000	8	31	22
- 6,000 - -4,000	21	7	34
- 4,000 - -3,000	19	1	22
- 3,000 - -2,000	22	0	28
- 2,000 - -1,000	29	0	15
- 1,000 - 0	22	0	12
0 - 1,000	13	0	5
1,000 - 2,000	6	0	5
2,000 - 3,000	4	0	1
3,000 - 4,000	3	0	0
4,000 or more	1	0	0
Total	155	155	155

Estimate I

Centers with Highest Social Costs		Centers with Lowest Social Costs		
Center	Social Costs (−) or Benefits (+)	Rank	Center	Social Costs (−) or Benefits (+)
N-H—A	− 5,489	1	O—B	+ 4,341
Ge—A	− 5,499	2	N-H—H	+ 3,141
		3	N-B—A	+ 3,091
N-H—B	− 5,519			
Ge—B	− 5,579	4	N-B—B	+ 3,001
N-H—C	− 5,589	5	N-H—I	+ 2,821
Z-H—A	− 6,019	6	L—B	+ 2,691
G—A	− 6,039	7	F—A	+ 2,131
Z-H—B	− 6,179	8	N-B—C	+ 2,121
Z-H—C	− 6,359	9	Z-H—G	+ 1,971
Ge—C	− 6,949	10	N-B—D	+ 1,791
Ge—D	− 7,559	11	N-B—E	+ 1,441
N-H—D	− 7,809	12	N-B—F	+ 1,411
N-H—E	− 7,969	13	N-H—J	+ 1,281
Z-H—D	− 8,219	14	L—C	+ 1,141
Z-H—E	− 8,399	15	L—D	+ 991
Z-H—F	− 9,339	16	L—E	+ 911
L—A	− 9,539	17	D—A	+ 881
N-H—G	− 9,869	18	Z-H—E	+ 871
O—A	−12,829	19	L—F	+ 831
Z-H—F	−14,229	20	N-H—E	+ 791

Estimate II

Centers with Highest Social Costs		Centers with Lowest Social Costs		
Rank	Center	Social Costs (−) or Benefits (+)	Rank	Center	Social Costs (−) or Benefits (+)
136	G—B	−12,520	1	O—B	−3,304
137	N-H—L	−12,843	2	N-H—H	−4,031
138	Z-H—I	−12,957	3	N-B—A	−4,490
139	Z-H—B	−13,060			
140	Z-H—B	−13,177	4	N-B—B	−4,651
141	Z-H—C	−13,320	5	N-B—F	−5,232
142	Z-H—A	−13,622	6	L—B	−5,298
143	Z-H—B	−13,783	7	N-H—H	−5,943
144	Z-H—J	−13,875	8	Z-H—I	−5,964
145	N-H—E	−14,715	9	N-H—B	−6,468
146	Ge—D	−14,778	10	O—C	−6,553
147	N-H—D	−15,018	11	F—A	−6,592
148	Ge—C	−15,096	12	Z-H—G	−6,834
149	G—A	−15,284	13	Z-H—H	−6,905
150	Z-H—D	−15,594	14	N-B—G	−6,992
151	N-H—F	−17,723	15	N-B—H	−7,026
152	N-H—C	−17,775	16	N-B—C	−7,080
153	L—A	−18,111	17	D—A	−7,102
154	O—A	−21,426	18	Z-H—L	−7,131
155	Z-H—F	−21,468	19	Z-H—H	−7,191
			20	Z-H—I	−7,227

Estimate III

Centers with Highest Social Costs		Centers with Lowest Social Costs		
Rank	Center	Social Costs (−) or Benefits (+)	Rank	Center	Social Costs (−) or Benefits (+)
136	N-H—A	− 7,020	1	O—B	+ 2,810
137	Ge—A	− 7,030	2	N-H—H	+ 1,610
			3	N-B—A	+ 1,569
138	N-H—B	− 7,050			
139	Ge—B	− 7,110	4	N-B—B	+ 1,470
140	N-H—C	− 7,128	5	N-H—I	+ 1,290
141	Z-H—A	− 7,550	6	L—B	+ 1,160
142	G—A	− 7,570	7	F—A	+ 600
143	Z-H—B	− 7,710	8	N-B—C	+ 590
144	Z-H—C	− 7,890	9	Z-H—G	+ 440
145	Ge—C	− 8,460	10	N-B—D	+ 260
146	Ge—D	− 9,090	11	N-B—E	+ 130
147	N-H—D	− 9,340	12	N-H—F	− 120
148	N-H—E	− 9,500	13	N-H—J	− 250
149	Z-H—D	− 9,750	14	L—C	− 390
150	Z-H—E	−10,130	15	L—D	− 540
151	N-H—F	−10,830	16	L—E	− 620
152	L—A	−11,070	17	D—A	− 650
153	N-H—G	−11,400	18	Z-H—E	− 660
154	O—A	−14,360	19	L—F	− 700
155	Z-H—F	−15,820	20	N-H—E	− 740

The abbreviations in the table refer to provinces in the Netherlands and are defined as follows:

G = Groningen F = Friesland D = Drente O = Overijssel Ge = Gelderland
U = Utrecht N-H = Noord-Holland Z-H = Zuid-Holland Z = Zeeland N-B = Noord-Brabant
L = Limburg

The letters A, B, C, etc. are used to indicate centers within a province. Each center retains its province-letter code, throughout the study. Inquiries regarding more specific identification of centers should be addressed to the Ministry of Social Affairs.

CHAPTER IX

INSTITUTIONAL ARRANGEMENTS, INCENTIVES, AND PROGRAM PERFORMANCE

In Chapter II, the organizational structure of the Social Employment Program was described in detail. This description was based on an analysis of the Wet Sociale Werkvoorzieningen, which authorizes the establishment of centers and outlines their functions, responsibilities, and structure. In this chapter, the characteristics of this structure which are likely to be important in determining the performance of the program will be briefly reviewed. Then some implications of this structure for the objectives and incentives which are likely to influence each of the main groups of decision-makers in the program will be analyzed. These incentives will be evaluated to determine the extent to which they impede the efficiency with which the program is operated.

I. The Organizational and Financial Structure of the Program -- A Brief Review

The organization of the Social Employment program is complex. The structure of financial arrangements and organizational relationships is likely to have a significant impact on the economic performance of the program. In this section, a number of these relevant structural characteristics are highlighted. These characteristics are judged to be the primary ones affecting the performance of the program.

- The primary responsibility for organizing industrial centers and open-air or administrative projects lies with individual municipal governments or groups of municipal governments.
- Municipal governments are advised in the operation of the program by a W.S.W. Commission which is composed of elected municipal officials, trade-union representatives, and a representative of the national government (Rijksconsulent). Some Commissions also include a representative of industry or employer organizations.

- In most cases, the municipality arranges for an association (Werkvoorzieningschap) to organize and operate the program. This association is sometimes responsible to a group of municipalities rather than to only one. In any case, the association has a governing board or committee (Algemeen Bestuur) which is the major decision-making body on issues of structure and operation of the werkverband. The membership on this board always includes municipal officials, often the same officials who are members of the W.S.W. committee. Typically, no national government representative sits on this committee. In turn this governing committee typically appoints a smaller committee from its own membership (Dagelijks Bestuur) to give more day-to-day oversight to the operation of the werkverband.
- The Algemeen Bestuur appoints the manager of the program (werkverband). He reports directly to this committee and, still more regularly, to the Dagelijks Bestuur.
- The manager is responsible for organizing production, hiring supervisory workers, securing sales, and reporting to the Dagelijks Bestuur and the Algemeen Bestuur.
- The national government, through the Ministry of Social Affairs, stipulates a detailed set of regulations which must be followed by municipalities in organizing the werkverband, providing services and supervision to the workers, and adapting work conditions to the workers. The government also sets criteria for admitting workers to the program, and a procedure for applying these criteria. Finally, the government, again through the Ministry of Social Affairs, establishes a set of wage categories and stipulates a structure of basic subsidies to be paid to the municipalities to cover the costs of the werkverband, and a set of procedures which the municipality can follow in applying for additional subsidization to cover deficits.
- Candidates for employment in the program are suggested by medical institutions working with the handicapped, the government employment agency in the municipality, and the local agency administrating the disability law which is part of the social security system. Individuals may also present themselves as candidates for employment.

- The W.S.W. Commission typically appoints a Placement Committee made up of its members to consider recommendations for new admissions to the program. This committee will include the Rijksconsulent, who (in practice) has effective veto power on new admissions. Potential new admittees are examined by a doctor and/or psychiatrist and interviewed by a social worker, who make recommendations to the Committee.
- Most W.S.W. workers would be eligible for a full pension under the Disability Law if they were not employed in the W.S.W. program. Some W.S.W. workers (about 14,000 in 1976) receive a partial pension from the Disability Law, in addition to their W.S.W. salaries. It is intended that the sum of the W.S.W. salary and the supplementary Disability benefits be equal to at least 90 percent of the wage before disablement.
- The national government, through the Ministry of Social Affairs, inspects and evaluates the werkverband program with an evaluation group if the municipality applies for a supplemental subsidy to cover any remaining deficit not covered by the sales revenue and the basic subsidy. The group makes suggestions to improve the efficiency of the werkverband. The supplemental subsidy is automatically received by the municipality, irrespective of the recommendations of the evaluation group. These recommendations, however, may serve as the basis for a recommendation by the Central Committee of the Social Economic Council and a decision by the Minister to deny granting of the supplemental subsidy.
- The national government, through the Ministry of Social Affairs, requires annual reporting from the revenue-yielding centers, including data on costs, revenues, W.S.W. employment and its composition by sex, age, wage group, duration, and Non-W.S.W. employment and its composition. Reporting required for the non-revenue-yielding open-air and administrative projects is much less detailed and the data yielded by it are not sufficient to enable an evaluation of economic performance.
- There exist associations of the industrial centers which serve to supply information to individual centers, to coordinate sales efforts of the centers, and to negociate redistribution of work among the centers if serious unbalances in capacity utilization exist.

