

Working Paper

DIMINISHING QUALITATIVE DISCREPANCIES
IN REGIONAL LABOR MARKETS: A
DISCUSSION OF SOME POLICY OPTIONS

Cornelis P.A. Bartels

March 1981
WP-81-27

**International Institute for Applied Systems Analysis
A-2361 Laxenburg, Austria**

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FOREWORD

Sharply reduced rates of population and industrial growth have been projected for many of the developed nations in the 1980s. In economies that rely primarily on market mechanisms to redirect capital and labor from surplus to deficit areas, the problems of adjustment may be slow and socially costly. In the more centralized economies, increasing difficulties in determining investment allocations and inducing sectoral redistributions of a nearly constant or diminishing labor force may arise. The socioeconomic problems that flow from such changes in labor demands and supplies form the contextual background of the Manpower Analysis Task, which is striving to develop methods for analyzing and projecting the impacts of international, national, and regional population dynamics on labor supply, demand, and productivity in the more-developed nations.

This paper explores the various ways in which public policy may affect qualitative discrepancies in regional labor markets in developed countries. From a systematic investigation of policy measures in a typical case, i.e., the Netherlands, it is concluded that many of these measures have in fact considerable effects on qualitative discrepancies in regional labor markets, but that policy makers are seldom explicitly aware of these effects. In this situation full employment, which is still one of the major goals of economic policy in most developed countries, will be difficult to attain. Suggestions for possibly more effective research strategies are derived from the discussion in this paper.

Andrei Rogers
Chairman
Human Settlements
and Services Area

ABSTRACT

The qualifications of individuals and job requirements do not match completely in regional labor markets. This paper discusses the implications of this observation for regional policy making. What kind of policy instruments affect such regional labor market discrepancies? Besides a general answer to this question, also a more specific answer is given by analyzing regional discrepancies and regional policy making in the Netherlands. It appears that several instruments are in fact in use with considerable effects on these qualitative discrepancies, but these effects are in many cases almost completely ignored in the design of a policy mix. From this observation a suggestion for a more appropriate and flexible design of regional policies can be derived.

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1. INTRODUCTION*

Labor requirements of available jobs and qualifications of individuals do not match completely. Certain structural discrepancies between labor demand and supply therefore exist. These discrepancies possess multiple dimensions and will become only partially known through the usual labor market indicators. Especially in periods with a structural excess supply of labor, as is presently the case in many countries, several indications for such an incomplete matching between jobs and individuals can be found.

In a regional context, attention to the presence of such discrepancies is warranted. This is because the incomplete matching between jobs and people implies that some of the most important objectives of regional government policy are not attained. We

*Part of this paper is based on Bartels and Boon (1980). The author is indebted to Piet Rietveld, Warren Sanderson, and Hisanobu Shishido for constructive comments on the preliminary version of this paper.

mention two examples of generally formulated objectives of regional policies:

- an objective of regional *employment policy* is to arrive at full and suitable employment for all persons looking for jobs, irrespective of their place of residence;
- an objective of regional *educational policy* is to offer young people equal changes for their personal development, including a suitable preparation for working life, in all regions of the country.

Therefore, it is important to get more insight into the available options for policy makers to influence these discrepancies in an economic system of a mixed type. This topic forms the core of this paper. To elaborate, the paper is organized as follows.

First, we give a systematical description of components of regional labor markets that are relevant in a discussion of structural discrepancies between labor demand and supply. This description of the labor system serves as a background for the remainder of the paper. We then proceed with a brief discussion of topics that make the subject of regional discrepancies between qualifications of labor demand and supply an interesting one for policy-oriented scientific work.

After these two introductory sections we arrive at the core of the matter: a presentation of several options for policy makers to influence these structural regional discrepancies in an economic system of a mixed type. In order to give more empirical content to the discussion, a separate section is devoted to an analysis of a government's attack on the problem in a specific country, i.e., the Netherlands. Finally, we try to arrive at a conclusion with respect to the policy mix that seems to possess the most attractive properties.

2. STRUCTURAL DISCREPANCIES IN REGIONAL LABOR MARKETS

Qualifications in the supply and demand of labor possess rather different dimensions. Several personal characteristics may influence changes in the job-search process, e.g., sex, age, occupational status, educational background. On the demand side

various properties of jobs determine their attractiveness to the job searcher.

In this paper we shall not discuss the difficulties of attaining a complete matching between such detailed characteristics of job offers and job applicants. Instead, we focus on certain more general qualifications which make an analysis at a more aggregated level possible, i.e., the occupational or educational categories associated with jobs and persons. For an empirical analysis of qualitative discrepancies in regional labor markets at an aggregate level each of these subdivisions may yield useful information. An analysis by occupational categories, however, presents in general a more detailed picture of the imbalances in the labor market. In the following, we assume for the general discussion that a certain rough occupational categorization of jobs and individuals exists. In certain specific cases, where the discussion relates to educational categories, this will be explicitly mentioned.

