AIAS

Amsterdam Institute for Advanced labour Studies

## Separate, joint or integrated?

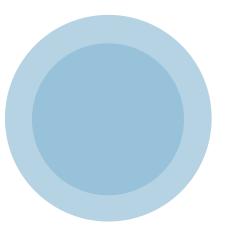
Lucy Kok, Caroline Berden and Marloes de Graaf-Zijl



July 2011

University of Amsterdam

SEO Economic Research carries out independent applied economic research on behalf of the government and the private sector. The research of SEO contributes importantly to the decisionmaking processes of its clients. SEO Economic Research is connected with the Universiteit van Amsterdam, which provides the organization with invaluable insight into the newest scientific methods. Operating on a not-for-profit basis, SEO continually invests in the intellectual capital of its staff by encouraging active career planning, publication of scientific work, and participation in scientific networks and in international conferences.



July 2011

© Lucy Kok, Caroline Berden and Marloes de Graaf-Zijl, Amsterdam

#### **Bibliographic Information**

Kok, L., Berden, C., Graaf-Zijl, M. de. (2011). Separate, joint or integrated? Acitve labour market policy for unemployed on social assistance and unemployment benefits. Amsterdam, University of Amsterdam, AIAS Working Paper 11-103

#### **Contact information:**

Work in progress, please do not quote without permision of the authors. Lucy Kok: l.kok@seo.nl Caroline Berden: c.berden@seo.nl Marloes de Graaf-Zijl: M.deGraaf-Zijl@uva.nl

This paper can be downloaded from our website www.uva-aias.net under the section Publications/ Working papers.

# Separate, joint or integrated?

## Active labour market policy for unemployed on social assistance and unemployment benefits

Lucy Kok SEO

Caroline Berden SEO

Marloes de Graaf-Zijl Amsterdam Institute for Advanced labour Studies University of Amsterdam

## **Table of contents**

Abstract	
1.	INTRODUCTION
2.	REGIONAL ORGANIZATIONS
	2.1.Effort level14
	2.2.Total welfare
3.	CENTRAL ORGANIZATION
	3.1.Effort level
	3.2.Total welfare
4.	ONE CENTRAL AGENT AND MULTIPLE REGIONAL AGENTS
5.	Active labour market policy is a joint effort of two separate organizations23
6.	CONCLUSION
LITERATURE	
AIAS Working Papers	
INFORMATION ABOUT AIAS	

.

## Abstract

This paper analyses the integration of active labour market policies for two groups of unemployed from a theoretical perspective. In general a model with only one type of agent performs better than a model with two types of agents. If there are two types of agents part of the effort of one agent leaks away to the other agent and decreases the incentives to get the unemployed back to work. A model where two agents work together and serve both types of unemployed performs even worse. This is because they are only partially compensated for their effort, which decreases the incentives to get the unemployed back to work even more.

### 1. Introduction

In many western societies social assistance and unemployment benefits are two separate benefit regimes with separate administrators. Unemployment benefits mostly organised as an insurance for dismissed workers with (a certain amount of) recent labour market experience. Social assistance is a program of last resort for families that are lacking income and are not entitled to any other form of benefits. Unemployment benefits are usually temporary, with benefit levels depending on former wage and not means tested<sup>1</sup>. Social assistance is usually flat rate, means tested and for an infinite period of time.

Benefit administration and public employment services used to be administered by separate agencies (OECD 2003). Active labour market policy was often concentrated in a national public employment service agency that serves both social assistance recipients and the unemployment benefit recipients. In response to a rising number of benefit recipients and a shift in the political climate, unemployment benefits in many countries have been sobered down and activation has gained importance. Additionally, institutions have been changed. A significant institutional change that has appeared in a range of countries is the so-called 'one stop shopping' design. In this one-stop shop agencies administering benefits and agencies carrying out active labour market policies have been integrated. The idea behind this design is that people who claim a benefit can be guided towards work as soon as possible, for instance by 'work-first' strategies (Clasen et al. 2001).

A first example of the one-stop shopping design is found in the UK. Here, the responsibilities for administrating benefits and active labour market policy for both persons on unemployment benefits and social assistance have been integrated in 2002 in one national body, the Job Centre Plus. This is an executive agency of the Department for Work and Pensions (DWP). The employees of the Job Centre Plus are financially rewarded for hitting targets at district level for multiple tasks. These targets include job placements, accuracy of benefit calculation, customer service and employer service (Burgess et al. 2003).

A next example is found in Denmark. Here, the public employment service (PES) serves persons on social assistance and those receiving unemployment benefits, both in terms of job search assistance and benefit provision. Since 2007 the public employment agency is completely decentralized to the municipalities, but unemployment benefits are still fully reimbursed by the central government. The municipality has a

<sup>1</sup> Exceptions in the European context are the UK, Ireland, Iceland, Poland and Lithuania, where unemployment benefits are flat rates, which in the case of the UK and Ireland are means tested as well. In Finland unemployment benefit level are calculated as a combination of a flat rate plus a percentage of the previously earned wage.

financial incentive for job placements of the unemployed on social assistance, because they pay 50% of the allowances. The other half is reimbursed by the state.

A third example of the one-stop shop design can be found in the Netherlands. Here, the responsibilities for carrying out active labour market policies have been integrated with the responsibilities for administering benefits. Unlike the UK, the responsibility for unemployment benefits and social assistance is split. Municipalities are financially responsible for the expenditures on social assistance. They have a fixed budget for the benefits and therefore experience a financial incentive to reduce the number of benefit recipients, e.g. by offering job search assistance. A central body (UWV) is responsible for the administration of benefits and job search assistance to individuals eligible to unemployment insurance benefits. This body has no financial incentives to get the unemployed back to work: benefits are reimbursed by the central government. The government stimulates UWV and municipalities to work together in order to get people back to work. So the Dutch model is moving in the direction of the Danish model, although separate agencies remain responsible for their own group of unemployed.