- The national government -- through the Ministry of the Interior -- maintains a municipal fund to subsidize the costs of programs operated by municipalities. Municipalities apply to this fund and receive subsidies to cover 80 percent of any W.S.W. program deficit which exists after the basic government subsidy and the special government subsidy.

II. Structural Incentives and the Economic Performance of the Program

From this brief description, it is clear that a complex set of organizations and individuals interact within an equally complex set of regulations and subsidy provisions to determine the operation of the Social Employment program. From a reading of the provisions and from discussions with several of the individuals involved in the program, a number of impressions have been formed regarding the incentives and other institutions which affect the performance of the program. Some of these impressions are very firm and can be substantiated by data. Others of them are less firm, and rely on inferences from the basic structure of the regulations in the program. Others are still less firm, and rest on statements made in discussions with those affiliated with the program. In the following numbered statements, the most reliable of these impressions will be set forth.

1. The managers of the werkverand see the provision of work to people admitted to the program to be the overriding objective. The coverage of costs by sales revenue is not considered to be an important objective. Hence, the structure of the program provides only weak incentives either to increase sales or to economize on costs

From discussions with werkverband managers, it is concluded that their main objective in operating the program is to keep the W.S.W. employees busy and otherwise accomodated. Efforts to secure sales are motivated primarily to keep the W.S.W. employees busy, and not to defray the cost of the program. Having insufficient work to keep the W.S.W. workers busy was viewed as a serious probem, leading to difficulties with the workers and low morale.

Further, the structure of the program conveys only minimal incentive to managers to reduce costs. Any deficit is passed on to the municipality who in turn passes the vast bulk of it on to the national government. Indeed, except under unique circumstances, no municipality has to cover more than 2 percent of W.S.W. worker wage costs out of its own budget.

For this reason, the werkverband manager perceives little penalty if the program deficit increases, or reward if the deficit is reduced. Similary, there is no reward for reducing costs or increasing sales revenue and no penalty if costs drift up or sales revenue falls off. Only his own professional and personal standards, and his desire to be viewed as an effective and efficient manager by the oversight committees, exist to encourage efficient program operation. As a result, one would expect to see an upward drift in the proportion of total program costs covered by subsidies. The data verify this drift.

2. Municipal officials and members of the W.S.W. Commission do not see minimization of the program deficit to be an important objective. Again, the structure of the program provides these officials with very small incentives to either increase sales or reduce costs

By and large, municipal officials and members of advisory committees share the manager's perception of the primary objective of the program. And, for the same reasons described in 1., the structure of the program does little to focus their attention on the economic aspect of program performance.

The lack of incentives for cost reduction or sales increase given to the werkverband manager may be reinforced by the composition of the W.S.W. committee. Representatives of industry organizations and trade unions typically hold positions on this committee. Both of these groups tend to see W.S.W. sales as a threat to their own interests, and are not likely to be strong proponents of efforts to increase W.S.W. sales.

One aspect of the incentive structure should be noted, however. While the average burden of costs borne by the municipality is very

low, after some point the marginal burden of increases in the deficit (whether due to cost increases or sales revenue decreases) rises from zero percent to 20 percent. As long as the deficit of a center (defined as total costs less the sum of the basic subsidy, the special subsidy, sales revenue, and miscellaneous income) is zero, the marginal burden of any cost increase or revenue decrease to the municipality is zero. Once a deficit appears, however, the marginal burden of any change in the deficit to the municipality becomes 20 percent of the deficit increase. Hence, some incentive for cost control or sales increases may come from a municipality after a deficit appears [1].

3. Because of (a) the large subsidy to white collar and open-air workers, (b) the open-ended and undefined nature of the tasks which can be performed, and (c) the lack of effective control on the growth of these components of the program, municipal governments are able to transfer functions -- and, hence, budget costs -- from the municipal budget to the national budget.

Through the W.S.W. program and the Municipal Fund of the Ministry of Interior Affairs, the national government covers 98 percent of the costs of white-collar and open-air W.S.W. workers. These workers can be assigned to numerous jobs which have traditionally been the responsibility of municipal governments (e.g., tasks in the operation of swimming pools, museums , and in the municipal offices themselves and the maintenance of sports fields or municipal grounds). As a result municipal officials often find it in their interests to expand these components of the program, while simultaneously shifting municipal costs onto the national budget. The only national government control on the growth of this component of the program is through the Rijksconsulent representative on the Placement Committee. And, in the face of advice from

---

1) After a deficit appears, however, the municipality's marginal burden of increases in costs varies among the types of costs. The following list indicates the percent of any increase in the various costs borne by the municipality after a deficit occurs:

- W.S.W. salary costs -- 2 percent
- Subsidized Directing Personnel -- 10 percent for personnel for which a basic 50 percent subsidy is paid and 5 percent for personnel for which a basic 75 percent subsidy is paid
- Non-Subsidized Personnel -- 20 percent
- Materials and Facilities Costs -- 20 percent

After a deficit appears, the municipality bears 20 percent of any reduction in sales revenue.

medical psychological, or social work experts, his efforts at controlling program growth would seem to be constrained. This incentive for municipalities to encourage growth in the open-air and administrative components of the program, coupled with the fixed physical capacity of industrial facilities (at least in the short-run), accounts for the very rapid growth in these components of the program in recent years.

4. The extremely rapid growth of the Disability Law program, coupled with the decreasing gap between the earnings of W.S.W. workers and the disability benefits, has reduced referrals to the W.S.W. program from the Disability program and the Government Employment offices

In recent years, the number of recipients in the Disability Law benefits has grown extremely rapidly. This is related to an easing of requirements for admission to the program, the inability of available medical and psychological personnel to effectively maintain a careful screen on new applicants or to monitor the status of existing recipients, and a rapid rise in disability benefit levels. The growth of this program has had a number of impacts on the W.S.W. program:

- In prior years, when the Disability Program was growing less rapidly, officials in the program would seek to move benefit recipients into some productive activity. The W.S.W. program was one outlet. In recent years, the number of referrals from the Disability program decreased.
- The reduction in the incentive and ability of Disability Program personnel to control growth in that program has been supplemented by a reduced incentive of benefit recipients to seek or accept work. This is caused by the high and growing level of disability benefits and the reduced percentage differential between W.S.W. wages and the disability benefits level. This reduced percentage differential has also made it more difficult for the government Employment offices to encourage potential admittees to seek private employment or a W.S.W. contract rather than accepting Disability program benefits.

- The relaxing of medical and psychological standards for admission to the Disability program may have caused an erosion in the application of admission criteria in the W.S.W. program as well.

5. The provision of income (wages plus Disability benefits) to W.S.W. workers equal to at least 90 percent of previous income levels and the rapid growth in this income in recent years has reduced the flow of W.S.W. workers from the W.S.W. program to open industry or regular public sector employment.

When in the W.S.W. program, a worker views his potential salary in open industry as little if any above the minimum wage. This will typically be below -- and, in some cases, substantially below -- his combined income from the W.S.W. program. There is little incentive for such a worker to strive to make the transition effort. There is strain involved and little reward. Similarly , because of rapidly rising Disability Law benefits, a worker not inclined to work may experience little penalty in moving from the W.S.W. program to the Disability program. No work is required in that program and little financial sacrifice may be involved, especially for workers not receiving both the W.S.W. wage and Disability benefits [2].

6. The criteria in the law for determining disability status are not carefully defined and are subject to wide variations in interpretation. This, coupled with the overload placed on medical and psychological personnel by the extremely rapid growth in applicants for disability benefits, appears to have resulted in an increase in the number of W.S.W. and Disability program participants who are not obviously disabled. These workers may be in the program simply because of difficulty in securing regular employment because of low-skill, age, or some other personal characteristic.

---

2) Also, there is evidence that some Disability benefit recipients are given work to do at home by private sector business. These businesses place the spouse of the handicapped worker on the payroll, even though it is known that the disabled worker is performing the work. This fraudulent behavior has at least three impacts on the Social Employment program. First, some W.S.W. workers may find themselves better off in leaving the W.S.W. program, receiving the full Disability benefit and participating in this activity. Second, a Disability benefit recipient who is able to engage in this home work is not likely to wish to participate in the W.S.W. program. Third, this private sector activity may deprive the W.S.W. program of some potential sales revenue.

7. While the national government has responsibility for providing financial subsidies to this program and for setting standards and organizational requirements, it is able to exercise little financial and economic control over either (a) the growth of employment in the program, and (b) the financial costs of the program.

The elements of program control which are possessed by the national government, through the Ministry of Social Affairs, are seriously constrained. In a very real sense, the national government is simply in the position of paying bills submitted by organizations (municipalities, and through them, werkverband), irrespective of social costs or taxpayer burden. The instruments of national government control consist of:

1. Policy statements and advice by the Minister of Social Affairs.
2. Examination and evaluation reports on werkverband operation submitted by government evaluation tems, which reports can lead to denial of the supplemental subsidy.
3. Stipulation of budget goals, and the communication of them to municipalities.
4. Revision of operating and admission criteria so as to constrain decisions of municipalities and werkverbanden.
5. Presence of the Rijksconsulent on some of the municipality governing bodies.
6. Annual statistical reports submitted by werkverbanden on costs, revenues, employment, and structure.

Although the effectiveness of these instruments is difficult to assess, both the nature of the instruments and conversation with those subject to and administering them suggest a serious lack of program control by the national government. Instruments 1 - 3 are forms of "moral suasion" and effective only in setting a tone or attitude. Instrument 4, like all written regulations, provide as much incentive to seek ways of organizing or reporting to avoiding the regulation as to altering behavior so as to conform to its objective. Instrument 5 is only as effective as the individual Rijksconsulent. Moreover, the

decisions in which he is involved are only a limited subset of a range of decisions necessary to maintain effective control. Instrument 6 is basic to establishing some control. The present reporting system is impeded in doing this for several reasons:

1. reports are often not obtained until a year or more after the period covered by the report,
2. the nature of the reports for the non-revenue-yielding open-air and administrative centers concentrate only on costs and employment and are inadequate for understanding the outputs of the activities, much less effecting control over costs, and
3. while the reports can be used to isolate good and bad performances in some cases, there is no channel by which sanctions or rewards can be administrered to encourage good performance or to penalize poor performance.