At the regional level, imbalances between the occupational structure of labor supply and demand may manifest themselves in several ways. This is clear from Figure 1, which indicates in a very rough way some variables and relations that are important for the present discussion. This conceptual framework is based, on the demand side, on the assumption that the economic development of a region is determined both by the supply of the production factors (capital, labor) and by the demand for regional output. Output demand consists of regional demand, determined partly by the regional population, and demand from outside the region. Hence, the potential level and composition of regional production is determined by national and regional factors. The production technology in use, and average working hours, determine the potential demand for persons with certain occupational characteristics. On the supply side, potential supply by occupation consists of intraregional supply, determined by the number of people with a certain education and "autonomous" (i.e., not determined by the labor market situation) participation rates and supply resulting from the interregional mobility of people. "Exogenous" migration and commuting indicates the part of interregional labor mobility

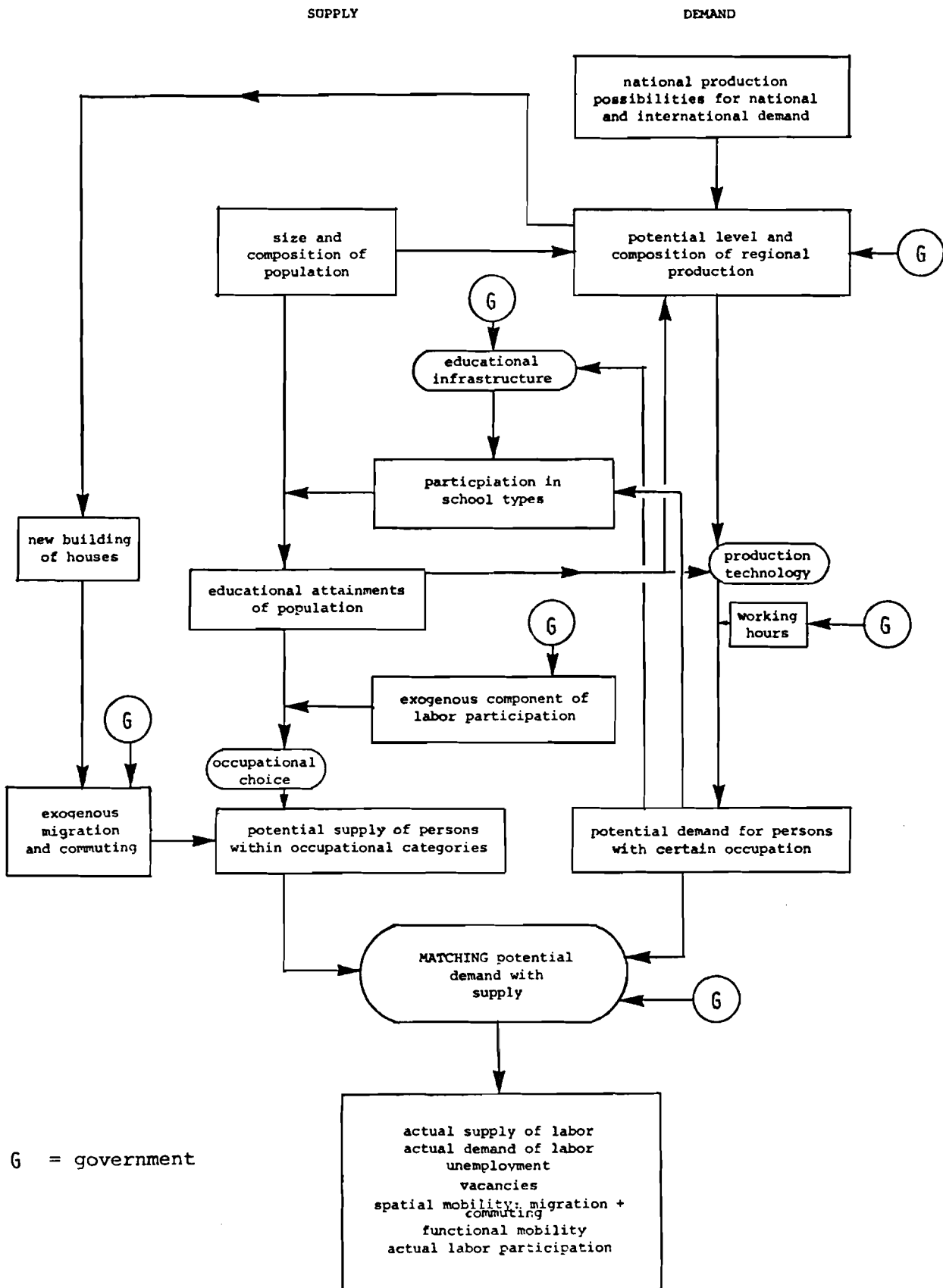


Figure 1. Conceptual framework of a regional labor market.

that is not co-determined by labor market aspects, but results primarily from preferences with respect to housing and living conditions. The matching of potential demand and supply, both subdivided according to occupational categories, results into actual supply and demand and different types of discrepancies. We distinguish two categories of indicators for such discrepancies, i.e.:

- a. intraregional indicators, for example regional unemployment and vacancies by occupation
- b. interregional indicators, e.g., labor migration and commuting, to the extent that the job search motivates this movement.

In Figure 1 we have also given a rough impression of the several possibilities of government intervention in this system of labor market relations. In the following, these interventions will be discussed more thoroughly.

For a good understanding it has to be noted that the description of a regional labor market in Figure 1 is not intended to offer a detailed and complete representation of the working of such a market. Instead, we have concentrated on those elements of the system that are of prime importance for the discussion in this paper.

3. THE IMPORTANCE OF LABOR QUALIFICATIONS FOR REGIONAL POLICY

The conceptual framework presented in the preceding paragraph, is based on the idea that a disaggregated view on regional labor markets is required to make an appropriate discussion of policy options possible. Qualifications of labor and jobs therefore occupy the dominant position in our discussion. Since it is not yet common to discuss the "regional problem" and regional policies in this context, we want to mention briefly some important motivations for the approach chosen in this paper.