These three cases indicate that countries have chosen different solutions to the same problem: how to integrate benefit administration and active labour market policies on the one hand and two groups of unemployed on the other hand. Integration of benefit administration and active labour market policy has been widely accepted as being advantageous. Nevertheless, it might have some drawbacks, such as neglecting certain tasks that a party is not financially responsible for.

This paper analyses the integration of active labour market policies for the two groups of unemployed from a theoretical perspective. We evaluate welfare in several alternative institutional settings:

- Regional organizations (municipalities) are responsible for benefit administration and active labour market policies for both groups of unemployed.
- b) One central organization is responsible for the benefit administration and active labour market policies for both groups of unemployed (like the UK).
- c) Active labour market policies for the two groups is the responsibility of two separate organizations that are also responsible for the benefits administration of the two groups (like the Netherlands).
- Active labour market policies are a joint effort of two separate organizations, which are responsible for the benefit administration (like in Denmark).

In this paper we ask the question which models performs best. We build a principal – agent model in

order to determine in what form benefit administration and active labour market policy can best be organized. The principal is the central government whose goal is to maximize social welfare. The principal hires -dependent on the choice of organizational form- one or more agents to perform the tasks of benefit administration and active labour market policy. In determining the organizational form that produces maximum aggregate utility, the principal faces several trade-offs.

Each organizational structure has its advantages and disadvantages compared to other organizational structures. The advantage of one type of organization (either central or regional) that serves both groups of benefit recipients is that all effects of active labour market policy can be internalized, which increases the financial returns on job placements. The advantage of one central organization for benefit administration and active labour market policy above multiple regional organisations lies in the bigger scale. The advantage of regional agents, on the other hand, is that they can be benchmarked, which creates opportunities for financial incentives.

Two separate organisations serving the two groups of benefit recipients separately has the disadvantage that the effort of one agent leaks away in cases where the unemployment benefits are expired and the individual subsequently starts claiming social assistance.. This decreases incentives for the organization responsible for unemployment benefits to offer job search assistance to recipients approaching the maximum benefit duration. On the other hand, a disadvantage of joint active labour market policy for both groups of unemployed is that free riding might occur. But on the positive side an advantage might be that cost savings occur. However, cost savings have to be substantial to offset the effect of lower incentives. If this model is chosen it is best to let the regional agents serve all unemployed and the central agent none (like in Denmark). This is because effort of the central agent leaks away to the regional agent, but not the other way around.

The paper is organised as follows. Section 2 describes model A with only regional agents. Section 3 presents the model with one central agent. Section 4 describes model C, where active labour market policy for the two groups is the responsibility of two separate organizations, which are also responsible for the benefits administration of the separate groups. Section 5 presents the model in which the two types of agents co-operate. Section 6 concludes.

## 2. Regional organizations

This section presents the model in which all tasks – benefit administration and providing job search assistance – for both groups of benefit recipients – unemployment benefit recipients and social assistance recipients – are organised by regional organizations such as municipalities. In this model all benefit recipients are served by regional agents. Each regional agent is denoted by subscript i which is contained in the set {1,...,N}. There are N regions, and thereby N regional agents. Each regional agent is rewarded for the extent to which the outflow of benefits recipients in his region exceeds the average outflow of benefit recipients recipients in all regions. Hence, agent i receives a reimbursement W, which can be defined as follows:

$$W_i = \frac{a}{N} + \operatorname{by}_i - \operatorname{c} \frac{\sum_{i=1}^n y_i}{N}$$

Where:

W<sub>i</sub> is reimbursement of regional agent i

a is fixed compensation

b is compensation per unit of outflow

c is payment of the agent to the principal per unit of outflow

y, is the outflow out of unemployment in region i and defined as:

 $y_i = t_i + e_i + x$ 

#### With,

 $t_i$  is the agent i's effort level and  $t_i \neq t_i$  for all  $i \neq j$  and i, j contained in  $\{1, ..., N\}$ 

 $x \sim N(x, \chi^2)$  and represents the exogenous exit in region i

 $\chi^2$  is constant in the number of unemployed, therefore each agent faces the same variance, independent of it's size.

$$e_i \sim N(0, (N/U)^f \sigma_i^2)$$
 where

U is the exogenous number of unemployed

*f* is contained in the interval [0,1]. Hence, if f>0 Var(e<sub>i</sub>) decreases if the number of unemployed (U) goes up or the number of regions (N) increases: if f=0, then Var(e<sub>i</sub>)= $\sigma_i^2$  and if f=1, then Var(e<sub>i</sub>)=(N/U) $\sigma_i^2$ . Since U>N, the variance is smaller in the latter. This means a bigger agent faces less risk. The cost function of agent i is:

$$C_i = \frac{1}{2} t_i^2 (U/N)^{\alpha}$$

If  $\alpha=1$ , then there are no economies of scale. The cost of effort depends on the number of unemployed. In case  $\alpha=0$ , then there do exist economies of scale: the cost of effort does not depend on the number of unemployed.

. . . . . . . . . . . . . . . . . . .

#### 2.1. Effort level

The agent is assumed to be risk averse. To simplify calculations later on it is assumed that the agent has constant absolute risk aversion (CARA) preferences.<sup>2</sup> Agent i's utility function is exponential and given by:  $u(W_i - C_i) = -e^{-r(W_i - C_i)}$ 

where r > 0 is the amount of risk aversion of agent i. Hence, all agents are presumed to have the same amount of risk aversion.

