IPSE Studies

Cost-efficiency Wmo

Factsheet 4 | Aids and services

Jos Blank en Alex van Heezik
Stichting Instituut Publieke Sector Efficiëntie Studies

Delft, 2025

Introduction

This factsheet presents the results of an analysis of the cost-efficiency of municipal services in the field of aids and services in the context of the Social Support Act (Wmo). The Wmo focuses on supporting people who are not sufficiently self-reliant or cannot participate sufficiently. Aids and services include aids such as wheelchairs and walkers, residential facilities (including stairlifts and adapted sanitary facilities), transport facilities (e.g. mobility scooters) and housing and transport services.

The factsheet Aids and Services is part of a four-part series on the cost-efficiency of Social Support Act (Wmo) services provided by municipalities. The other published factsheets on the Wmo categories are:

- Household assistance;
- Support at home;
- Accommodation and shelter.

What is cost-efficiency?

We are talking about (cost) efficiency here, but in fact it is about productivity: the relationship between the performance delivered and the use of resources. When we compare performance between organizations, we speak of cost efficiency. If the efficiency of an organization – in this case a municipality – is 100%, this means that there is no other municipality that delivers the same performance at a lower use of resources.

Suppose that municipality X has an efficiency of 60%, then there is another municipality that delivers the same performance against only 60% of the resources that municipality X uses. Municipality X can therefore still achieve 40% cost savings. Because we only perform a cross-sectional analysis here, the concepts of productivity and efficiency coincide.

How do we determine cost effectiveness?

Econometric model

We determine the cost-efficiency of the service on the basis of an econometric model (see appendix). This model describes the relationship between the costs incurred by municipalities for the provision of services in the field of aids and services on the one hand and the services provided and customer and purchasing characteristics on the other. In contrast to the analyses of the other Wmo provisions, due to missing data, only the 'overhead ratio' (the ratio between the implementation costs and the purchasing costs) has been included as a purchasing characteristic in the model for aids and services. As a result, the interpretation of the differences in cost-efficiency between municipalities is limited.

Because this relationship is partly determined by the size of a municipality, we carry out the analyses on four different size classes of municipalities; we refer to these as size class I (small municipalities) up to and including IV (large municipalities). The details can be found in the appendix.

What data do we use?

We measure the costs of the service on the basis of the available data from Statistics Netherlands (CBS) and the data platform *Waarstaatjegemeente*. As a measure of the services provided, we use the number of clients who use the services or facilities. In addition, we use data on personal characteristics of the clients, such as the share of clients with a non-Western migration background, the share of over-60s and

the share of clients with an income of less than 30,000 euros per year. This data was also collected from the mentioned data sources.

This data has been thoroughly screened for accuracy and completeness. After municipalities with missing values have been filtered out, 316 of the 344 municipalities ultimately remain, making a responsible analysis possible. For an overview of the variables and an explanation of them, we refer to the appendix. It should be borne in mind that for the individual variables there are almost always many more observations available. In principle, all valid observations have been taken as a starting point for the single descriptions.

Results of cost efficiency

Scale effects

The analysis shows that the costs per client are strongly related to the size of the municipality. The larger a municipality is, the lower the cost per unit of service. So there are economies of scale here. For the largest municipalities, this effect is smaller than for the other municipalities. In other words, the economies of scale are smaller for large municipalities.

Effects of client characteristics

It also appears that the costs are negatively related to the share of over-60s. This implies that the costs per unit of service for this group of clients are lower on average. No such relationship could be established for the share of clients with a non-western background and the share of clients with a low income.

Effect overhead ratio

A high overhead ratio has a significant positive effect on costs in all four municipality size classes and therefore a negative effect on cost efficiency.

Size of effects: cost efficiency related to overhead

Figure 1 shows the efficiency scores of 316 municipalities. These scores are calculated only on the basis of the overhead ratio.

Figure 1 Cost efficiency of municipalities related to overhead, resources and services (N = 316)

Figure 1 shows that the cost efficiency varies from 66 to 100%. This means that there are municipalities that can deliver the same performance with only 66% of the current resources. The average of the efficiency scores is 87%. This implies that a municipality can deliver the same services at an average of 13% lower costs.

Figure 2 shows the efficiency scores of the 316 municipalities as a histogram, which provides a better insight into the distribution of the scores.