In sum, then, the existing program structure is not such as to encourage effective economic performance in the operation of the W.S.W. program. The national government (and, through it, taxpayers), pay the bill while municipal governments and werkverbanden make operating decisions. Program managers or municipal officials have little incentive to control costs or to increase revenues. There is little effective accountability of municipal officials and program managers to the national government. And, the latter can, through the manipulation of the program, shift the burden of traditional municipal costs onto the national government. Moreover, the wage or benefit structure in open industry, the W.S.W. program, and the Disability program provide little incentive to disabled workers to either seek work or to move from either the Disability program or the W.S.W. program to employment in open industry.

CHAPTER X

CONCLUSIONS AND RECOMMENDATIONS

This final chapter is an attempt to draw together some of the key findings of the study and to note some of the directions for policy which these findings suggest. The conclusions drawn are based on both the statistical findings and on an analysis of the structure and incentives implicit in the program itself.

Some Conclusions

Numerous statistical findings and other evidence discussed in this report suggest a number of questionable structural and incentive arrangements in the Social Employment program. Only the most significant of them are noted in this summary. To highlight these conclusions, they will be simply stated here: the basis for them is found in the body of the report.

- The Social Employment program is large relative to the Netherlands economy and is growing rapidly. In 1976, about 64,000 workers were in the program -- about 1.5 percent of the Dutch labor force. In 1965, .75 percent of the labor force was in Social Employment. From 1970 to 1976, employment in the program grew at a rate of 6 percent per year, while employment in the Dutch economy has shown little if any growth.

- An increasing proportion of workers in the program are employed in open-air and administrative activities, rather than industrial activities. The industrial centers component of the program has grown relatively slowly since 1970 in terms of total employment. 31,167 workers were employed in industrial centers in 1970; this increased to 32,358 in 1975. The employment growth in the other component of the program -- open-air and administrative projects -- has been much more rapid. In 1970, 12,552 workers were employed in this component and by 1975 this number has grown to 23,880 workers.

- The total costs of the program have grown far more rapidly than employment in the program since 1970. This is largely due to the rapid increase in the salary paid to W.S.W. workers in this period. In 1970, the total cost of the program was 656 million guilders. By 1975, this has increased to 1702 million guilders. This represents a growth rate of over 17 percent per year.

- The sales revenue earned in the program has grown at a modest rate since 1970. In 1970, the industrial centers component of the program had sales of 160 million guilders. Sales revenue increased to 323 million guilders in 1975 -- a growth rate of about 12 percent per year.

- The subsidy cost of the program borne by the government has risen enormously since 1970. The costs of the program not covered by sales revenue are covered by subsidies from 1) the national government through the Ministry of Social Affairs, 2) the national government through the Municipal Fund of the Ministry of Interior Affairs, and 3) municipal governments. In 1970, the national subsidy was 460 million guilders. By 1975, the national subsidy has increased to 1270 million guilders. This represents a growth rate of nearly 19 percent per year [1].

- For the industrial centers component of the program, the national government subsidy has risen from 10,303 guilders per worker in 1970 to 25,538 guilders per worker in 1975. This is an increase of nearly 20 percent per year. For the open-air and administrative centers, the national government subsidy to the program has risen from 11,042 guilders per worker in 1970 to 19,280 guilders per worker in 1976 -- an increase of nearly 12 percent per year. In 1975 the subsidy cost of the program for one industrial worker required 110 percent of the modal worker's wage income.

---

1) This subsidy cost, it should be noted, does not include the benefits received by Social Employment workers from the Disability Law. As noted in Chapter II, some Social Employment workers received supplementary benefits from this law, in additional to their wages.

- The growth rate of the total subsidy to the program is significantly in excess of the growth rate of the economic base which sustains the program. This economic base (measured by Net National Product) has grown at a rate of 9.8 percent per year during the 1970 - 1975 period while the subsidy has grown at a rate of 19 percent. By 1976, the total cost of the program was over 1 percent of the nation's Net National Product.

- The increasing subsidy in recent years is due in large part to slow economic growth in the general economy. As noted below, W.S.W. centers provide some employment flexibility to private business. As a result, the sales revenue of W.S.W. industrial centers is likely to fluctuate more radically than private sector sales and general economic conditions. This makes the management of the centers difficult and causes the public subsidy to the centers to increase when economic conditions are depressed and to decrease when economic conditions improve.

- During the past decade, the number of workers moving from the Social Employment program to open industry has declined precepitously. In 1969, 3400 workers (8.4 percent of the total) left the W.S.W. program for employment in private industry. By 1976, this number had fallen to 1000 (1.6 percent of the total). As a result, the program has substantially reduced its function as a transitional program to move handicapped workers into private sector or normal public sector employment through training.

- On balance, the adverse effect of the program on open industry sales and employment is negligable. Because of the slow growth of sales and the nature of the output, industrial centers have less adverse impact on open industry output and employment than in prior years. Moreover, because of the reduced (and low) level of flexibility of Dutch enterprises in altering their labor force in response to changed economic conditions, the existence of Social Employment industrial centers has, in some cases, been of benefit to private industry. In periods of high private sector

sales, some private businesses have increased the contracts made available to Social Employment industrial centers, which contracts are reduced or removed in periods of low sales. The existence of industrial centers has provided an element of employment flexibility to private industry.

- There is substantial variance among provinces in the ratio of Social Employment workers to the total labor force. In 1974, this range was from .75 percent (Utrecht) to 2.5 percent (Limburg). Because the incidence of disability and the tastes for work presumably do not vary among provinces to such an extent, two phenomena could cause this result: 1) some provinces are more effective in offering work to their disabled and 2) some provinces have more relaxed standards for classifying people as disabled than do other provinces.

- Social Employment workers are more heavily concentrated in the wood and furniture industries than in any other. In that industry, the percentage of the labor force in Social Employment has ranged from 5 to 7.5 over the last decade.

- The subsidy arrangements in the program give municipalities enormous incentive to hire W.S.W. workers to perform municipal functions. These functions have likely been filled in the past by regular municipal employees. By substituting W.S.W. for regular employees, the municipal function becomes performed, but with the national government paying 98 percent of the cost. Evidence of the prevalence of this practice is seen in the very rapid growth of the W.S.W. workers in open-air and administrative activities, relative to industrial activities.

- The subsidy arrangements in the program give municipalities incentive to relax the admission criteria for individuals who could be placed in traditional municipal government functions. An indication that this may be occurring is the high and increasing percentage of "not classified" disabilities in the administrative component of the program. From 1969 to 1974,

this percentage increased from 26.6 to 30.4 percent. Given the comprehensive and detailed classification system, the presence of over 30 percent of administrative workers without a classifiable disability is surprising. Also, it should be noted that the 30 percent figure is an average value. For this average to rise by 4 points in 5 years, the percentage of new admittees to this program with "not classified" disabilities would have to be substantially above 30 percent [2].

- The industrial centers component of the program is highly labor intensive. Labor related costs (W.S.W. salaries and transportation cost plus staff and supervising costs) are about 10 times capital related costs (facilities plus depreciation plus interest costs). This compares to a labor cost to capital cost ratio of 4-6 in private industry.

- The program has a high ratio of supervisory and staff costs to wage costs of handicapped workers. For every guilder of salary paid to a W.S.W. worker in an industrial centers, there is 30 cents paid to supervisory and staff personnel. The staff costs per worker are especially high in the industrial centers with fewer than 100 workers.

- Industrial centers employing from 100 - 175 employees appear to have the best economic performance. Centers above and below this size have less satisfactory economic performance.

---

2) As an indicator of this effect, consider the change in the percentage of not-classified handicaps in the program from 1974 to 1975. In Chapter I, it was shown that the percentage of NEC workers in the total program increased from 12.6 percent in 1974 to 14.6 percent in 1975. In 1975, 14,800 people entered the program and 10,400 left the program; a net increase of 4400. Assume that 12.6 percent of the leavers were NEC -- the same percentage as in the total program from which they left. To move the total percentage from 12.6 percent to 14.6 percent, 21 percent of the incoming 14,800 workers would have to have had the NEC classification. From such calculations, it seems highly likely that, in 1975, from 40 to 50 percent of the incoming W.S.W. workers in administrative activities had the NEC classification.

- Economic performance of the industrial centers varies significantly by province. Limburg and Noord-Brabant have among the best economic performance on almost all indicators. Friesland, Gelderland, and Noord- and Zuid-Holland have among the weakest economic performance. This conclusion is based on the regression analyses, when factors other than region were held constant [3].

- The size of centers and the percentage of workers above Wage Group I seem to contribute significantly to the economic performance of industrial centers. By changing these variables (and others significantly related to program performance) in the proper direction, the economic performance of the industrial centers could be increased by 10 to 15 percent.

- Some centers have persistently weak performance (see Table 11 in Chapters IV and VI).

- The net social cost of generating social psychological well-being benefits to handicapped workers is high and rising rapidly. In 1970, the cost to society of providing each industrial center worker with whatever social-psychological benefit the program provides was about 1500-2000 guilders. By 1973, this social cost had risen to from 5500-7500 guilders. It is likely that the cost to society of providing such benefits is from 7500 to 10,000 guilders per worker in 1976. If this same social cost estimate also applies to W.S.W. workers in the open-air and administrative component of the program, the total social cost of the program in 1976 is at least 500 million guilders.

- Decision-makers in the program have no more than token incentives to reduce the real social costs of the program. These decision-

---

3) This conclusion is based primarily on the analysis of the 1970 data. The results for 1973 modify this conclusion to some extent. See Chapter VI.

makers include municipal officials, members of oversight committees, medical and psychological advisors, and social workers. Reducing social costs, in effect, requires increasing sales or decreasing Non-W.S.W. salary costs or increasing worker productivity.