In order to calculate the optimal effort level t<sub>i</sub>, agent i will maximize his expected utility  $E[u(W_i - C_i)]$ . Since the utility function exhibits CARA, it is easier to maximize the certainty equivalent of  $E[u(W_i - C_i)]$ . The certainty equivalent of the regional agent,  $CE_i$ , is equal to:

$$\label{eq:ce_i} CE_i = \; \frac{a}{N} + \; b \; (t_i + \; e_i + x) - c \; \frac{\sum_{i=1}^N (t_i + e_i + x)}{N} \; - \; \frac{1}{2} \; r b^2 (N/U)^f \; \sigma_i^2 \; - \frac{1}{2} \; r b^2 \chi^2 - \frac{1}{2} \; t_i^2 \; (U/N)^\alpha$$

The regional agent cannot influence the average outflow of all agents if N is large. So in case N is large, the term  $\frac{\sum_{i=1}^{N}(t_i+e_i+x)}{N}$  in the certainty equivalent is a constant (and becomes zero). Assuming N is large, it can be calculated that the amount of effort that maximizes the utility of the regional agent is<sup>3</sup>:

 $ti^* = b(N/U)^{\alpha}$ 

<sup>2</sup> Utility functions with CARA preferences, such as an exponential utility function, exhibit 'nice' mathematical properties which simplify calculations. For example: for a utility function with CARA preferences maximising expected utility is similar to maximizing mean-variance utility. The mean-variance utility which is the certainty equivalent of the expected utility can be easily obtained from a function with CARA preferences.

<sup>3</sup> In order to calculate the optimal effort level which maximizes utility, the first order derivative of CE<sub>i</sub> with respect to ti is calculated and set to zero.

#### 2.2. Total welfare

The principal is risk-neutral. The utility of the principal is:

$$G_{\rm P} = -\sum_{i=1}^{N} (U/N - y_i) B - \sum_{i=1}^{N} (\frac{a}{N} + by_i - c \frac{\sum_{i=1}^{N} y_i}{N})$$

Where B is the unemployment benefit.

The first part of the equation is the disutility of the principal of paying the unemployment benefits of the unemployed minus the unemployed that flow out. The second part is the disutility of the principal of paying all the regional agents.

Total welfare of the principal plus the agent sums up to:

$$G_{\rm P}+CE_{i}=-UB+\sum_{i=1}^{N} y_{i}B-\sum_{i=1}^{N} (\frac{1}{2} rb^{2}(N/U)^{f} \sigma_{i}^{2}+\frac{1}{2} rb^{2}\chi^{2}+\frac{1}{2} t_{i}^{2}(U/N)^{\alpha})$$

The reimbursement of the agent falls out of this equation because it is a utility for the agent but a disutility of the principal.

Inserting the optimal amount of effort of the agent yields:

 $G_{P}+CE_{RA}=-UB+\sum_{i=1}^{N}(b(N/U)^{\alpha}+e_{i}+x)B-\frac{1}{2}rb^{2}(N/U)^{f}\sum_{i=1}^{N}\sigma_{i}^{2}-\frac{1}{2}Nrb^{2}\chi^{2}-\frac{1}{2}b^{2}N^{1+\alpha}/U^{\alpha}$ 

The principal will maximize total welfare with respect to b. The optimal compensation b maximizing total welfare can be calculated as:

$$b=BN^{1+\alpha}/(rN^{1+f}U^{\alpha-f}\sigma_i^2+NU^{\alpha}r\chi^2+N^{1+\alpha})$$

Inserting the optimal b in the optimal level of effort yields:

$$t_i^* = BN^{1+2\alpha}/(rN^{1+f}U^{2\alpha-f}\sigma_i^2 + NU^{2\alpha}r\chi^2 + N^{1+\alpha}U^{\alpha})$$

This implies:

- An agent yields more effort if there are strong economies of scale or if the variance in output caused by effort decreases strongly with the number of unemployed served.
- If r or σ<sub>i</sub><sup>2</sup> or χ increase the costs of risk increase. In that case it is welfare enhancing to set the compensation per unemployed (b) lower and the fixed compensation (a) higher. If b goes down effort is lower.

• if B is higher effort goes up because the principal will set the compensation per out flowed unem-

ployed (b) higher.

## 3. Central organization

In this model all unemployed are served by the central agent. This model is a special case of the model with regional agents, that is for N=1.

The reimbursement scheme for the regional agent is:

$$W_i = \frac{a}{N} + by_i \text{-} c \frac{\sum_{i=1}^N y_i}{N}$$

When N is 1 this becomes:

$$W_c = a + (b-c)y_c$$

The cost function of the central agent is:

 $C_{c} = \frac{1}{2} t_{c}^{2} \beta U^{\alpha}$ suppose  $\beta = 0$ 

 $C_{c} = \frac{1}{2} t_{c}^{2} N^{\alpha}$ 

#### 3.1. Effort level

The utility of the central agent is:

$$f(W_c - C_c) = -e^{-r} (W_c - C_c)$$

The certainty equivalent of  $W_i - C_i =$ 

 $\mathrm{CE}_{_{RA}} = a + (b \text{-}c)y_c - \frac{1}{2} rb^2 (N/U)^{\mathrm{f}} \sigma_c^2 - \frac{1}{2} rb^2 \chi^2 - \frac{1}{2} t_c^2 (U/N)^{\alpha}$ 

The agent supplies the amount of effort which maximizes utility.