The labor market consists of sub-markets in disequilibrium. Traditionally, economists used to study the labor market starting from assumptions like homogeneity of labor and the existence of

equilibrium between demand and supply. In recent years, it has become widely recognized that in reality different segments can be distinguished in the labor market (see Cain, 1976, for a survey of segmented labor market theories) and that a situation of disequilibrium is a common phenomenon of these sub-markets (for an attempt to incorporate this possibility in an aggregate econometric analysis see Kooiman and Kloeck, 1979; for a social welfare view on the existence of such imbalances see Caravani, et al., 1980; and for a microeconomic discussion of mismatches see Lippman and McCall, 1980). Accepting the existence of segmented labor markets in disequilibrium as a point of departure, implies that an effective design of policies has to pay explicit attention to different segments of the labor market, e.g., subdivided according to qualification and spatial residence (see also Öberg and Oscarsson, 1979, for a similar plea). For example, full employment in the regions cannot be attained if the qualifications of regional labor supply differ considerably from those on the demand side. Education, intended also partly as a preparation to a future working life, cannot serve this aim if there is a large chance of not finding a suitable job within reasonable distance from the place of residence.

The imbalances in the labor market are perhaps increasing. There are some indications that qualitative imbalances in regional labor markets have been increasing in the recent past and therefore ask for more explicit attention of regional policy makers. We mention two possible explanations for such growing imbalances.

1. The educational background of individuals has improved very fast in the recent past. According to some investigations, the qualitative content of job requirements has not improved to the same extent. For example, Maier (1980) concludes that in West Germany the share of skilled workers was in the 1970s significantly higher than necessary from a technical point of view, while Conen and Huijgen (1980) present evidence for an increasing gap between the quality of labor demand and supply in the Dutch labor market during the 1960s. For the future, one may even expect increasing difficulties in obtaining

a complete matching of supply with demand. The reason is that important innovations in production are expected to have significant consequences for the required qualifications of labor demand, while the composition of labor supply is not yet adjusted to these changing needs (see again Maier, 1980, for a more complete discussion). In a spatial context, the matching problem becomes still more complicated, since the spatial dispersion of production places seems to differ according to the different phases in the life cycle of products (see Norton and Rees, 1979, for a discussion of the spatial implications of the life cycle concept). These developments, which all imply increasing difficulties in attaining a satisfactory matching of jobs and people at the regional level, form a compelling reason for investigating what policy instruments are best used to diminish the imbalances.

2. The pattern of spatial mobility has changed in many countries. While economic factors seemed at least partially important in explaining migration patterns in the past, factors like housing and environmental qualities have become of more importance in the recent past (compare for example Bartels and de Jong, 1980 and Rogers and Castro, 1979, for some evidence). The new migration pattern may very well contribute to increasing imbalances at spatial labor markets. For example, regions with high unemployment are now frequently receiving a net immigration of labor. (This is the case in the Netherlands, see Bartels and de Jong, 1980.)

Successful application of regional policies asks for an integrated policy design. A framework of regional labor markets, which focuses on the heterogeneity of demand and supply, reveals that different types of government intervention influence the functioning of the labor market at several places, in several different directions. An integrated design of the required policy mix is therefore indispensable to circumvent undesired effects on the non-goal variables. Especially, the interrelation

between the educational and economic system comes to the force in this approach (see Neave, 1979, for an elaborate discussion of this interrelation).

There is an increasing need to evaluate the effects of the complicated mix of policy instruments. The focus on labor qualifications shows that a very complicated mix of policy instruments is at present used, with more or less important consequences on regional labor market discrepancies. Ideally, we would like to have quantitative estimates of the different effects of the different policy instruments. This is, however, a very difficult problem, and perhaps it is in fact impossible to obtain any reliable estimates of such policy effects (see Hübler, 1980, for an interesting discussion of the problems that arise in quantitative policy evaluation). However, as a first step of a more systematic evaluation of regional labor market policy, it seems worthwhile to present a qualitative description of the instruments in use and to attempt to give some qualitative assessment of their relative importance in the attainment of certain policy objectives.

In the following paragraphs, we will consider several ways in which national governments affect qualifications of labor supply and demand at the regional level. Hence the role of regional and local authorities in this context will not be discussed (for a comparative analysis of regional policy making at different governmental levels in Great Britian, see Smith, 1980). We start with a general theoretical presentation of useful policy instruments, and proceed with a more concrete discussion of Dutch regional policy making.

4. POLICY OPTIONS TO DIMINISH DISCREPANCIES

A discussion of options for policy making makes sense only in the context of a specific social economic system. In this paper we concentrate on countries where a system of a mixed type exists, which means that the central government plays an important role in economic life, but has very little direct control about the location of people and economic activities. The policy instruments

are mainly of an indirect character. They are intended to affect the decision-making processes of individual actors in the economic system. However, direct government intervention of different types has become widely accepted in this kind of economy and can therefore not be neglected.

The relevant policy instruments can best be related to the schematical picture that has been given to Section 2. So we may distinguish between instruments that affect the *intraregional* development of potential supply and demand, and instruments that affect the process of *interregional* mobility. The most important policy instruments are listed below. We incorporated those instruments which can be expected to exert a certain influence on the qualifications of regional demand and supply of labor, without restricting them to the field of *regional* policy. Hence, also national instruments of which specific regional impacts can be expected have been included. We have made a subdivision between measures with a direct and an indirect effect on labor qualifications. It is admitted that in some cases the assignment to one of these categories can be disputable.