- The economic performance of the Social Employment program is related to -- and in recent years has been adversely affected by -- the structure and growth of the Disability Program. In recent years, the Disability program has been characterized by: 1) high and rapidly rising benefit levels, 2) rapid growth in the number of benefit recipients, 3) an apparent decrease in the ability of medical and psychological personnel to effect control over entry to the program and to monitor continuation of individuals in the program, and 4) the likely abuse of some program recipients in receiving but not reporting income from work done in the home. These characteristics have adversely affected the performance of the W.S.W. program by: 1) reducing the economic incentives of the disabled to work in the W.S.W. program, 2) encouraging relaxation in the standards for admission to the W.S.W. program, 3) reducing the former pattern of the referral from the Disability program to the W.S.W. program of disabled persons likely to benefit from work, and 4) reducing the motivation of W.S.W. program managers to control costs and increase sales in their program (which they view as at least encouraging work efforts by the disabled).

- The national government has few instruments for imposing fiscal and efficiency control on the performance of the program. On the other hand, the national government budget covers 75 percent of the total costs of the W.S.W. program. This is a classic example of a case in which the governmental unit which benefits is not the governmental unit which bears the costs.

Some Recommendations

These conclusions imply a number of policy recommendations. These recommendations are designed to secure improvements in the economic performance of the Social Employment program and are intended to serve as the basis for further study and discussions of the program:

I. Basic to improving the economic performance of the W.S.W. program is reform of the Disability Law, providing benefits in cash and in kind to disabled people.

This reform should be designated to achieving the following objectives [4]:

A. To provide increased incentives for beneficiaries of Disability Law benefits to seek and accept work, either in the private or normal public sectors or in the W.S.W. program. Among the instruments for achieving this are: a) increasing the gap between Disability Law benefits and wages in private sector, normal public sector, and W.S.W. employment, and b) increasing the coverage of periodic physical and psychological examinations to eliminate non-eligible people from the benefit roles (see below).

B. To insure that beneficiaries of Disability Law benefits are eligible for such benefits. As indicated in this Report, there is evidence of both a relaxation in the application of eligibility criteria to new program applicants and an inadequate number of medical and psychological personnel to effectively monitor the continued eligibility of existing recipients. Both of these problems are correctable.

---

4) While other reforms in this program may be desirable as well, these are the changes which are most closely related to improving the performance of the W.S.W. program.

C. To insure that Disability Law recipients are not illegally employed and receiving income over and above Disability Law benefits. While the extent of such illegal activity is not known with accuracy, there is evidence that it exists and that it is not trivial [5].

II. The government should undertake a study designed to formulate explicit recommendations for:

- increasing incentives for cost reduction and sales and productivity increases to program decision-makers;
- granting instruments of effective fiscal control of the program to the Minister of Social Affairs.

A. With respect to increasing the incentives for economic performance, the study should consider the following proposals [6]:

- Replace the current uneconomic subsidy structure for industrial centers with a graduated subsidy arrangement, such that the municipality bears some fraction of the total-cost-less-sales-revenue-deficit of industrial centers. The fraction borne by the municipality would be greater the greater the per worker deficit.

  An example of such a schedule would be the following: The base percentage of the center deficit borne by all municipalities could be set at 10 percent of the average

---

5) Detection of this practice is not easy. One device employed is for work to be done in the home by the Disability Law beneficiary, while payment is made to a non-working spouse.

6) It should be recognized that any efforts to improve economic performance may lead program decision-makers to select only the most productive of the handicapped for participation in the program. To the extent that the program has an economic function -- which according to the law it does have -- such a selection is desirable. However, to the extent that the program aims at providing employment to the handicapped, irrespective of their degree of handicap, this selection may not be desirable. Such a conflict is inevitable in a program designed to have both economic and "social" objectives.

per worker deficit in the total program in the previous year times the number of workers in a center, with the base percentage rising (or falling) by 1 percentage point for every 5 percentage points above (or below) this average deficit which was recorded by the center. If the average deficit was 20,000 guilders and the base percentage was 10 percent, the base liability of the municipality would be 2000 guilders per worker. However, if the industrial center in a municipality had a per worker deficit of 16,000 guilders (20 percent below that of the program as a whole), the percentage liability of the municipality would fall to 6 percent from the base of 10 percent. The liability of the municipality would then be 960 guilders per worker rather than the base of 2000 guilders.

- Replace the current subsidy structure for open-air and administrative components of the program to insure that a greater percentage of the deficit of activities which directly benefit the municipality and its citizens are borne by the municipality. For these components of the program the base percentage could be set at, say, 20 percent rather than the 10 percent base of the industrial centers. Again, this base percentage could be modified according to a schedule relating a particular municipality program deficit to that of the program as a whole.

- Eliminate the provision which enables the municipality to cover 80 percent of any program deficit from the Municipal Fund of the Ministry of Interior Affairs.

- Establish a bonus arrangement to enable directors of centers which show reduction in this deficit over time to be rewarded.

- Establish a system of awards or prizes such that center employees would be rewarded if the deficit in their center or program is reduced from one year to the next.

B. With respect to increasing the fiscal control over the program by the government, a study should consider the following proposals:

- Assigning to the Minister of Social Affairs the power to assume control of the management of an industrial center whose economic performance persistently falls below some explicitly stated norm.

- Assigning to the Minister of Social Affairs the power to mandate operating changes in a particular municipality program when program performance is judged to be inadequate.

- Requiring the Minister of Social Affairs to institute a regular formal audit of the open-air and administrative components of municipality programs to determine if W.S.W. workers in these components meet program eligibility requirements. The results of such audits, covering each municipality at least once each 5 years, could be used to alter the base percentage of deficit for which a municipality was liable.

- Enabling the Minister of Social Affairs to place limits on the number of participants in the program, and to allocate this number among the municipalities. Although a crude instrument for effecting control, it does provide a means of terminating the current open-ended, uncontrolled nature of the program.

III. The government should undertake a study to determine if there are superior alternative arrangements for assisting the handicapped other than the existing W.S.W. structure. These alternatives could either afford equal psychological well-being benefits at a social cost below 7500 - 10,000 guilders per worker (the estimated cost per worker of providing these benefits under the existing program) or they could yield lower well-being benefits with lower social costs. A policy-decision is necessary to determine what social costs are warranted for

the provision of such well-being benefits. Among the alternatives which should be considered are:

A. Only disability pensions;
B. Provision of home work for the disabled;
C. Contracting out werkverband management and operations to private sector businesses;
D. Increasing the rehabilitation, training, and transitional emphasis of the program;
E. Providing employment (wage) subsidies to private industry for the employment of such workers.

IV. The Ministry of Social Affairs should devote additional resources to improving the data and information collected on the operation of municipality social employment activities. In particular:

A. Reporting deadlines should be moved up and strictly enforced so that timely information of individual centers performance could be obtained.
B. The data analysis capacity of the Ministry staff should be increased so that faster and more comprehensive computer-based analysis of center and municipality performance can be obtained.
C. A major restructuring of the data requirements for the non-revenue yielding open-air and administrative activities should be undertaken. At present, the Ministry has no information on the costs and no information on the value of the outputs of these activities. As a part of this restructuring, a set of procedures for valuing the output of centers should be set forth, and municipalities should be required to estimate this value for the activities under their direction.

V. The Ministry of Finance should show the full budgetary impact of the W.S.W. program in the annual budget. This total impact would consist of the basic subsidy and the special subsidy (allocated by the Ministry of Social Affairs) and the Municipal Fund subsidy (allocated by the Ministry of Interior Affairs).

VI. The Central Committee of the Social Economic Council (SER) which is advisory to the Ministry on the Social Employment program should interpret its legal mandate in an active rather than

a passive manner. Such an active advisory role would involve the requesting of regular reports from the Ministry on the economic performance of the program (program costs, employment levels, sales revenue, and governmental subsidy provisions, by municipality), exercising program oversight functions, and providing unsolicited recommendations for improving program structure and performance.

APPENDIX A

THE INDUSTRIAL CENTERS AND THEIR IDENTIFYING NUMBER, 1970, 1972, AND 1973

1970	1972	1973
1. Appingedam	Appingedam	Appingedam
2. Groningen	Groningen	Groningen
3. Hoogezand/Sappermeer	Hoogezand/Sappermeer	Hoogezand/Sappermeer
4. Leens	Leens	Leens
5. Stadskanaal	Stadskanaal	Stadskanaal/Veendam/Vlagtwedde
6. Tolbert	Tolbert	Tolbert
7. Uithuizen	Uithuizen	Uithuizen
8. Veendam	Veendam	-
9. Vlagtwedde	Vlagtwedde	-
10. Winschoten	Winschoten	Winschoten
11. Achtkarspelen	Achtkarspelen	Achtkarspelen
12. Dantumadeel	Dantumadeel	Dantumadeel
13. Dokkum	Dokkum	Dokkum
14. Franeker (N.W.)	Franeker (Westergo)	Franeker (Westergo)
15. Franeker (Friesland)	-	-
16. Harlingen	-	-
17. Heerenveen	Heerenveen	Heerenveen
18. Hem. Oldeferd	Hem. Oldeferd	Hem. Oldeferd
19. Kollumerland	Kollumerland	Kollumerland
20. Leeuwarden	Leeuwarden	Leeuwarden
21. Ooststellingwerf	Oostetellingwerf	Ooststellingwerf
22. Opsterland	Opsterland	Opsterland
23. Smallingerland	Smallingerland	Smallingerland
24. Sneek	Sneek	Sneek
25. Weststellingerwerf	Weststellingerwerf	Westellingerwerf
26. Assen	Assen	Assen
27. Coevorden	Coevorden	Coevorden
28. Emmen	Emmen	Emmen
29. Hoogeveen	Hoogeveen	Hoogeveen
30. Meppel	Meppel	Meppel
31. Almelo	Almelo	Almelo
32. Deventer	Deventer	Deventer
33. Enschede	Enschede	Enschede