$$CE'_{t} = (b-c) - tU^{\alpha}$$

So the amount of effort that maximizes the utility of the central agent is:

$$t_c = (b-c)/U^{\alpha}$$

#### 3.2. Total welfare

Total welfare of the principal plus the agent sums up to:

$$G_{\rm p} + CE_{_{CA}} = -UB + y_{c}B - \frac{1}{2} r(b-c)^{2} (1/U)^{\rm f} \sigma c^{2} - \frac{1}{2} r(b-c)^{2} \chi^{2} - \frac{1}{2} t_{c}^{-2} U^{\alpha}$$

Inserting the optimal amount of effort of the central agent yields:

 $G_{p}+CE_{CA}=-UB+B ((b-c)/U^{\alpha}+e_{c}+x)-\frac{1}{2} r(b-c)^{2}(1/U)^{f} \sigma_{c}^{2}-\frac{1}{2} r(b-c)^{2}\chi^{2}-\frac{1}{2}(b-c)^{2}(1/U)^{\alpha}$ 

The principal will maximize total welfare with respect to b. The optimal compensation b maximizing total welfare then can be calculated as:

 $b = B/(rU^{\alpha-f}\sigma^2 + rU^{\alpha}\chi^2 + 1) + c$ 

compare this with te optimal compensation of the regional agent:

$$b = BN^{1+\alpha}/(rN^{1+f}U^{\alpha-f}\sigma_{i}^{2} + NU^{\alpha}r\chi^{2} + N^{1+\alpha})$$

If in this equation the number of regions is set on 1 this would yield an optimal compensation of:  $b=B/(rU^{\alpha-f}\sigma_i^2 + U^{\alpha}r\chi^2 + 1)$ 

The compensation of the central agent is c higher than the compensation of the regional agents. The compensation of the central agent has to be higher because it's effort cannot be compared with the effort of other agents. Whereas a regional agent is only rewarded for it's own outflow minus the average outflow of all agents, the central agent is rewarded for all outflow.

Inserting the optimal b in the optimal level of effort yields:

$$t^{c*} = B/(rU^{2\alpha-f}\sigma^2 + rU^{2\alpha}\chi^2 + U^{\alpha})$$

Compare the effort of the central agent with the effort of the regional agent:

 $t^{i*} = BN^{1+2\alpha}/(rN^{1+f}U^{2\alpha \cdot f}\sigma_{_{i}}^{2} + NU^{2\alpha}r\chi^{2} + N^{1+\alpha}U^{\alpha})$ 

So the welfare maximizing effort of a central agent is higher than that of a regional agent if there are strong

economies of scale or if the variance in output caused by effort decreases strongly with the number of unemployed served. If economies of scale are not strong and the variance in output caused by effort does not strongly decrease with the number of unemployed administration by regional agents yields more welfare. But compared with the regional agents the central agent needs a higher reimbursement. This is not efficient because taxes would have to go up because of this extra reimbursement. Although the compensation of the agent is considered a welfare neutral redistribution from principal to agent in the model, in reality it diminishes welfare because it distorts choices of those who pay the taxes.

To decrease this welfare diminishing effect the principal might try to seek information about the exogenous level of outflow (x) and set a minimum target of outflow for which the agent is not rewarded. Each period the actual output of the agent reveals information to the principal about x. So a high level of effort of the central agent and a high level of outflow might induce the principal to set the minimum target higher in the next period.

However the central agent can anticipate on future targets set by the principal. This decreases his incentives to perform (the ratchet effect, see Weitzman 1980). A regional agent cannot anticipate on future targets because it would not only have to anticipate on future behaviour of the principal but also on the future behaviour of all other regional agents. Because of the ratchet effect the central agent cannot be given strong incentives.

## 4. One central agent and multiple regional agents

In this model there are two types of agents and one principal. The first agent is a central agent. The second type of agent is a regional agent. There are multiple regional agents. We assume unemployed are first served by the central agent and after a while, if they have not flown out, are transferred tot a regional agent. This is a common model in many countries (among which the Netherlands), where unemployed with recent labour market experience are entitled to an unemployment benefit for a fixed amount of time. The unemployment benefit is often administered by a central agent. When this period expires and they have not found a job they are often entitled tot social assistance, administrated by municipalities.

The problem in this model is that effort of the central agent to get the unemployed back to work is not rewarded if the unemployed finds a job after the fixed period of entitlement has expired. In that case the unemployed has already been transferred to the regional agent and subsequently finds a job due to the effort of the central agent.

So the compensation scheme of the central agent becomes:

$$W_c = a + (1 - \gamma)(b - c)y_c$$

where  $\gamma$  is the fraction of unemployed that is transferred to the regional agent and subsequently finds a job due to the effort of the central agent.

The regional agent on the other hand is rewarded at the moment the unemployed flows out. So the compensation scheme of the regional agent becomes.

$$\mathrm{W}_{c} = a + (1 \text{-} \gamma)(b \text{-} c) \mathrm{y}_{c}$$

where  $W_i = \frac{a}{N} + by_i - c\hat{y}_i + \gamma(b-c) \frac{y_c}{N}$ 

where

$$\hat{y}_{i} = \frac{\sum_{i=1}^{N} y_{i}}{N}$$
$$\hat{y}_{c} = \frac{y_{c}}{N}$$

The optimal effort of the regional agent does not change because the extra compensation does not depend on the effort of the regional agent. However, the effort of the central agent decreases because the compensation for effort decreases. Part of the compensation leaks away to the regional agent. The optimal effort of the central agent now becomes:

#### $t_c = (1-\gamma)(b-c)/U_{\alpha}$

This model therefore yields less welfare than a model where there is only one type of agent. Only when the groups of unemployed (1) differ substantially in economies of scale and (2) in the degree in which variance in output caused by effort decreases with the number of unemployed served it might be welfare enhancing to have two different agents for the tow groups. And even than this will only be the case in the absence of the ratchet effect.