4.1 Instruments Affecting Qualifications of Labor Demand

Indirect Influences

- public investments in economic infrastructure and certain restrictions on land use in spatial planning. These affect sectoral growth patterns and hence indirectly the structure of labor demand (e.g., investments in office buildings may lead to a demand for clerical workers, and investments in industrial sites and in housing may create a demand for manual workers).
- subsidies on capital investments. In most countries such subsidies were initially restricted to the industrial sector, but later they have been extended to part of the service sector. Again the structure of labor demand is affected in an indirect way through this sectoral selectivity.
- levies on capital investments in congested areas. If a sectoral differentiation exists, such levies influence the occupational structure.

- subsidies on labor costs. These have been applied in many cases in a selective way, taking into account several types of qualifications of employees.
- financial assistance to enterprises, in order to stabilize employment in cases of short-term difficulties. Frequently, the existing discrepancies for different occupational groups will be an important determinant in the distribution of such grants among enterprises.
- provision of advice and information. Frequently, this is restricted to certain enterprises, (e.g., small firms), and/or certain sectors (e.g., agriculture).

Direct Influences

- participation of the state in private enterprises. Such participation seems however mostly motivated by a certain industrial production strategy instead of a detailed labor market strategy.
- labor demand in the public sector. This includes public enterprises in industry, a variety of public services, anti-cyclical public projects mainly in economic infrastructure, and employment creation for disabled people and those with employment problems. All these activities have direct consequences on labor demand by qualification.
- investment allowances in congested areas. The allowances are sometimes rendered only if the prevailing discrepancies in regional labor markets make the project attractive.
- employment security legislation, to protect the employment status of tenured workers. Such legislation has at least in the short run an influence on the supply of jobs.

4.2 Instruments Affecting Qualifications of Labor Supply

Indirect Influences

- setting limiting ages for entrance and exit of the labor force. Examples are the legally determined ages for compulsory education and for retirement, which both have

an important influence on the composition of the labor force.

- the contents of social security policies. For example: the level of unemployment benefits, rules for payments to disabled people, etc.
- subsidies for technical training of workers

Direct Influences

- provision of educational establishments of different types. For example institutes for formal schooling and for adult education, skill centers.
- contents of schooling and training programs
- regulation of the capacity of educational institutions

4.3 Instruments Affecting Interregional Labor Mobility

Indirect Influences

- the spatial allocation of government-subsidized houses, and selective encouragement of private housebuilding (through land-use plans)
- transport infrastructure (for public and private transport). Such infrastructure co-determines the amount and composition of commuting flows.
- selective subsidies on migration. However, selectivity seems to have been applied mainly according to the direction of the move and less according to occupational properties of the movers.
- selective taxes on commuting. Here the same remark applies as in the case of migration.
- subsidies on the relocation of certain economic activities (e.g., out of congested areas)

Direct Influence

- regulation of immigration of foreign labor

4.4 Instruments Affecting the Process of Matching of Supply and Demand

Indirect Influence

- employment office services. These provide information and advice to job searchers

Direct Influence

- rules set for the payment of unemployment benefits. Especially, the definition of what is "suitable" employment which an unemployed person has to accept when offered to him, may affect the matching process in a rather direct way.

From this brief listing it appears that various kinds of policy instruments are in use, with direct or indirect effects on the composition of regional labor demand and supply. It is impossible to derive a general conclusion about their importance and effectiveness. Instead, we shall try to shed more light on this question for a particular case, i.e., that of Dutch regional policy.

5. POLICY INFLUENCES ON REGIONAL LABOR MARKET IMBALANCES IN THE NETHERLANDS

The foregoing discussion has been in rather general terms, demonstrating the importance of structural labor market discrepancies and several ways open for policy makers to influence them. The relevance of such an analysis for policy makers will increase significantly, if more empirical content is given to the theoretical arguments. Therefore, we focus in this section on recent labor market practice in the country, i.e., the situation in the seventies in the Netherlands. Before discussing the policy aspects, we shall give an impression of the importance of some structural labor market imbalances in a spatial context.

5.1 Discrepancies in Regional Labor Markets in the Netherlands

Indicators for discrepancies between qualifications of labor demand and supply in regional markets can be found in intra-regional variables, as has been expressed in Figure 1. A global

impression of such discrepancies in the spatial system of the Netherlands may be obtained out of some data for the eleven Dutch provinces. A selection of such data for recent years is presented in Table 1.

Figures on *registered unemployment* reveal that the incidence of unemployment differs significantly between population groups with different educational backgrounds; for example, the chance that a person with the lowest educational background will be registered unemployed is 2½ times that of a person with the highest educational level on the average. From the figures in Table 1 it can be seen that this relative position of different educational groups was not the same in all provinces; compare the concentration ratios in Table 1. Hence, both regional and educational backgrounds seem to be important determinants of the chances for individuals to be unemployed.

Besides registered unemployment there exists *hidden unemployment*. In the Netherlands it consists of at least two relatively large groups of people:

- people who are discouraged from entering the labor force e.g., young people who extend their schooling period and women who decide to stay at home because of the bad prospects for getting a job;
- people who leave the labor force, in fact for employment reasons, but who are not registered as unemployed, for example part of the disabled and early retired people.