1970	1972	1973
34. Hardenberg	Hardenberg	Hardenberg
35. Hengelo	Hengelo	Hengelo
36. Kampen	Kampen	Kampen
37. Oldenzaal	Oldenzaal	Oldenzaal
38. Ommen	Ommen	Ommen
39. Steenwijk	Steenwijk	Steenwijk
40. Vollenhove/Emmeloord	Emmeloord	Emmeloord
41. Zwolle	Zwolle	Zwolle
42. Aalten	Aalten	Aalten
43. Apeldoorn (Vlaswiek)	Apeldoorn (Vlaswiek)	Apeldoorn (Vlaswiek, Leigraaf)
44. Apeldoorn (Leigraaf)	Apeldoorn (Leigraaf)	-
45. Arnhem (Presikhaaf)	Arnhem (Presikhaaf)	Arnhem (Presikhaaf)
46. Arnhem (Het Dorp)	Arnhem (Het Dorp)	Arnhem (Het Dorp)
47. Bergh	Bergh	Bergh
48. Culemborg	Culemborg	Culemborg
49. Doetinchem	Doetinchem	Doetinchem
50. Druten	Druten	Druten
51. Ede	Ede	Ede
52. Epe	Epe	Epe
53. Ermelo (N.W.)	Ermelo (N.W.)	Ermelo (N.W.)
54. Ermelo (Sonneheerdt)	Ermelo (Sonneheerdt)	Ermelo (Sonneheerdt)
55. Lichtenvoorde	Lichtenvoorde	Lichtenvoorde
56. Neede	Neede	Neede
57. Nijmegen (Valkenburg)	Nijmegen (Valkenburg en Vrouwenatelier)	Nijmegen (Valkenburg en Vrouwenatelier)
58. Nijmegen (De Hulsen)	Nijmegen (De Hulsen)	Nijmegen (De Hulsen)
59. Nijmegen (Vrouwenatelier)	-	-
60. Tiel	Tiel	Tiel
61. Vorden	Vorden	Vorden
62. Wijchen	Wijchen (Alg. en beton wpl.)	Wijchen
63. Zaltbommel	Zaltbommel	Zaltbommel
64. Zutphen	Zutphen	Zutphen
65. Amersfoort	Amersfoort	Amersfoort
66. Breukelen	Breukelen	Breukelen
67. Utrecht I en II	Utrecht I en II	Utrecht I en II

1970	1972	1973
68. Veenendaal	Veenendaal	Veenendaal
69. IJsselstein	IJsselstein	IJsselstein
70. Zeist	Zeist	Zeist
71. Alkmaar	Alkmaar	Alkmaar
72. Amstelveen	Amstelveen	Amstelveen
73. Amsterdam (AGO)	Amsterdam (AGO)	Amsterdam (AGO)
74. Amsterdam (AGWO)	Amsterdam (AGWO)	Amsterdam (AGWO)
75. Amsterdam (ARCAVO-PL)	Amsterdam (ARCAVO-PL)	Amsterdam (ARCAVO-PL)
76. Amsterdam (ARCO)	Amsterdam (ARCO)	Amsterdam (ARCO)
77. Amsterdam (AVOplast)	Amsterdam (AVOplast)	Amsterdam (AVOplast)
78. Amsterdam (GLAWENO)	Amsterdam (GLAWENO)	Amsterdam (GLAWENO)
79. Amsterdam (St. Ludger)	Amsterdam (St. Ludger)	Amsterdam (St. Ludger)
80. Amsterdam (Trompenburg)	Amsterdam (Trompenburg)	Amsterdam (Trompenburg)
81. Beverwijk/Velsen	Beverwijk/Velsen	Beverwijk/Velsen
82. Edam	Edam	Edam
83. Haarlem (Lich. gehand.)	Haarlem (Lich. gehand.)	Haarlem (Lich. gehand.)
84. Haarlem (Geest. gehand.)	Haarlem (Geest. gehand.)	Haarlem (Geest.gehand.)
85. Haarlem (Antiek)	Haarlem (Antiek)	Haarlem (Antiek)
86. Haarlemmermeer	Haarlemmermeer	Haarlemmermeer
87. Heemstede (Meer en Bosch)	Heemstede (Meer en Bosch)	Heemstede (Meer en Bosch)
88. Heerhugowaard	Heerhugowaard	Heerhugowaard
89. Heiloo	Heiloo	Heiloo
90. Den Helder	-	-
91. Hilversum (Gooise)	Hilversum (Gooise)	Hilversum (Gooise)
92. Hilversum (Dekema)	Hilversum (Dekema)	Hilversum (Dekema)
93. Hoorn	Hoorn	Hoorn
94. Purmerend	Purmerend	Purmerend
95. Schagen	Schagen/Den Helder	Schagen/Den Helder
96. Texel	Texel	Texel
97. Zaandam	Zaandam	Zaanstad
98. Zandvoort	Zandvoort	Zandvoort
99. Alphen a.d. Rijn (Binnenhaven)	Alphen a.d. Rijn (Binnenhaven)	Alphen a.d. Rijn (Binnenhaven)
100. Alphen a.d. Rijn (Spoorhaven)	Alphen a.d. Rijn (Spoorhaven)	Alphen a.d. Rijn (Spoorhaven)

1970	1972	1973
101. Capelle a.d. IJssel	Capelle a.d. IJssel	Capelle a.d. IJssel
102. Delft	Delft	Delft
103. Dordrecht	Dordrecht	Dordrecht
104. Gorinchem (D.S.W.)	Gorinchem (D.S.W.)	Gorinchem (D.S.W.)
105. Gorinchem (De Schakel)	Gorinchem (De Schakel)	Gorinchem (De Schakel)
106. Gouda	Gouda	Gouda
107. 's-Gravenhage (I.T.Z.)	's-Gravenhage (I.T.Z.)	's-Gravenhage (I.T.Z.)
108. 's-Gravenhage (Speyer)	's-Gravenhage (Speyer)	's-Gravenhage (Speyer)
109. 's-Gravenhage (A.V.O.)	's-Gravenhage (A.V.O.)	's-Gravenhage (A.V.O.)
110. Katwijk	Katwijk	Katwijk
111. Leiden (Metsustraat)	Leiden (Metsustraat)	Leiden
112. Leiden (Groenesteeg)	Leiden (Groenesteeg)	-
113. Maassluis	Maassluis	Maassluis
114. Middelharnis	Middelharnis	Middelharnis
115. Naaldwijk	Naaldwijk	Naaldwijk
116. Oud-Bijerland	Oud-Bijerland	Oud-Bijerland
117. Rotterdam (A.V.O.)	-	-
118. Rotterdam (Blinden)	Rotterdam (Blinden)	Rotterdam (Blinden)
119. Rotterdam (Erasmus)	Rotterdam (Erasmus)	Rotterdam (Erasmus)
120. Rotterdam (L. Zestienhoven)	Rotterdam (L. Zestienhoven)	Rotterdam (L. Zestienhoven)
121. Rotterdam (Luchthaven)	Rotterdam (Luchthaven)	Rotterdam (Luchthaven)
122. Rotterdam (Slinge)	Rotterdam (Slinge)	Rotterdam (Slinge)
123. Rijswijk	Rijswijk	Rijswijk
124. Sassenheim	Sassenheim	Sassenheim
125. Schiedam	Schiedam	Schiedam
126. Spijkenisse	Spijkenisse	Spijkeniss
127. Vlaardingen	Vlaardingen	Vlaardingen
128. Woerden	Woerden	Woerden
129. Goes	Goes	Goes/Hulst/Oostburg
130. Hulst	Hulst	-
131. Middelburg/Vlissingen	Middelburg/Vlissingen	Middelburg/Vlissingen
132. Oostburg	Oostburg	-
133. Terneuzen	Terneuzen	Terneuzen
134. Zierikzee	Zierikzee	Zierikzee

1970	1972	1973
135. Bergen op Zoom	Bergen op Zoom	Bergen op Zoom
136. Bladel	Bladel	Bladel
137. Boxtel	Boxtel	Boxtel
138. Breda	Breda	Breda
139. Deurne	-	-
140. Eindhoven	Eindhoven	Eindhoven/Valkenswaard
141. Helmond	Helmond/Deurne	Helmond/Deurne
142. 's-Hertogenbosch (Centr. Wp)	's-Hertogenbosch	's-Hertogenbosch
143. 's-Hertogenbosch (Cor Unum)	-	-
144. 's-Hertogenbosch (Ignacio)	-	-
145. Mill	Mill	Mill
146. Oosterhout	Oosterhout	Oosterhout
147. Oss	Oss	Oss
148. Roosendaal	Roosendaal	Roosendaal
149. Rucphen	Rucphen	Rucphen
150. Schijndel	Schijndel	Schijndel
151. Tilburg (Riethoorn)	Tilburg (Martha en Riethoorn)	Tilburg (Martha en Riethoorn)
152. Tilburg (Martha)	-	-
153. Valkenswaard	-	-
154. Veghel	Veghel	Veghel
155. Vught	Vught	Vught
156. Waalwijk	Waalwijk	Waalwijk
157. Werkendam	Werkendam	Werkendam
158. Echt	-	-
159. Eygelshoven	Eygelshoven	Eygelshoven
160. Geleen	Geleen	Geleen
161. Gennep	Gennep	Gennep
162. Heerlen (Fonds)	Heerlen (Fonds)	Heerlen (Fonds)
163. Heerlen (Oranje Nassau)	Heerlen (Oranje Nassau)	Heerlen (Oranje Nassau)
164. Heerlen (Beersdal)	Heerlen (Beersdal)	Heerlen (Beersdal)
Heerlen (De Locht)	Heerlen (De Locht)	Heerlen (De Locht)
Heerlen (Molenberg)	Heerlen (Molenberg)	Heerlen (Molenberg)

1970	1972	1973
165. Helden	Helden	Helden
166. Maastricht	Maastricht	Maastricht
167. Roermond	Roermond	Roermond/Echt
168. Sittard	Sittard	Sittard
169. Venlo/Bergen	Venlo/Bergen	Venlo/Bergen
170. Venray	Venray	Venray
171. Weert	Weert	Weert
172. -	Leek	Leek
173. -	Tilburg (Tapisserie)	-
174. -	-	-
175. -	-	Volendam
176. -	-	Utrecht II (Op Dreef)