## 5. Active labour market policy is a joint effort of two separate organizations

The reimbursement schemes of the central and decentralized agent in this model are the same as in the benchmark model. The only difference with the benchmark model is that the active labour market policy is a shared activity. This means the output of the central and regional agents is now produced by the joint effort of both agents. So the central agent has both unemployed with an unemployment benefit as unemployed on social assistance in his active labour market program. The same holds for regional agents. The central agent is rewarded for all unemployed on unemployment benefits that flow out, irrespective if they flow out because of the effort of the central agent or the regional agent. Suppose h is the fraction of the unemployed on unemployment benefit and (1-h) is non social assistance. If the central agent puts in a share s of the joint effort and the decentralized agent puts in share (1-s) the output function of the central agent becomes:  $W_c = a + sh(1-\gamma)(b-c)y_c + (1-s)h(1-\gamma) \sum_{i=1}^{N} [by_i - c \frac{\sum_{i=1}^{N} y_i}{N}]$ 

 $W_c = a + sh(1-\gamma)(b-c)y_c + N(1-s)h(1-\gamma)(b-c)y_i$ 

The first part of the equation is the fixed compensation which is assumed to be not affected by cooperation with the regional agents. The second part of the equation is the compensation for outflow of the unemployed on an unemployment benefit served by the central agent (minus the unemployed that flow out after the transfer to the regional agent). The third part is the reward of the central agent for outflow of the unemployed served by the regional agents (again minus the unemployed that flow out after the transfer to the regional agent).

If both groups have the same characteristics in terms of economies of scale and the degree in which variance in output caused by effort decreases with the number of unemployed the costs of effort do not change compared to the former model where both groups are served by different agents.

It's easy to see that the optimal amount of effort of the central agent decreases because part of it's own output is not rewarded. A part of the reward is obtained by effort of the regional agent. The central agent does not have to put effort in to obtain this reward. In other words: it can free ride on the effort of the regional agent. Optimal effort of the central agent becomes:

 $t_c^* = sh(1-\gamma)(b-c)/U_a$ 

This is a fraction (sh) smaller than in case of no joint effort of two agents.

The regional agent is rewarded for all unemployed on social assistance that flow out. So the compensation scheme of the regional agent becomes.

$$W_i = \frac{a}{N} + (1-s)(1-h)(by_i - c\hat{y_i}) + s(1-h)(b-c)\frac{y_c}{N} + sh\gamma(b-c)\frac{y_c}{N} + (1-s)h\gamma(by_i - c\hat{y_i})$$

The regional agent gets a fixed compensation a (first term of the equation) plus compensation for the outflow of unemployed on social assistance which are served by the regional agent (second term), plus compensation for the outflow of unemployed on social assistance which are served by the central agent (third term). Moreover the regional agent gets compensation for the outflow of unemployed on an unemployment benefit after their transfer to social assistance (terms four and five). The last term indicates that regional agents have some compensation for the unemployed on an unemployment benefit which they serve, because they flow out after the transfer to social assistance.

So the regional agent is rewarded for the effort of the central agent, but part of it's own effort is not rewarded. However, part of it's effort for the unemployed on unemployment benefit leaks away to itself. So the optimal effort of the regional agent becomes:

$$t_i^* = (1-s)h(1+\gamma)b(N/U)_{q}$$

If the two organisations do not work together the effort of the regional agent would have been:

$$t_i^* = b(N/U)_a$$

The effort of the regional agent in case of cooperation will be bigger than in case of no cooperation if  $(1-s)h(1+\gamma)>1$ .

Because in the model it is assumed that effort leaks away only from the central agent to the regional agent a model where regional agents serve all unemployed (s=0) is better than a model where part of the unemployed are served by the central agent.

If s=0 the effort of the regional agent becomes:

#### $t_i^* = h(1\!+\!\gamma) b(N/U)_\alpha$

which is bigger than the effort in case of no cooperation if  $h>1/(1+\gamma)$ . This is only the case if either  $\gamma$  is very high or if almost all unemployed are on unemployment benefit. However if  $\gamma$  is high the there will also be a large population on social assistance, which makes this prerequisite very unlikely.

So because of the free riding this model performs worse than a model where agents do not work together.

This model abstracts from possible cost savings because the unemployed are not transferred any more from one agent to another. This saves time of both the agents and the unemployed. The model also abstracts from a possible efficiency gain due to the fact that the agent follows a person for a longer time. However, the effort that leaks away because of transferring does not alter, because the compensation schemes do not change.

### 6. Conclusion

In general a model with only one type of agent performs better than a model with two types of agents. This is because part of the effort of one agent leaks away to the other agent and decreases the incentives to get the unemployed back to work. A model where two agents work together and serve both types of unemployed performs even worse. This is because they are only partially compensated for their effort, which decreases the incentives to get the unemployed back to work even more.

As in every model we made some abstractions from reality. We did not include multiple tasks of agents. The agents in our model only have to guide the unemployed back to work as soon as possible. Agents however also have other tasks, like ensuring the unemployed get the right benefit or allowance at the right time. Rewarding only one task might harm the other task that is not rewarded. This effect is stronger, the stronger the financial incentive is.

Another abstraction is the assumption that the regional agents are homogeneous. The budget of the agents is calculated as the total budget divided by the number of agents. In reality the allocation of budgets over agents is much more complicated, because they all differ in the characteristics of their population and in the characteristics of the regional labour market. Therefore the number of unemployed per agent is not exactly predictable and agents might be allocated budgets which are too low or too high. Budgets that are too low might lead to negative effects on other tasks of the agent.