The last group seems to be the most important. For example, in 1978 a total of 550,000 persons was registered as disabled. According to a recent estimate, this figure would incorporate a hidden unemployment of some 140,000 man years (see van den Bosch and Petersen, 1980; the registered unemployed amounted to, on the average, 205,000 persons in 1978). In Table 1 we give an indication of the relative incidence of this disqualification for paid work in the different provinces. There exist some indications that the lower educational levels are over represented in this category of nonworking people. Hence also for this type of hidden employment, educational and location backgrounds are important determinants.

Table 1. Indicators for provincial labor markets in the Netherlands.*

Provinces	Dependent labor force (thousands)	Registered unemployment (%)					Disabled people 1978 (%)	Unemployed persons per vacancy, 1979	Vacancies with simultaneous unemployment, males, Nov. 1979 (%)
		Total 1979	By educational background (May 1979)						
			Lower	extended lower	middle	higher			
Groningen	147	7.8 (156)	9.7 (149)	6.3 (166)	7.1 (173)	4.0 (154)	7.4 (119)	6.3 (203)	1.1 (92)
Friesland	144	5.7 (114)	6.2 (95)	4.5 (118)	5.7 (139)	3.6 (138)	6.1 (98)	5.6 (181)	0.7 (58)
Drenthe	113	6.1 (122)	7.0 (108)	5.4 (142)	5.4 (132)	2.5 (96)	7.1 (115)	4.2 (135)	1.0 (83)
Overijssel	295	4.6 (92)	5.7 (88)	3.8 (100)	4.8 (117)	2.6 (100)	6.4 (103)	2.6 (84)	1.0 (83)
Gelderland	483	4.9 (90)	5.5 (85)	3.9 (103)	4.6 (112)	2.7 (104)	6.3 (102)	3.8 (123)	1.1 (92)
Utrecht	270	3.1 (62)	3.9 (60)	2.1 (55)	2.9 (71)	2.2 (85)	6.2 (100)	1.4 (45)	1.2 (100)
Noord Holland	731	3.7 (74)	4.7 (72)	2.3 (61)	2.6 (63)	2.2 (85)	6.5 (105)	2.0 (65)	1.1 (92)
Zuid Holland	965	4.1 (82)	6.5 (100)	2.8 (74)	2.5 (61)	1.3 (50)	5.0 (81)	2.2 (71)	1.4 (117)
Zeeland	90	5.3 (106)	5.4 (83)	4.7 (124)	4.8 (117)	3.2 (123)	4.6 (74)	3.0 (97)	1.0 (83)
Noord Brabant	617	6.2 (124)	7.9 (122)	5.1 (134)	5.2 (127)	3.3 (127)	5.8 (94)	4.2 (135)	1.5 (125)
Limburg	316	9.0 (180)	10.5 (162)	8.1 (213)	8.8 (215)	5.6 (215)	8.6 (139)	8.3 (268)	1.3 (108)
The Netherlands	4171	5.0 (100)	6.5 (100)	3.8 (100)	4.1 (100)	2.6 (100)	6.2 (100)	3.1 (100)	1.2 (100)

- * - the concentrated ratio--displayed in brackets--expresses the provincial figure as a percentage of the national one
- the rate of unemployment is the number of unemployed expressed as a percentage of the dependent labor force
- unemployment by educational background is registered unemployed, in May 1979, as a percentage of the labor force by educational category in 1977
- the number of disabled persons, registered under the WAO/AAW laws, is expressed as a percentage of the population in the age group 15-64
- the figures for vacancies relate to registered vacancies only
- vacancies with simultaneous unemployment are the numbers of vacancies for males which coincided in the same occupational group and the same province with unemployment of males; these numbers are expressed as a percentage of the dependent male labor force

Detailed information on the data sources is given in Bartels and Boon (1980).

The absence of equilibrium in spatial labor markets is very clear from the existence of a large number of *vacancies*, together with high unemployment. The matching of unemployed persons with open vacancies is rather incomplete, as can be seen from the figures in Table 1. For example, in the Netherlands as a whole for each vacancy there were three unemployed persons, while this number amounted to more than 8 in Limburg and 1.4 in Utrecht. This incomplete matching seems to exist at a rather disaggregated level. The Ministry of Social Affairs investigated how many vacancies coincide at a detailed occupational level with unemployment at the same level in the same province. The resulted figures presented in Table 1 show that this number reaches a level as high as 1.5% in the province of Noord Brabant. The implication of this finding is that discrepancies in qualifications are important not only between occupational levels, but also within occupational categories.

Indications for *interregional mobility* present a less clear picture for qualitative discrepancies. *Commuting* between regions seems to be dominated by preferences for housing or frictions at regional housing markets instead of labor market reactions. Therefore available information on the occupational status of commuters does not yield an unambiguous picture of commuting intensities for different occupational groups. (See Bartels and Boon, 1980, for more details.) What can be concluded is that white collar workers seem to be overrepresented in commuting flows within the country (which seems to be related to their housing preferences), while blue collar workers are overrepresented in commuting crossing the boundary (which seems motivated by income maximization, instead of shortage of suitable jobs in the regions of origin). It is not possible to derive conclusions about specific discrepancies at regional labor markets from these observations.

Also data on interregional labor *migration* seem to be less useful as indicators for labor market discrepancies. The problem is that an important part of this migration is influenced by factors such as housing and living conditions and not by economic variables.

