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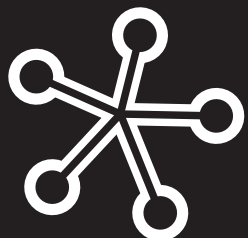


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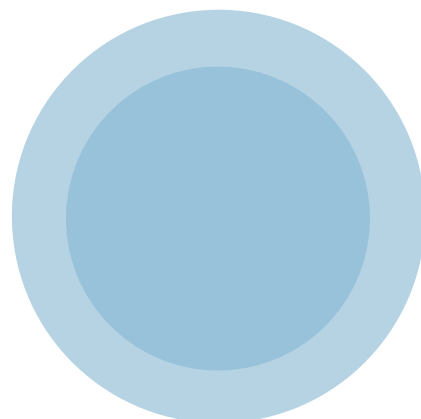
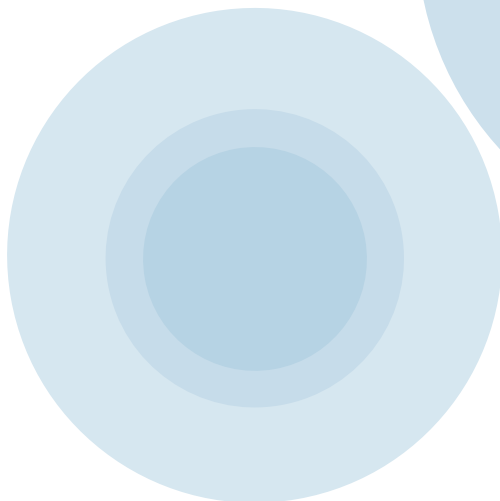
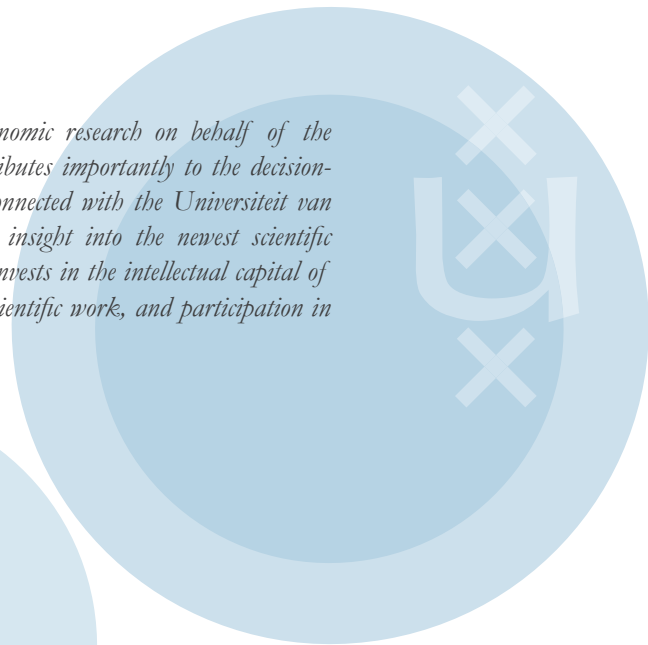
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Separate, joint or integrated?

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

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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 tested¹. 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 administering 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

1 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:

- a) 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).
- d) 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 $\{1, \dots, N\}$. 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 in all regions. Hence, agent i receives a reimbursement W_i which can be defined as follows:

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

Where:

W_i 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_i 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 $t_i \neq t_j$ for all $i \neq j$ and i, j contained in $\{1, \dots, N\}$

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

χ^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 $f > 0$ $\text{Var}(e_i)$ decreases if the number of unemployed (U) goes up or the number of regions (N) increases: if $f=0$, then $\text{Var}(e_i) = \sigma_i^2$ and if $f=1$, then $\text{Var}(e_i) = (N/U)\sigma_i^2$. 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.² 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_i , 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:

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

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 is³:

$$t_i^* = b(N/U)^\alpha$$

2 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.

3 In order to calculate the optimal effort level which maximizes utility, the first order derivative of CE_i with respect to t_i is calculated and set to zero.

2.2. Total welfare

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

$$G_P = - \sum_{i=1}^N (U/N - y_i) B - \sum_{i=1}^N \left(\frac{a}{N} + b y_i - c \frac{\sum_{i=1}^N y_i}{N} \right)$$

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:

$$G_P + CE_i = - UB + \sum_{i=1}^N y_i B - \sum_{i=1}^N \left(\frac{1}{2} r b^2 (N/U)^f \sigma_i^2 + \frac{1}{2} r b^2 \chi^2 + \frac{1}{2} t_i^2 (U/N)^\alpha \right)$$

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:

$$G_P + CE_{RA} = - UB + \sum_{i=1}^N (b(N/U)^\alpha + e_i + x) B - \frac{1}{2} r b^2 (N/U)^f \sum_{i=1}^N \sigma_i^2 - \frac{1}{2} N r b^2 \chi^2 - \frac{1}{2} b^2 N^{1+\alpha} / U^\alpha$$

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_i^2 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 unemployed (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:

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

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 $W_c - C_c =$

$$CE_{RA} = a + (b-c)y_c - \frac{1}{2} r b^2 (N/U)^f \sigma_c^2 - \frac{1}{2} r b^2 \chi^2 - \frac{1}{2} t_c^2 (U/N)^\alpha$$

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:

$$G_p + CE_{CA} = -UB + y_c B - \frac{1}{2} r(b-c)^2 (1/U)^f \sigma_c^2 - \frac{1}{2} r(b-c)^2 \chi^2 - \frac{1}{2} t_c^2 U^\alpha$$