Although our model has its limitations it shows clearly some trade-offs that have to be taken into account in choosing an organisational model for active labour market policy. More effectiveness because of larger scale comes with less financial incentives. Joint effort of separate agents creates free riding.

## Literature

Baker, G.P. & Hall, B.J. (2004). CEO Incentives and Firm Size. Journal of Labor Economics. Vol. 22, no. 4.

Incentives in the Public Sector: Some Preliminary Evidence from a UK Government Agency

- Burgess S.M., C. Propper, M. Ratto & E.Tominey (2004). Incentives in the Public Sector: Some Preliminary Evidence from a UK Government Agency. CMPO Working Paper series no. 04/103
- Clasen, J., Duncan, G., Eardley, T., Evans, M., Ughetto, P., van Oorschot, W. and Wright, S. (2001) 'Towards "single gateways"? A cross-national review of the changing roles of employment offices in seven countries', Zeitschrift für ausländisches und internationales Sozialrecht 15 (1): 43/63.
- Dolan P, T. Peasgood, M. White (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. Journal of Economic Psychology vol. 29, p. 94–122
- OECD (2003). Benefits and Employment, Friend or Foe? Interactions Between Passive and Active Social Programmes. Chapter 4 in: Employment Outlook: 2003. Paris
- Zabojnik, J. (1996). Pay-performance sensitivity and production uncertainty. Economics Letters 53. 291-296.
- Weitzman, M. (1980). The ratchet principle" and performance incentives. Bell Journal of Economics, p. 302-308

## AIAS Working Papers (€ 7,50)

Recent publications of the Amsterdam Institute for Advanced Labour Studies. They can be downloaded from our website www.uva-aias.net under the subject Publications.

- 10-102 Codebook and explanatory note on the WageIndicator dataset a worldwide, continuous, multilingual web-survey on work and wages with paper surpplements
   2010 - Kea Tijdens, Sanne van Zijl, Melanie Hughie-Williams, Maarten van Klaveren, Stephanie Steinmetz
- 10-101 Uitkeringsgebruik van Migranten 2010 - Aslan Zorlu, Joop Hartog and Marieke Beentjes
- 10-100 Low wages in the retail industry in the Netherlands. RSF project Future of work in Europe / Low-wage Employment: Opportunity in the Workplace in Europe and the USA 2010 - Maarten van Klaveren
- 10-99 Pension fund governance. The intergenerational conflict over risk and contributions 2010 - David Hollanders
- 10-98 The greying of the median voter. Aging and the politics of the welfare state in OECD countries
  2010 David Hollanders and Ferry Koster
- 10-97 An overview of women's work and employment in Zimbabwe
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-96 An overview of women's work and employment in Belarus
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-95 Uitzenden in tijden van crisis (forthcoming)2010 Marloes de Graaf-Zijl and Emma Folmer
- 10-94 An overview of women's work and employment in Ukraine (forthcoming)
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-93 An overview of women's work and employment in Kazakhstan (forthcoming)
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-92 An overview of women's work and employment in Azerbaijan (forthcoming)
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-91 An overview of women's work and employment in Indonesia (forthcoming)
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 10-90 An overview of women's work and employment in India (forthcoming)
  Decisions for Life Country Report
  2010 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos

- 10-89 Coordination of national social security in the EU Rules applicable in multiple cross border situations 2010 - Jan Cremers
- 10-88 Geïntegreerde dienstverlening in de keten van Werk en Inkomen (forthcoming) 2010 - Marloes de Graaf-Zijl, Marieke Beentjes, Eline van Braak
- 10-87 Emigration and labour shortages. An opportunity for trade unions in new member states? 2010 - Monika Ewa Kaminska and Marta Kahancová
- 10-86 Measuring occupations in web-surveys. The WISCO database of occupations 2010 Kea Tijdens
- 09-85 Multinationals versus domestic firms: Wages, working hours and industrial relations 2009 Kea Tijdens and Maarten van Klaveren
- 09-84 Working time flexibility components of companies in Europe 2009 Heejung Chung and Kea Tijdens
- 09-83 An overview of women's work and employment in Brazil
  Decisions for Life Country Report
  2009 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-82 An overview of women's work and employment in Malawi
  Decisions for Life Country Report
  2009 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-81 An overview of women's work and employment in Botswana Decisions for Life Country Report
   2009 - Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-80 An overview of women's work and employment in Zambia
  Decisions for Life Country Report
  2009 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-79 An overview of women's work and employment in South Africa
  Decisions for Life Country Report
  2009 Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-78 An overview of women's work and employment in Angola Decisions for Life Country Report
   2009 - Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-77 An overview of women's work and employment in Mozambique Decisions for Life Country Report
   2009 - Maarten van Klaveren, Kea Tijdens, Melanie Hughie-Williams and Nuria Ramos
- 09-76 Comparing different weighting procedures for volunteer web surveys. Lessons to be learned from German and Dutch Wage indicator data 2009 Stephanie Steinmetz, Kea Tijdens and Pablo de Pedraza
- 09-75 Welfare reform in the UK, the Netherlands, and Finland. Change within the limits of path dependence.
  2009 Minna van Gerven
- O9-74 Flexibility and security: an asymmetrical relationship? The uncertain relevance of flexicurity policies for segmented labour markets and residual welfare regimes
  2009 Aliki Mouriki (guest at AIAS from October 2008 March 2009)