We studied, for example, the migration of one occupational group, for which comparable data on the incidence of unemployment and vacancies and migration intensities are available, i.e., construction workers. It appears from the indicators in Table 2 that provinces which seem to be attractive for settlement from a labor market point of view, like Noord Holland and Zuid Holland, show very low levels of immigration for this occupational group, while provinces which can be regarded as less attractive, like Groningen, Friesland, and Drenthe, show relatively high levels of immigration. In other provinces a dominance of labor market orientation could be better in accordance with the observed migration pattern (especially Overijssel, Utrecht, Zeeland, Noord Brabant, and Limburg). More aggregate data on interregional labor migration also suggest that the labor market plays an inferior role among the causal determinants of labor migration. (This is demonstrated with Dutch data in Bartels and van Koldam, 1980, and Bartels and de Jong, 1980. See also the remarks in Section 3 of this paper.)

5.2 Instruments in Dutch Regional Policy

In the present context several types of policy are relevant, as has been demonstrated in Section 4. For the situation in the Netherlands it appears that the policy oriented towards regional labor demand has paid little explicit attention to the qualification question, but on the supply side this influence has been more remarkable: the educational policy influenced qualifications in an implicit way, while informal training has done this very explicitly although mainly directed towards the attainment of short-term goals. These observations result from a more detailed analysis of policy instruments currently in use and from the intensity by which they are applied. Let us consider them in more detail. We follow the subdivision given in the previous section.

Regional programs for investments in the economic infrastructure have been one of the main instruments since the beginning of regional economic policy. For example, in the 1970s around 44% of the funds for regional economic policy on the budgets of the

Table 2. Interprovincial labor migration and labor market situation for Dutch construction workers in the 1970s.*

Province	Relative immigration per 1000, 1971-77	Unemployment rate, average % in 1971-77	Vacancy rate, average % in 1971-76
Groningen	8.9	10.8	1.1
Friesland	7.1	9.5	0.9
Drenthe	10.0	11.4	1.5
Overijssel	5.4	9.1	1.3
Gelderland	5.9	7.4	-
Utrecht	10.2	4.0	2.3
Noord Holland	5.4	4.6	-
Zuid Holland	4.8	4.7	2.8
Zeeland	9.4	5.3	2.1
Noord Brabant	4.2	11.6	1.7
Limburg	5.1	12.2	-

*

- the migration data relate to the interprovincial migration of male construction workers, as registered in the region of destination
- the relative figures are obtained by dividing the absolute figures through the size of the labor force in construction
- in the table the average migration intensity for the period 1971-77 is given
- unemployment is expressed as a percentage of the labor force in construction, using an average of yearly observations for the period 1971-77
- vacancies are also expressed as a percentage of the labor force in construction, the average figure relates to 1971-76, and for some provinces no data are available

More details on data sources can be found in Bartels and van Koldam (1980).

Ministry of Economic Affairs was reserved for infrastructural works (see Bartels and Groeneveld, 1980). They have been oriented towards the improvement of transportation networks and the provision of industrial sites. No explicit objectives for the derived structure of labor demand have been used. But implicitly this policy instrument seems to have helped in the creation of industrial work mainly for workers with a low and medium educational background.

Subsidies on capital investments from the most important component of regional economic policy: in the 1970s, on average 54% of the regional budget of the Ministry of Economic Affairs (Bartels and Groeneveld, 1980). The selectivity in application of such subsidies has been directed towards the sectoral destination and the type of investments. Initially (since 1953) only investments in new industrial plants received subsidies, while later on also some activities in the service sector could receive such a subsidy (since 1969 certain new settlements, since 1975 also the extension of some existing settlements). Explicit rules for the derived labor demand have been used during short time periods but mainly for the quantitative level and not the qualitative structure (only in the 1950s there existed a requirement that employment for males had to be created). Like the infrastructural programs, also this policy measure has had some indirect effects on the potential demand for qualifications.

Investment levies have been applied since 1978, in the part of the country considered to be a congested region (the central and western part of the Netherlands). No selectivity according to related labor demand exists.

Subsidies on labor have been used during recent years in a selective way. They are directed towards those segments of the labor force that are considered to have bad chances of getting suitable jobs, for example, young people, disabled people, certain foreigners, and persons who have been unemployed during a long period. The spatial distribution of available funds is based on existing discrepancies for these groups in regional labor markets. However, the instrument of selective labor subsidies is not applied

in a very intensive way. For example, in 1979 only 13,000 persons were affected by one of the different subsidies.

Government grants to individual enterprises played an important role since the mid-1970s. The selection of enterprises to be helped was based mainly on arguments related to the regional labor market situation. At present (since March 1980), this is expressed by a quantitative rule, which implies that only enterprises in regions with an unemployment level exceeding 7% can be candidates for these grants. Although this rule does not consider discrepancies in more detail, in several cases the decision seemed to have been based on a more detailed analysis of regional discrepancies.

State participation in private enterprises is possible through three small regional development funds: for the northern provinces, Overijssel, and south Limburg and through the large state-controlled chemical concern of DSM. Their activities are almost completely oriented towards the industrial sector. The most important investment criterium is profitability of projects in the long run, but in several cases short-term employment objectives, even for certain occupational groups, seem to have governed investment decisions. Since the available funds are very limited, the place of such development funds in regional policy is rather marginal.