APPENDIX B

THE VARIABLES AND THEIR IDENTIFYING NUMBER, 1970, 1972, AND 1973

1970

Variable Number	Variable
1	Province identification number
2	Number of workers, excluding the sick
3	Number of workers, including the sick
4	Percentage of Category A workers, above Wage Group I
5	Percentage of mentally handicapped
6	Percentage of mentally retarded
7	Presence of responsible social employment board
8	Presence of mental testing and training
9	Presence of physical testing and training
10	Presence of consultation body for workers (1972)
11	Percentage subsidy given by government
12	Wages and Associated costs for W.S.W. and related workers, per non-sick worker
13	Transportation costs, per non-sick worker
14	Staff and supervisory personnel costs, per non-sick worker
15	Medial care costs, per non-sick worker
16	Materials and sales costs, per non-sick worker
17	Facility costs, per non-sick worker
18	Depreciation costs, per non-sick worker
19	Interest costs, per non-sick worker
20	Other costs, per non-sick worker
21	Basic government subsidy, per non-sick worker
22	Municipal subsidy, per non-sick worker
23	Sales revenues, per non-sick worker
24	Other revenues, per non-sick worker

1972

Variable Number	Variable
1	Province identification number
2	Number of workers, excluding the sick
3	Sick percentage
4	Percentage of Category A workers, above Wage-Group I
5	Percentage of mentally handicapped
6	Percentage of mentally retarded
7	Presence of responsible social employment board (1973)
8	Presence of mental testing and training (1973)
9	Presence of physical testing and training (1973)
10	Presence of a consultation body for workers
11	Percentage subsidy given by government
12	Wages and social insurance costs for WSW workers, per non-sick worker
13	Transportation costs, per non-sick worker
14	Personnel costs, W.S.W., per non-sick worker
15	Personnel costs, non-W.S.W., per non-sick worker
16	Staff salary costs, with subsidy, per non-sick worker
17	Staff personnel costs, with subsidy, per non-sick worker
18	Staff salary costs, without subsidy, per non-sick worker
19	Staff personnel costs, without subsidy, per non-sick worker
20	Materials and sales costs, per non-sick worker
21	Depreciation costs, per non-sick worker
22	Interest costs, per non-sick worker
23	Rent costs, per non-sick worker
24	Maintenance costs, per non-sick worker
25	Energy costs, per non-sick worker
26	Taxes and insurance costs, per non-sick worker
27	Miscellaneous and general management cost, per non-sick worker
28	Facilities costs, per non-sick worker
29	Machine costs, per non-sick worker
30	Management costs, per non-sick worker
31	Personnel division costs, per non-sick worker
32	Administrative costs, per non-sick worker
33	Medical care costs, per non-sick worker
34	Business bureau costs, per non-sick worker

Variable Number	Variable
35	Direct work management costs, per non-sick worker
36	Own transport costs, per non-sick worker
37	Storage costs, per non-sick worker
38	Canteen costs, per non-sick worker
39	Sales costs, per non-sick worker
40	General costs, per non-sick worker
41	Mental test and training costs, per non-sick worker
42.	Physical test and training costs, per non-sick worker

1973

Variable Number	Variable
1	Province identification number
2	Number of workers, excluding the sick
3	Sick percentage
4	Percentage of Category A workers, above Wage-Group I
5	Percentage of mentally handicapped
6	Percentage of mentally retarded
7	Presence of responsible social employment board (1973)
8	Presence of mental testing and training (1973)
9	Presence of physical testing and training (1973)
10	Presence of a consultation body for workers
11	Percentage subsidy given by government
12	Wages and social insurance costs for WSW workers, per non-sick worker
13	Transportation costs, per non-sick worker
14	Personnel costs, W.S.W., per non-sick worker
15	Personnel costs, non-W.S.W., per non-sick worker
16	Staff salary costs, with subsidy, per non-sick worker
17	Staff personnel costs, with subsidy, per non-sick worker
18	Staff salary costs, without subsidy, per non-sick worker
19	Staff personnel costs, without subsidy, per non-sick worker
20	Materials and sales costs, per non-sick worker
21	Depreciation costs, per non-sick worker
22	Interest costs, per non-sick worker
23	Rent costs, per non-sick worker
24	Maintenance costs, per non-sick worker
25	Energy costs, per non-sick worker
26	Taxes and insurance costs, per non-sick worker
27	Miscellaneous and general management cost, per non-sick worker
28	Income from basic subsidy, per non-sick worker
29	Income from special subsidy, per non-sick worker
30	Sales revenue
31	Miscellaneous contributions
32	Miscellaneous income
33	Deficit accruing to the municipality
34	Surplus

Variable Number	Variable
35.	Subsidies for wages - 75 percent (000's of guilders)
36.	Subsidies for wages - 90 percent (000,s of guilders)
37.	Subsidies for wages -100 percent (000's of guilders)
38.	Subsidies for wages - 50 percent (000's of guilders)
39.	Personnel costs - 75 percent (000's of guilders)
40.	Personnel Costs - 50 percent (000's of guilders)
41.	Commission meeting expenses (000's of guilders)
42.	Revenues from own product (000's of guilders)
43.	Revenues from contract work (000's of guilders)
44.	Miscellaneous contribution (000's of guilders)
45.	Miscellaneous income (000's of guilders)
46.	Number of direct productive hours (000)
47.	Number of indirect productive hours (000)
48.	Number of unproductive hours (000)
49.	Number of sick hours (000)
50.	Regular plus special subsidy, per worker
51.	Tentative calculated special subsidy (000)
52.	Remaining deficit for municipality (000)
53.	Number of subsidized directing personnel
54.	Number of male WSW workers
55.	Total number of male workers
56.	Number of female WSW workers
57.	Total number of female workers
58.	Total number of category B workers
59.	Number of category A workers (incl. sick) in wage group above 6
60.	Number of WSW workers, cat. A, with sick law benefits
61.	Number of WSW workers, total , with sick law benefits
62.	Number of WSW workers, cat. A, with disability benefits
63.	Number of WSW workers, total , with disability benefits
64.	Number of category A workers, male, married
65.	Number of category A workers, female, married
66.	Number of category A workers, male, unmarried
67.	Number of category A workers, female, unmarried
68.	Number of category A workers, less than 23 years

Variable number	Variable
69.	Number of category A workers, more than 55 years
70.	Number of category A workers in program 6 months or less
71.	Number of category A workers in program 6-12 months
72.	Number of category A workers in program 44 months or more

APPENDIX C

THE PERFORMANCE INDICATORS AND SOME SUMMARY STATISTICS

In the report, several indicators of center performance are employed. This appendix defines these indicators, describes their meaning and significance, and presents some summary statistics on them.

The indicators and their definition in terms of the variables indicated in Appendix B for 1970 are as follows (for years other than 1970, the definition is the same though some of the variable numbers change):

1. Opbrengsten-Kosten Ratio

$$23 - 16/(12 + 13 + 14 + 15 + 17 + 18 + 19 + 20) - (21 - 24)$$

This indicator is defined as the ratio of sales revenue less the cost of materials to the non-materials costs which are not covered by the basic subsidy and miscellaneous revenues. It presumes that sales revenues are used first to cover materials costs and that the basic subsidy is committed first to cover the non-materials costs. The ratio then indicates how much sales revenue is left to cover the non-subsidized costs. It represents the effectiveness of the center in adding value to its raw materials so as to cover the costs the basic government subsidy fails to cover. A value of 1.00 indicates that a center has sufficient sales to cover the remaining non-subsidized costs.

2. Deficit per Worker

$$(12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20) - (21 + 22 + 23 + 24)$$

This indicator is simply the total cost of the center minus the revenue from sales, the basic government subsidy, the municipal subsidy, and miscellaneous income. It represents the additional revenue which the center must raise from either the Ministry

of Social Affairs, the Ministry of Interior, or from the municipality itself. Note that it treats the basic subsidy and the municipal subsidy as regular sources of income.

3. Total Cost less Sales Deficit per Worker

(12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20) - 23

In this indicator sales revenue is treated as the relevant source of income. It calculates the total costs which remain after only sales are calculated. The indicator is similar to the net profit (loss) as calculated by a private business.

4. Netto-Opbrengst per Worker

23 - 16

Netto-opbrengst represents the sales revenue which is raised (per worker) over and above that necessary to cover materials costs. This remaining revenue can be interpreted as the value added to raw materials by the center's activity. This value is the numerator of the Opbrengsten-Kosten ratio. It is the revenue available to cover non-materials costs.

5. Total Cost less Sales plus Basic Subsidy Deficit per Worker

(12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20) - (21 + 23)

This indicator is similar to indicators 2 and 3. While these indicators calculate the deficit using all revenues (2) and only sales revenue (3), this indicator includes revenue from both sales and the basic subsidy. In effect, it treats sales and the basic subsidy as the normal sources of income and calculates the amount of costs per worker which must be covered by non-standard revenue sources. Each of indicators 2, 3 or 5 may be appropriate indicators of performance depending on one's perpective regarding the purpose of the program. Indicator 3 would treat the centers as a normal

private business. Indicator 2 treats sales plus all normal subsidies as entitlements, and looks only to the remaining deficit. Indicator 5 treats only sales and the basic government subsidy as "entitlements".

6. Non-Materials Costs less Subsidy Deficit per Worker

(12 + 13 + 14 + 15 + 17 + 18 + 19 + 20) - 21

The government subsidy is not meant to cover materials costs. This indicator shows how much of the other costs -- primarily labor costs -- which are not covered by the subsidy. Because it is primarily these non-covered costs which determine the burden which a center will be to a municipality, this indicator reflects the effectiveness of a center in controlling these costs.

7. Social Cost Indicator

(13 + 14 + 16 + 17 + 18 + 19 + 20) - 23

In economic terms, the social cost of an activity is equal to value of real resource inputs to a program less the value of the program's benefits. In this definition of social costs, it is assumed that, in the absence of the program, W.S.W. workers would be contributing nothing to the society's output, but would be receiving disability or other social security benefits equal to the sum of their wages (including the employer contribution) and the medical care costs incurred on their behalf by the center. Hence, these two items of center costs are omitted from the cost component of this indicator: they are treated as income transfers. All of the other costs are real resource inputs. Also, it is assumed that the real value of the output of the centers is the sales value of the output. Sales revenue is therefore treated as a social benefit. Net social cost (or benefit) is treated as the difference between these values.