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

$$G_p + CE_{CA} = -UB + B \left(\frac{(b-c)}{U^\alpha + e_c + x} \right) - \frac{1}{2} r(b-c)^2 (1/U)^f \sigma_c^2 - \frac{1}{2} r(b-c)^2 \chi^2 - \frac{1}{2} (b-c)^2 (1/U)^\alpha$$

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 the optimal compensation of the regional agent:

$$b = BN^{1+\alpha} / (rN^{1+f} U^{\alpha-f} \sigma_1^2 + NU^\alpha r \chi^2 + N^{1+\alpha})$$

If in this equation the number of regions is set on 1 this would yield an optimal compensation of:

$$b = B / (rU^{\alpha-f} \sigma_1^2 + U^\alpha r \chi^2 + 1)$$

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 its effort cannot be compared with the effort of other agents. Whereas a regional agent is only rewarded for its 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:

$$t^{i*} = BN^{1+2\alpha} / (rN^{1+f} U^{2\alpha-f} \sigma_1^2 + NU^{2\alpha} r \chi^2 + N^{1+\alpha} U^\alpha)$$

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 to 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 to social assistance, administered 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 γ 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.

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

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:

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

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 two groups. And even then 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 its 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 its own effort is not rewarded. However, part of its effort for the unemployed on unemployment benefit leaks away to itself. So the optimal effort of the regional agent becomes:

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

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

$$t_i^* = b(N/U)_\alpha$$

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:

$$t_1^* = h(1+\gamma)b(N/U)_\alpha$$

which is bigger than the effort in case of no cooperation if $h > 1/(1+\gamma)$. This is only the case if either γ is very high or if almost all unemployed are on unemployment benefit. However if γ is high 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.

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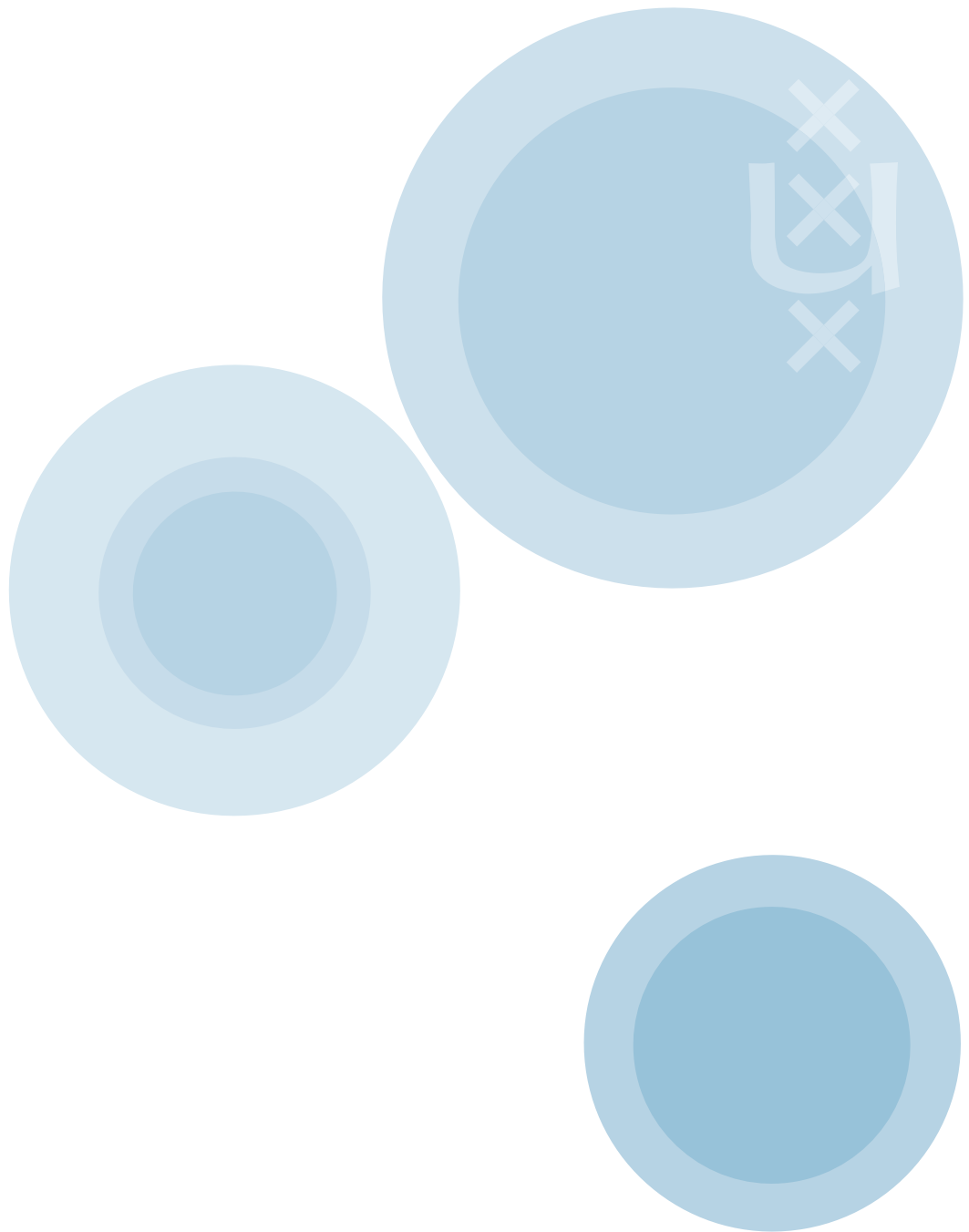
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