The public sector consists mainly of service activities. Its spatial dispersion is affected most explicitly by means of a policy of relocation of public offices from the economic core to the periphery. The decision process includes an analysis of the labor-market, both in the region of origin and that of destination. The worsening of the labor market also in the economic core regions seems to have been a major reason for the unsatisfactory implementation of the policy targets. From 1967-1980 some 5,500 jobs were relocated, roughly half of the target levels. Hence, this instrument did not play a dominant role in regional policy. Anti-cyclical public projects in infrastructure and the provision of jobs for certain groups of unemployed people are important components of manpower policy: in 1979 these measures affected

almost 85,000 persons, mainly in "social-work places". The spatial distribution of funds follows the spatial incidence of unemployment in specific occupational groups.

Investment allowances are required for certain investments in congested areas since 1975. They can be refused, e.g., if a project is not attractive for the local labor market. However, since the allowance requirement was introduced, it has hardly been used as a restrictive instrument; 3 out of 210 applications were refused in the period 1975-78.

On the supply side of the labor market, setting ages for compulsory education and for retirement affects labor supply and its composition in a very clear way. The limit for compulsory education has been set nationally. There seems to have been at least some link between requests from employers for a generally better educated labor force and the extension of compulsory education. The age of voluntary retirement has decreased in recent years in several sectors of the economy, for reasons of an insufficient level of labor demand. No differentiation is made for the various qualifications. A spatial differentiation has been proposed by the government but is as yet not implemented. Although determination of the length of the working life plays no role in regional policy, it still has important effects on the structure of regional labor supply.

The contents of social security programs is one of the most important determinants of labor supply. The characteristics which explain this influence are the level of unemployment benefits and the rules which are applied in the decision about the degree of disability to work. One of the rules is that this decision may depend on the actual local labor market situation. From the figures in Table 1 we can see that this regulation has resulted in some correspondence between registered unemployment rates and the spatial incidence of work disability. From the same figures one also gets an impression of the importance of this disability incidence for the size of regional labor supply.

The provision of an educational infrastructure has a very clear impact on the supply of labor qualifications. A regionalized policy exists in a very explicit form for the provision of retraining programs. The available funds, and the capacity of training programs, are distributed taking into account regional labor market situations. In 1979 they affected some 45,000 persons, mainly school leavers. However the programs seem to be mainly directed towards an improvement in the labor market position in the short run. No explicit views on the expected structure of potential labor demand in the long run are formulated.

The spatial dispersion of institutes for formal schooling is at least implicitly related to potential labor demand. Beyond the primary level, requests for the establishment of a new school are formulated by location authorities. One of the arguments used concerns the expected supply of students which is at least co-determined by the expected job opportunities. Judging this kind of argument, the minister decides about the location of new establishments. The regional argument has been most explicitly used for the establishment of institutions for higher education, like higher technical and administrative schools, and new universities. Besides the establishment of new institutions, the closure of existing ones is also strongly associated with the development of the regional economy. Clear examples of this relationships are the closure of coal mines in South Limburg, which led to the closure of training schools for miners, and the spectacular contraction of the textile and clothing industry in the region of Twente, which induced a change of textile-oriented technical schools towards more general technical and administrative education in that region. How closely the schooling and the economic systems are interrelated at the spatial level may be illustrated by means of a simple example. This relates to the participation in lower and medium technical schools in 40 nodal regions. If we compare the participation rates (calculated for the age group 12-18 years) with the share of manufactural employment in regional employment both for a share of manufactural employment in regional employment both for

a recent year, there appears to exist a rather close linear connection: the coefficient of correlation between both variables is 0.47 (see Bartels and Boon, 1980, for the data). Although this close relation also results from behavioral processes of individual decision makers, it is at least partly affected by governmental decisions that create a certain educational infrastructure, taking into account the structure of potential regional labor demand. Hence this part of educational policy plays implicitly an important role in the determination of structural labor market discrepancies. Recently, the government's interest for obtaining a more explicit procedure that formalizes this interconnection seems to be growing. But an explicit integration of education policy in regional labor market policy is still lacking.

The contents of schooling and training programs serve as an instrument to adapt the capacities of people to desired job characteristics. It is this labor orientation which seems to dominate the general educational policy, in spite of statements of the contrary in some government documents. Explicit opinions about a spatial adaptation are not used, however. In special manpower-training programs also not much attention is given to the specific regional structure of expected labor demand.

The capacities of different schooling institutions influence the supply of certain occupational categories directly, in the case of an existing excess supply of potential entrants. Maximum capacity levels have been set for several types of higher education (for example, some university studies, higher technical schools, teacher-training colleges). But these restrictions are based on a perception of the development of the national labor market, and not on regional trends. Manpower-training programs also have a capacity that is smaller than the number of potential users. Again, no specific regionalized considerations enter the decision process.

Finally, there exists some regulation of interregional mobility. Migration subsidies are available for example for persons who are unemployed and fill a vacancy at a location, which

requires moving. Hence, the actual discrepancies in the regional labor market are used as a criterion here, although in a little systematic way. Besides, this instrument is not important: in 1979 some 700 migrants were affected by it. Of more importance seems to be the provision of government-financed houses. Regional targets for housing planning take the desired migration pattern as one of the points of departure, but this applies only to the aggregate level. There are no attempts to link the desired structure of labor supply to the composition of housing supply. Besides, it has to be commented that the provision of houses is only partly controllable. For example, most of the quantitative targets that have been set for housing supply in recent years have not been reached at all.