Clearly, however, the program has social benefits other than the value of the marketable goods and services which are produced.

These other benefits have been described in various ways, but by and large represent the psychological well-being of the W.S.W.-workers. The value of these benefits is not measurable in monetary terms. The social cost indicator is an estimate of the costs imposed by each worker in a center on taxpayers generally in order to provide these psychological well-being benefits, whatever their value. The policy maker, in evaluating this program, must ask himself if the social cost required to achieve these benefits is reasonable. Hence, this is an important indicator.

8. Sales as a Proportion of Non Wage and W.S.W. Related Costs

23/(16 + 17 + 18 + 19 + 20)

This indicator shows what proportion of materials, machinery, energy, and facilities costs are covered by sales revenue. All wage-costs -- both staff and W.S.W. -- plus all W.S.W. transport and medical care costs are considered as primarily covered by the government subsidy. This ratio compares real output (sales revenue) with non-labor, non-W.S.W. costs.

9. Sales as a Proportion of All Non-W.S.W. Costs

23/(14 + 16 + 17 + 18 + 19 + 20)

This indicator is a modification of indicator 8. Here, the comparison is between sales and all real input costs other than those directly associated with W.S.W. workers.

10. Sales as a Proportion of All Social Costs

23/(13 + 14 + 16 + 17 + 18 + 19 + 20)

This is a further modification of indicators 8 and 9. It is, in some sense, a benefit-cost ratio. While most social costs are included in the denominator, an important component of benefits -- worker psychological well-being benefits -- are excluded from the numerator.

11. Non W.S.W. Wage Costs as a Proportion of W.S.W. Wage

14/12

This indicator reflects the intensity to which administrative and staff personnel are used in a center. The higher this ratio, the greater the cost commitment to such personnel relative to the costs of W.S.W. workers.

12. Proportion of Sales to Non-W.S.W. Wage Costs

23/14

This indicator shows the extent to which sales revenues are able to cover only the administrative and supervisory personnel costs in a center.

Each of these indicators captures some aspect of the economic performance of a center. Depending on the question one is asking then, each indicator has relevance to the evaluation of center activities. However, because all the indicators work with the same limited set of variables -- and indeed, because each is concerned with economic performance -- there will be some uniformities in how centers are appraised by them. The extent of this uniformity of appraisal by any two indicators suggests the extent to which any two indicators are good substitutes for each other.

In Table A-1, the extent of this uniformity is indicated for the year 1970. That table shows the coefficient value and the correlation coefficient between the values of any two indicators among the 171 centers. The coefficients which are statistically significant with .95 confidence are shown with an asterisk. The higher the value of the correlation coefficient the greater the substitutability between the two indicators. Table A-2 lists the pairs of indicators with correlation coefficients above .60. From this table, several of the indicators appear to be good surrogates for others. Hence, indicator 5 is closely related to indicators 1, 2, 3, 7, 9, and 10. Indicator 7 is a good surrogate for indicators 2, 3, 5, 9, and 10. Indicator 2 is highly correlated with

Table C-1

Pairwise Regression and Correlation Coefficients Among Performance Indicators, 1970

Dependent Variable \ Independent Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	-											
2	-6.71*	-										
	.64											
3	-5.68*	.97*	-									
	.30	.62										
4	7.26*	- .48	- .05	-								
	.44	.13	.00									
5	-7.08*	.92*	- .68*	- .26*	-							
	.72	.84	.70	.12								
6	.18	.44*	.62*	.74*	.54*	-						
	.00	.11	.33	.52	.16							
7	-6.83*	.96*	.69*	- .23*	.99*	.33*	-					
	.59	.83	.65	.08	.87	.17						
8	2.43*	- .31*	- .21*	.06	- .31*	- .11*	- .30*	-				
	.33	.37	.27	.02	.36	.09	.40					
9	1.05*	- .11*	- .06*	.05*	- .11*	- .01	- .11*	.19	-			
	.78	.61	.31	.22	.64	.02	.69	.48				
10	.96*	- .10*	- .06*	- .05*	- .10*	- .01	- .10*	.16*	.88*	-		
	.80	.59	.29	.27	.61	.01	.68	.40	.96			
11	- .01	- .01	.02*	.03*	.02*	.04*	.03*	- .02	- .12*	- .10	-	
	.00	.00	.09	.31	.09	.58	.20	.04	.07	.04		
12	-1.10	.09*	.04*	- .08*	.10*	- .02	.10*	- .09*	-1.04*	-1.18*	.39	-
	.39	.18	.05	.22	.22	.01	.23	.04	.49	.52	.02	

* Statistically significant with .98 probability.

indicators 1, 3, 5, 7, and 9, Indicator 3 is closely related to indicators 2, 5, and 7. Indicator 9 is highly correlated with indicators 1, 2, 5, 7, and 10. Indicator 10 has a close relationship to indicators 1, 5, 7, and 9.

Table C-2

Pairs of Performance Indicators with Correlation Coefficients greater than .6, 1970

1.	2 - 1	9.	9 - 1
2.	3 - 2	10.	9 - 2
3.	5 - 1	11.	9 - 5
4.	5 - 2	12.	9 - 7
5.	5 - 3	13.	10 - 1
6.	7 - 2	14.	10 - 5
7.	7 - 3	15.	10 - 7
8.	7 - 5	16.	10 - 9

From this evidence of the close relationship between indicators 1, 2, 3, 5, 7, 9, and 10, some of these variables can be used as surrogates for others. In our analysis, we use indicators 1, 2, 7, and 10 of this set. Of the remaining indicators (4, 6, 8, 11, and 12), we use indicators 4, 11, and 12. Variables 6 and 8 were excluded because of a judgement that they reflected a somewhat esoteric aspect of economic performance.

APPENDIX D

THE 20 CENTERS WITH THE HIGHEST AND LOWEST SCORES ON 12 PERFORMANCE INDICATORS, 1970 AND 1973 [a]

In this appendix, the 20 centers with the lowest and highest scores on each of the 12 performance indicators (see Appendix E) are identified for 1970 and 1973.

In Tables D-1 and D-3, the 20 centers with highest scores for 1970 and 1973, respectively, are shown. They are ranked in order, with the center showing the best performance on each indicator listed as having rank number 1. The centers are identified by number: the center name associated with each number is given in Appendix A.

In Tables D-2 and D-4, the 20 centers with the lowest 1970 and 1973 scores are shown. They are also ranked in order with the center showing the lowest performance on each indicator listed as having the highest rank. There are 171 centers in all in 1970, and 155 centers in 1973.

To enable a comparison of a center's performance with the mean value for the indicator, the mean and standard deviation of each indicator are shown in Table D-5 for 1970, and D-6 for 1973.

---

a) Tables D-1 -- D-4, identifying the performance of individual centers, have been dropped from this version of the report. Inquiries regarding more specific identification of centers should be addressed to the Ministry of Social Affairs.

Table D-5

Mean and Standard Deviation of the 12 Performance Indicators, 1970

Indicator	Mean	Standard Deviation
1. Opbrengsten-Kosten Ratio	.61	.21
2. Deficit per Worker (000 guilders)	1.70	1.79
3. Total Cost less Sales Deficit per Worker (000 guilders)	12.76	2.22
4. Netto-Opbrengst per Worker (000 guilders)	4.28	2.36
5. Total Cost less Sales Plus Basic Subsidy per Worker (000 guilders)	2.96	1.79
6. Non-Materials Cost less Subsidy Deficit per Worker (000 guilders)	7.24	2.42
7. Social Cost Indicator (000 guilders)	1.70	1.90
8. Sales as a Proportion of Non-Wage and W.S.W. Related Costs	1.87	.91
9. Sales as a Proportion of all Non-W.S.W. Costs	.85	.26
10. Sales as a Proportion of Social Costs	.78	.23
11. Non-W.S.W. Wage Costs as a Proportion of W.S.W. Wage Costs	.30	.12
12. Non-W.S.W. Costs as a Proportion of Sales	.68	.38

Table D-6

Mean and Standard Deviation of the 12 Performance Indicators, 1973

Indicator	Mean	Standard Deviation
1. Opbrengsten-Kosten Ratio	.55	.21
2. Deficit per Worker (000 guilders)	2.39	2.11
3. Total Cost less Sales Deficit per Worker (000 guilders)	21.20	3.67
4. Netto-Opbrengst per Worker (000 guilders)	6.04	3.14
5. Total Cost less Sales Plus Basic Subsidy per Worker (000 guilders)	5.63	2.63
6. Non-Materials Cost less Subsidy Deficit per Worker (000 guilders)	11.67	3.17
7. Social Cost Indicator (000 guilders)	3.88	2.96
8. Sales as a Proportion of Non-Wage and W.S.W. Related Costs	1.60	.93
9. Sales as a Proportion of all Non-W.S.W. Costs	.73	.24
10. Sales as a Proportion of Social Costs	.68	.22
11. Non-W.S.W. Wage Costs as a Proportion of W.S.W. Wage Costs	.31	.11
12. Non-W.S.W. Costs as a Proportion of Sales	.78	.52

APPENDIX E

THE CALCULATION OF TRAINING AND INCREASED PRODUCTIVITY BENEFITS

The calculation of the benefits from increased worker productivity due to a) training, b) familiarity with the work place or work schedules, and c) accomodation to production procedures is difficult. Ideally, one would wish to observe the same worker both without participation in the Social Employment program and with participation and then make an estimate of his gain in productivity. This gain would then be attributed to participation. The value of this productivity increase could then be attributed as a benefit to the program. Clearly, attaining this ideal is impossible.

An alternative method -- less scientific but often reliable -- is to observe both a group of program participants and a matched group of like individuals over a period after which the former group has completed the program. In this case, it is the gap in productivity between the two groups over time which represents the contribution of the program, and which must be counted as a benefit. Often, in such studies, it is possible to observe the earned income of both the program participants and the control group during the period after participation in the program. This gap in earnings is a reflection of the contribution of the program to increased productivity. However, because the Social Employment program is -- by and large -- not a transitional program, this post-participation observation method is not possible either.