- 09-73 Education, inequality, and active citizenship tensions in a differentiated schooling system 2009 Herman van de Werfhorst
- 09-72 An analysis of firm support for active labor market policies in Denmark, Germany, and the Netherlands 2009 Moira Nelson
- 08-71 The Dutch minimum wage radical reduction shifts main focus to part-time jobs 2008 Wiemer Salverda
- 08-70 Parallelle innovatie als een vorm van beleidsleren: Het voorbeeld van de keten van werk en inkomen 2008 Marc van der Meer, Bert Roes
- 08-69 Balancing roles bridging the divide between HRM, employee participation and learning in the Dutch knowledge economy
   2008 - Marc van der Meer, Wout Buitelaar
- 08-68 From policy to practice: Assessing sectoral flexicurity in the Netherlands October 2008 - Hesther Houwing / Trudie Schils
- 08-67 The first part-time economy in the world. Does it work? Republication August 2008 - Jelle Visser
- 08-66 Gender equality in the Netherlands: an example of Europeanisation of social law and policy May 2008 - Nuria E.Ramos-Martin
- 07-65 Activating social policy and the preventive approach for the unemployed in the Netherlands January 2008 Minna van Gerven
- 07-64 Struggling for a proper job: Recent immigrants in the Netherlands January 2008 - Aslan Zorlu
- 07-63 Marktwerking en arbeidsvoorwaarden de casus van het openbaar vervoer, de energiebedrijven en de thuiszorg July 2007 - Marc van der Meer, Marian Schaapman & Monique Aerts
- 07-62 Vocational education and active citizenship behaviour in cross-national perspective November 2007 - Herman G. van der Werfhorst
- 07-61 The state in industrial relations: The politics of the minimum wage in Turkey and the USA November 2007 - Ruÿa Gökhan Koçer & Jelle Visser
- 07-60 Sample bias, weights and efficiency of weights in a continuous web voluntary survey September 2007 - Pablo de Pedraza, Kea Tijdens & Rafael Muñoz de Bustillo
- 07-59 Globalization and working time: Work-Place hours and flexibility in Germany October 2007 - Brian Burgoon & Damian Raess
- 07-58 Determinants of subjective job insecurity in 5 European countries August 2007 - Rafael Muñoz de Bustillo & Pablo de Pedraza
- 07-57 Does it matter who takes responsibility? May 2007 - Paul de Beer & Trudie Schils
- 07-56 Employement protection in dutch collective labour agreements April 2007 - Trudie Schils

- 07-54 Temporary agency work in the Netherlands February 2007 - Kea Tijdens, Maarten van Klaveren, Hester Houwing, Marc van der Meer & Marieke van Essen
- 07-53 Distribution of responsibility for social security and labour market policy Country report: Belgium January 2007 - Johan de Deken
- 07-52 Distribution of responsibility for social security and labour market policy Country report: Germany January 2007 - Bernard Ebbinghaus & Werner Eichhorst
- 07-51 Distribution of responsibility for social security and labour market policy Country report: Denmark January 2007 - Per Kongshøj Madsen
- 07-50 Distribution of responsibility for social security and labour market policy Country report: The United Kingdom January 2007 - Jochen Clasen
- 07-49 Distribution of responsibility for social security and labour market policy Country report: The Netherlands January 2007 - Trudie Schils
- 06-48 Population ageing in the Netherlands: demographic and financial arguments for a balanced approach January 2007 - Wiemer Salverda
- 06-47 The effects of social and political openness on the welfare state in 18 OECD countries, 1970-2000 January 2007 - Ferry Koster
- 06-46 Low pay incidence and mobility in the Netherlands Exploring the role of personal, job and employer characteristics October 2006 - Maite Blázques Cuesta & Wiemer Salverda
- 06-45 Diversity in work: The heterogeneity of women's labour market participation patterns September 2006 - Mara Yerkes
- 06-44 Early retirement patterns in Germany, the Netherlands and the United Kingdom October 2006 - Trudie Schils
- 06-43 Women's working preferences in the Netherlands, Germany and the UK August 2006 - Mara Yerkes
- 05-42 Wage bargaining institutions in Europe: a happy marriage or preparing for divorce? December 2005 - Jelle Visser
- 05-41 The work-family balance on the union's agenda December 2005 - Kilian Schreuder
- 05-40 Boxing and dancing: Dutch trade union and works council experiences revisited November 2005 - Maarten van Klaveren & Wim Sprenger
- 05-39 Analysing employment practices in western european multinationals: coordination, industrial relations and employment flexibility in Poland October 2005 - Marta Kahancova & Marc van der Meer

- 05-38 Income distribution in the Netherlands in the 20<sup>th</sup> century: long-run developments and cyclical properties September 2005 - Emiel Afman
- 05-37 Search, mismatch and unemployment July 2005 - Maite Blazques & Marcel Jansen
- 05-36 Women's preferences or delineated policies? The development of part-time work in the Netherlands, Germany and the United Kingdom July 2005 - Mara Yerkes & Jelle Visser
- 05-35 Vissen in een vreemde vijver: Het werven van verpleegkundigen en verzorgenden in het buitenland May 2005 - Judith Roosblad
- 05-34 Female part-time employment in the Netherlands and Spain: an analysis of the reasons for taking a part-time job and of the major sectors in which these jobs are performed May 2005 Elena Sirvent Garcia del Valle
- 05-33 Een functie met inhoud 2004 Een enquête naar de taakinhoud van secretaressen 2004, 2000, 1994 April 2005 - Kea Tijdens
- 04-32 Tax evasive behavior and gender in a transition country November 2004 - Klarita Gërxhani
- 04-31 How many hours do you usually work? An analysis of the working hours questions in 17 large-scale surveys in 7 countries November 2004 - Kea Tijdens
- 04-30 Why do people work overtime hours? Paid and unpaid overtime working in the Netherlands August 2004 - Kea Tijdens
- 04-29 Overcoming marginalisation? Gender and ethnic segregation in the Dutch construction, health, IT and printing industries July 2004 - Marc van der Meer
- 04-28 The work-family balance in collective agreements. More female employees, more provisions? July 2004 Killian Schreuder
- 04-27 Female income, the ego effect and the divorce decision: evidence from micro data March 2004 - Randy Kesselring (Professor of Economics at Arkansas State University, USA) was guest at AIAS in April and May 2003
- 04-26 Economische effecten van Immigratie Ontwikkeling van een Databestand en eerste analyses Januari 2004 - Joop Hartog & Aslan Zorlu
- 03-25 Wage Indicator Dataset Loonwijzer Januari 2004 - Kea Tijdens
- 03-24 Codeboek DUCADAM dataset December 2003 - Kilian Schreuder & Kea Tijdens
- 03-23 Household consumption and savings around the time of births and the role of education December 2003 Adriaan S. Kalwij
- 03-22 A panel data analysis of the effects of wages, standard hours and unionisation on paid overtime work in Britain October 2003 - Adriaan S. Kalwij