With respect to foreign migration a short-term policy also dominates: easy entrance of foreigners in a situation with excess demand for low educated labor (the 1960s and early 1970s), and strict limits in a situation with overall excess supply of labor. This is, however, no explicit element of regional policy.

From this brief description of policy instruments used by Dutch policy makers, we see that only part is used intensively for the purpose of diminishing structural imbalances in regional labor markets. A more concise summary of the previous discussion is presented in Table 3. We have listed the main instruments that affect qualitative regional labor market discrepancies. For each of them we have indicated:

- the importance in attaining general regional policy goals (i.e., not explicitly stated in terms of labor qualifications) in the present implementation of regional policy: ++ is very important, + is of little importance, a 0 is not important at all;
- the effect on regional labor market qualifications, where we distinguish between instruments which are at present explicitly used for attaining such effects (++ is intensively used, + is moderately used, and 0 is not used at all), and those which are not explicitly used,

Table 3. Instruments influencing regional labor market discrepancies.*

Instruments affecting regional labor market qualifications	Importance in obtaining regional policy goals in present policy implementation	Importance for regional labor market qualifications	
		If explicitly used for such effects	Importance of implicit effects in case of no or little explicit use
Economic infrastructure	++		+
Investment subsidies	++		+
Investment levies	+		+
Selective labor subsidies	+	++	
Grants to enterprises	+		++
State participation	+	+	
Public services	+	++	
Public projects	+	++	
Investment allowances	+	+	
Housing supply	+		++
Length of working life	0		++
Retraining programs	+	+	
Formal schooling institutions	0	++	
Contents of educational programs	0		++
Capacities of schooling inst.	0		++
Migration subsidies	+		+
Foreign migration regulation	0		++

* For a clarification of scores see the text.

but in fact have already implicitly important effects on the qualifications (++ has a very important effect, + is of little importance, and 0 is not important).

It is admitted that a lot of personal judgement has entered in the assignment of scores in Table 3. However, this seems to be inevitable in any kind of policy evaluation, also in studies which possess at first sight a more solid quantitative basis (see Hübler, 1980, for a nice demonstration of all kinds of personal judgements that may influence the results of statistical studies of policy effects).

From the contents of Table 3, and the foregoing discussion, some informative comments can be derived:

- The policy instruments that occupy at present the dominant position in regional policy are not applied with explicit consideration of their effects on regional labor market qualifications. Besides, all kinds of effects of these instruments will be very difficult to evaluate in a quantitative way, since they have an indirect effect on the goal variables and may also lead to very complicated side effects.
- There are several instruments in use at present, which have important effects on the composition of labor demand and supply, while these effects do not play any visible role in the present design of regional policy.
- The instruments that are explicitly used to affect the qualifications of labor demand and supply do not occupy a striking position in the instrument mix.

On the whole, the element of labor qualification is rather badly represented in the design of regional policies. From this observation we may also conclude that the attainment of regional policy goals, which is so much dependent on qualitative discrepancies in the labor market, will be seriously hampered by this lack of concern with specific characteristics of jobs and people.

6. CONCLUDING REMARKS

If one of the most important objectives of regional policy making is attaining equilibrium in regional labor markets (and this objective seems to dominate regional policy almost everywhere), the foregoing discussion has demonstrated that more concern about labor qualifications is required. Many policy instruments are at present applied, without any explicit consideration of their effects on the qualifications of labor-demand or supply in the regions. So our first conclusion is that the different policy instruments with regionalized effects on labor-qualifications would have to be considered as elements of an integrated package of regionalized government intervention.

If the aim of this government intervention is to diminish qualitative discrepancies, a selective use of most instruments seems to be the next requirement. The relative importance that can be assigned to the different instruments, will depend on the distribution of political power (e.g., the choice between direct and indirect instruments) and the importance of other objectives of government intervention. My personal judgement is that a useful approach would contain the following elements:

- a larger degree of *selectivity* in the application of instruments influencing supply and demand for labor, like investment subsidies and levies, labor subsidies, financial grants, public services, investment allowances, migration subsidies;
- an *emphasis on the demand side of the labor markets*, when attempting to diminish qualitative discrepancies. This recommendation is based on the view that educational policy (the most important determinant of labor supply) has in the first place to serve its autonomous aims of personal education and must therefore not be used as an instrument for affecting labor supply to the desired demand. It has to be stressed that a policy of improving the general education (instead of very specific professional schooling) will have attractive side effects for

the functioning of the labor market, for example, an increase in the functional and spatial mobility of people. Of course, a restriction of labor market policies to the demand side will not always present a sufficient flexible approach. In that case, there still seems to be considerable room to extend the significance of specific training programs as an instrument to attain a more complete matching of jobs and people.

Finally, I want to state explicitly that it is not my belief that a set of policies can be designed which can guarantee the absence of structural imbalances completely. The main reasons for this belief are:

- The spatial location of both people and jobs is a dynamic process, the properties of which are difficult or perhaps impossible to forecast for the long-term future.
- The precise working of most policy instruments is rather obscure, due to much ignorance of their direct but especially their indirect effects.
- The qualifications of labor demand will continue to change in the future, but only some general trends and not specific changes can be foreseen.

Hence, it would be wise to formulate the policy objective for regional labor markets in less utopian terms, and to incorporate a suitable scheme of welfare provisions as an essential element of the policy package, serving those who are the victims of the incomplete matching between demand and supply.

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