Our procedure in developing an estimate of this component of benefits is more crude than either of these methods, and was adopted because of the limitation of time and resources available for the study. This procedure is based on the following presumptions. First, each of the 10 wage groups in the Social Employment program has a set of specifications stated in terms of worker competence and skill level. Hence, we will presume that the movement of a worker from one wage group to a higher wage group implies that he has attained a higher skill level, a higher compentence, and, hence, a greater productivity. The observed movement of a worker over time is taken to represent the contribution of the program to his skills and productivity.

Second, we will presume that the wage levels in the groups represent the value of the productivity of workers in that group. While the correct measure of a workers productivity would be what he could

command in the open labor market, this value is unattainable, as there is no effective normal demand for Social Employment workers. Because the wage groups are meant to be reflections of skill levels and competency, however, the wage levels attached to the groups are likely to be good proxies of the value of the productivity of workers in each group. We will accept them for that.

Given these presumptions, we could now observe the changes in a worker's productivity over time by observing how he or she changes wage groups over time. This would, of course, presume that the plant manager was accurately able to evaluate the productivity progress of a worker through time. We have been unable to trace the progress of individual Social Employment workers through time, however, because of a lack of individual worker data.

Hence, we have made a third presumption. We assumed that a center which experiences very little growth or contraction in its size over time has the same group of workers from one period to the next. If that is the case, we can measure the change in the distribution of workers among the wage groups from one period to the next, and that would yield an estimate of the pattern of progress of workers through the wage groups through time. Observing this change between two years would yield an estimate of the contribution of the program in the intervening year to the increased productivity of its work force.

Clearly the assumption that the same group of workers is employed in a center in both periods will not be entirely correct. However, if centers with little growth or reduction in size can be identified, we will have eliminated some of the problem caused by the interjection of new workers. The problem which remains is simply the substitution of new workers for those leaving. Such new workers may have higher skill levels than those leaving, or lower skill levels. On balance, however, one would expect the new entrants to have somewhat lower skill levels than those leaving. Hence, our observation of the change in the distribution of workers in a center by wage group may yield an estimate of productivity growth which is biassed downward to some unknown extent. However, because we have chosen centers which have little change in size, and because entering workers

may well be placed in entering wage groups which are above those of workers who leave, the extent of this bias is believed not to be excessive. This is the fourth presumption.

The specifics of our procedure in developing this estimate are as follows:

1. A random sample of 19 centers was chosen, and the distribution of workers by wage groups was obtained for each center for 1973, 1974, and 1975. This yielded 38 (19 x 2) observations of year-to-year changes in the distribution of workers by wage groups.

2. The wage levels of each wage group were obtained for December, 1973, the date on which the 1973 distribution of workers was estimated. This wage structure was presumed to represent the structure of productivities among the workers.

3. All of the 38 observed distributions which demonstrate an increase or a decrease in the number of workers in a center of 10 percent or more were discarded. This left a total of 31 observed changes in the distribution.

4. For each distribution, the average wage level (using the 1973 structure) was calculated. Then, the difference between the average wage levels of two consecutive years was calculated. This difference is an estimate of the average advancement in wage levels -- taken to represent productivities -- of the workers in a center. There were 31 of these differences in means calculated, of which 26 were positive values and 5 were negative values.

5. Presuming that the negative differences reflected an excessive inflow of new, lower productivity workers, these 5 estimated were discarded. The range of the remaining 26 estimated average differences was from ₱ 1 per year to ₱ 221 per year.

6. The weighted mean of these annual average increments was calculated (using the number of workers in the center as weights).

This weighted mean was *f* 69.96 per year. Hence, a value of *f* 70.00 per year was accepted as the contribution of one year's operation of the program to the increase in productivity of the average worker.

7. The question now becomes, how long will this one-year increment persist? Most studies have indicated that there is a rather rapid decay over time in the earnings difference between workers who entered a training program and those that did not -- that after ten years, nearly all of the increment to productivity has faded away. In our analysis, we will be more optimistic - we will assume that the estimated annual increment to productivity --*f* 70 per year - persists for each worker for 15 years, and then falls to zero.

8. Because that increase in productivity is a stream of benefits through time, it is difficult to use it in a benefit-cost analysis. We must first calculate its present value, which is done through a process called discounting. In this process, each future year's value is reflected in the present value calculation, but those values not occurring until some future period's are discounted by a compound interest-type calculation. This reflects the fact that a benefit in some future year is not worth as much today as that same benefit if it were received today. The present value (P) of a stream of annual benefits (R_i) is calculated by the following formula:

$$P = \Sigma \frac{R_i}{(1+r)^i}$$

The symbol r is the interest rate used and for this analysis r = 10%. This is a standard rate used in evaluating public sector activities, and is taken to reflect the opportunity cost of displaced private sector spending.

9. The calculated value of P, the present value of increased productivity benefits, is *f* 531 per worker.

APPENDIX F

THE CALCULATION OF THE COSTS OF DISPLACED PRIVATE SECTOR EMPLOYMENT

By producing output and selling it in the open market, social employment centers are providing competition to private sector business. It seems reasonable to assume that every guilder of social employment sales represents sales of one guilder which would, in the absence of the program, have been made by private business. Because of this reduction of private sector sales, some workers in the private sector will not have jobs that they otherwise would have had. In a fully employed economy, this is no problem -- these workers will, by definition, be employed elsewhere in the economy. When there is general unemployment, these displaced workers may not find an alternative job. In this case, their productivity is lost to the economy. This is a social cost. If none of the displaced workers find alternative employment, the social cost is estimated by the wage income which would have been generated by the displaced workers.

As a first step in estimating this component of costs, the number of private sector workers displaced by the Social Employment program was estimated. This was done by calculating the weighted average sales per worker in the industries producing products sold by the social employment industrial centers. The industry weights used were the percentages of industrial center sales in the various industries in 1973. These were:

Textile and Clothing	7.0 percent
Leather, Plastic, Rubber, and Chemicals	6.3 percent
Wood and Furniture	10.7 percent
Paper, Printing, and Editing	7.8 percent
Pottery, Glass, and Concrete	.8 percent
Metal and Metal Products	32.6 percent
Other [1)]	34.8 percent

---

1) The weighted average calculated for the identified industries was assigned to the "other" industry category.

The sales per worker among the industries ranged from ƒ 134,000 in the Rubber and Plastics industry to ƒ 63,000 in the Wood and Furniture industry. The weighted average sales per worker was estimated to be ƒ 74,058.

In 1973, total sales revenue in the industrial centers program was ƒ 240 million, implying that 3240 private sector workers were displaced because of the social employment industrial centers program [2]. The weighted average per worker wage costs in the affected industries -- using the same weights as before -- was ƒ 24,284 in 1973. Multiplying this value by the number of workers displaced (3240) yields an estimate of the private sector productivity which would be forgone if none of the displaced workers finds alternative employment. This value is ƒ 78.7 million.

As described in Chapter VIII, the upper bound estimate of the proportion of displaced private sector workers who do not find alternative employment was taken to be .3. The lower bound estimate was zero. Hence, the upper bound estimate of social costs attributable to the industrial centers program from this displacement effect is ƒ 23.6 million. Again, the lower bound estimate is zero. The upper bound estimate is equal to ƒ 721 per worker including the sick.

This same procedure was followed for each center in the benefit-cost analysis. For the upper bound estimate, the formula for the calculation of the forgone productivity from displaced private sector workers (D) is:

$$D = \begin{array}{l}\text{Sales Revenue}\\ \text{per worker}\\ \text{in center x}\end{array} \cdot \left[.3 \cdot \left(\frac{\text{weighted average sales per worker}}{\text{weighted average wage cost per worker}}\right)\right]$$

$$D = \begin{array}{l}\text{Sales revenue}\\ \text{per worker}\\ \text{in center x}\end{array} \cdot \left[.3 \cdot \left(\frac{74,058}{24,284}\right)\right]$$

$$D = \begin{array}{l}\text{Sales revenue}\\ \text{per worker}\\ \text{in center x}\end{array} \cdot .1$$

---

2) It should be noted that, in 1973, there were 32,714 workers employed in the industrial centers program. Hence, on average, one private sector worker is displaced for every 10 disabled workers employed.

Bibliography

I. On Social Employment

1. Bent Anderson, Work or Support (Paris: OECD, 1966).

2. William Glaser, An International Survey of Sheltered Employment, (New York: Columbia University, 1964).

3. Harald Niklasson, "Synpunkter På Den Samhällsekonomiska Lönsamheten Av Arbetsträning och Skyddad Sysselstätning", Mimeographed, 1967, Statskontovet, Sweden.

4. Beatrice Reubens, Right to Work (New York: Columbia University Press, 1970).

5. Julius Rothman, "Organized Labor and Sheltered Workshops", Rehabilitation Record, Nov.-Dec., 1964.

6. "Sheltered Workshops, 1965", Journal of Rehabilitation, Jan.-Feb., 1965.

7. Boleslaw Trampczynski, "Co-operatives of the Disabled in Poland", International Labor Review, vol. 108, No. 5, 1973.

8. Robin Truda, "Work Performance of Handicapped Employees", Personnel Practice Bulletin, vol. 27, No. 3, September 1971.

9. Rudolf Tyl, "Disabled Persons' Co-operatives in the Czechoslovak Socialist Republic", International Labor Review, vol. 93, No. 2, 1966.

II. On Benefit-Cost and Policy Analysis

1. Einar Hardin and Michael Borus, The Economic Benefits and Costs of Retraining (Lexington, Mass.: D.C. Heath and Co., 1971).

2. Robert Haveman and Julius Margolis, eds., Public Expenditures and Policy Analysis, 2nd ed. (Chigago: Rand-McNally, 1977).

3. Richard Layard, ed., Cost-Benefit Analysis (London: Penguin Books, 1972).

4. G.G. Somers and W.D. Wood, Cost-Benefit Analysis of Manpower Policies, Industrial Relations Centre, Queens University, Kingston, Ontario, 1969.

5. U.S. Congress, Joint Economic Committee, Subcommittee on Fiscal Policy, "The Effectiveness of Manpower Training Programs: A Review of Research on The Impact on the Poor", Studies in Public Welfare, (Washington, D.C., Government Printing Office, 1972).