- 03-21 A two-step first-difference estimator for a panel data tobit model December 2003 - Adriaan S. Kalwij
- 03-20 Individuals' unemployment durations over the business cycle June 2003 - Adriaan Kalwei
- 03-19 Een onderzoek naar CAO-afspraken op basis van de FNV cao-databank en de AWVN-database December 2003 - Kea Tijdens & Maarten van Klaveren
- 03-18 Permanent and transitory wage inequality of British men, 1975-2001: Year, age and cohort effects October 2003 - Adriaan S. Kalwij & Rob Alessie
- 03-17 Working women's choices for domestic help October 2003 - Kea Tijdens, Tanja van der Lippe & Esther de Ruijter
- 03-16 De invloed van de Wet arbeid en zorg op verlofregelingen in CAO's October 2003 - Marieke van Essen
- 03-15 Flexibility and social protection August 2003 - Ton Wilthagen
- 03-14 Top incomes in the Netherlands and the United Kingdom over the Twentieth Century September 2003 - A.B.Atkinson & dr. W. Salverda
- 03-13 Tax evasion in Albania: An institutional vacuum April 2003 - Klarita Gërxhani
- 03-12 Politico-economic institutions and the informal sector in Albania May 2003 - Klarita Gërxhani
- 03-11 Tax evasion and the source of income: An experimental study in Albania and the Netherlands May 2003 - Klarita Gërxhani
- 03-10 Chances and limitations of "benchmarking" in the reform of welfare state structures the case of pension policy May 2003 - Martin Schludi
- 03-09 Dealing with the "flexibility-security-nexus: Institutions, strategies, opportunities and barriers May 2003 - Ton Wilthagen & Frank Tros
- 03-08 Tax evasion in transition: Outcome of an institutional clash -Testing Feige's conjecture March 2003 - Klarita Gërxhani
- 03-07 Teleworking policies of organisations- The Dutch experiencee February 2003 - Kea Tijdens & Maarten van Klaveren
- 03-06 Flexible work Arrangements and the quality of life February 2003 - Cees Nierop
- 01-05 Employer's and employees' preferences for working time reduction and working time differentiation – A study of the 36 hours working week in the Dutch banking industry 2001 - Kea Tijdens
- 01-04 Pattern persistence in europan trade union density October 2001 - Danielle Checchi & Jelle Visser

01-03 Negotiated flexibility in working time and labour market transitions – The case of the Netherlands 2001 - Jelle Visser

. . . . . . . . . . . . .

01-02 Substitution or segregation: Explaining the gender composition in Dutch manufacturing industry 1899 – 1998 June 2001 - Maarten van Klaveren & Kea Tijdens

. . . .

.

. .

. .

00-01 The first part-time economy in the world. Does it work? 2000 - Jelle Visser

.....

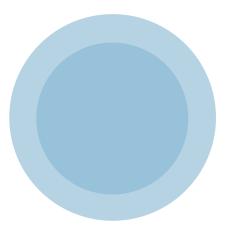
### **Information about AIAS**

AIAS is a young interdisciplinary institute, established in 1998, aiming to become the leading expert centre in the Netherlands for research on industrial relations, organisation of work, wage formation and labour market inequalities. As a network organisation, AIAS brings together high-level expertise at the University of Amsterdam from five disciplines:

- Law
- Economics
- Sociology
- Psychology
- Health and safety studies

AIAS provides both teaching and research. On the teaching side it offers a Masters in Comparative Labour and Organisation Studies and one in Human Resource Management. In addition, it organizes special courses in co-operation with other organisations such as the Netherlands Centre for Social Innovation (NCSI), the Netherlands Institute for Small and Medium-sized Companies (MKB-Nederland), the National Centre for Industrial Relations 'De Burcht', the National Institute for Co-determination (GBIO), and the Netherlands Institute of International Relations 'Clingendael'. AIAS has an extensive research program (2004-2008) on Institutions, Inequalities and Internationalisation, building on the research performed by its member scholars. Current research themes effectively include:

- Wage formation, social policy and industrial relations
- The cycles of policy learning and mimicking in labour market reforms in Europe
- The distribution of responsibility between the state and the market in social security
- The wage-indicator and world-wide comparison of employment conditions
- The projects of the LoWER network





#### Amsterdam Institute for Advanced labour Studies

University of Amsterdam

Plantage Muidergracht 12 • 1018 TV Amsterdam • The Netherlands Tel +31 20 525 4199 • Fax +31 20 525 4301 aias@uva.nl • www.uva-aias.net