Figure 2 Histogram of cost efficiency of municipalities related to overhead, resources and services (N = 316)

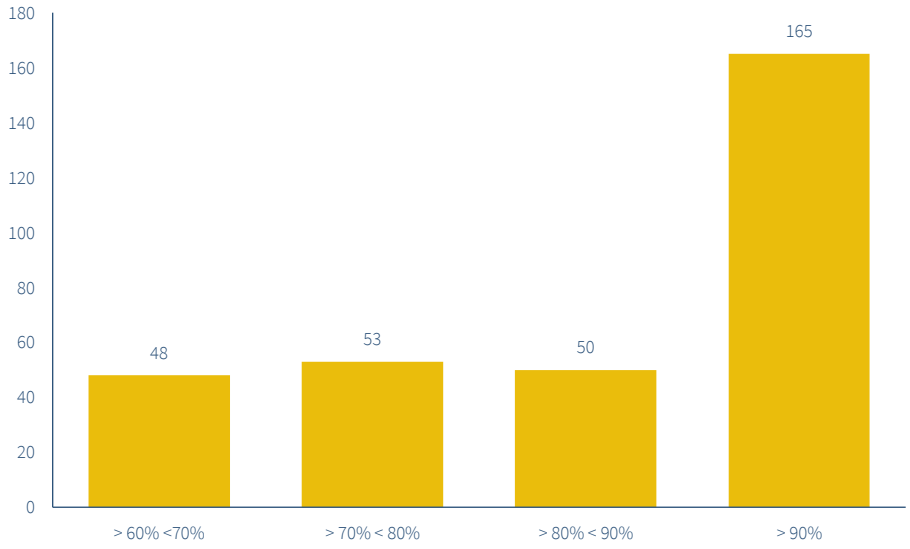


Figure 2 shows that of the 316 municipalities, 101 have an efficiency score of less than 80%. Cost savings seem possible for these municipalities, especially for the 48 municipalities that have a score of less than 70%.

As indicated earlier, we are statistically dealing with margins of uncertainty. The above results can therefore also be formulated a little more precisely. For 79% of the municipalities, they can improve their cost efficiency with a certainty of more than 90%.

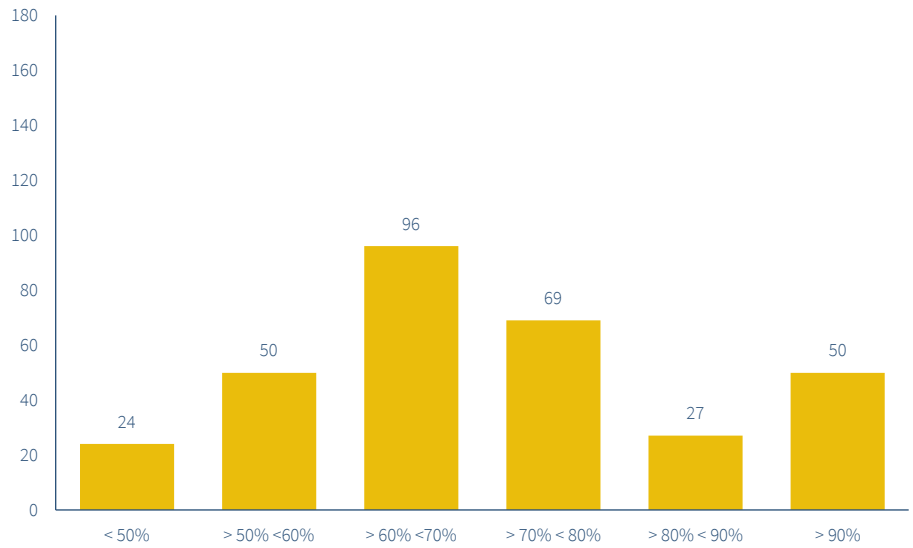
The effect of unknowns: cost efficiency not related to overhead

In addition, an estimate was made of the cost efficiency that cannot be related to the overhead. This so-called imperceptible cost-efficiency is shown in Figure 3. This shows that the scores vary from 20 to 100%. The average of these efficiency scores is 71%.

Figure 3 Non-observable cost efficiency of municipalities for aids and services (N = 316)

Figure 4 shows the scores as a histogram.

Figure 4 Histogram of imperceptible efficiency of municipalities in aids and services (N = 316)



The figures show that there are even greater differences in the imperceptible cost-efficiency. This is

probably mainly about the purchasing power of municipalities versus the market power of providers of aids and services or administrative relationships within a cooperation or mutual agreement.
It is also quite possible that one individual municipality is 'just' better at the negotiation process than another.

It is important to note that precisely because of the lack of a direct link to aspects of business operations, these figures may be distorted due to data inconsistencies or accounting corrections and the like. Nevertheless, it is useful to show these figures, because they can be an impulse for a further search for possible improvements.

Results summarized

Effects of scale, client characteristics and overhead ratio

- The costs of aids and services per client are strongly related to the size of the municipality. Larger municipalities benefit from economies of scale, which reduces the cost per unit of service. However, this effect is less pronounced in the largest municipalities.
- The costs are negatively related to the share of over-60s. This means that the costs per unit of domestic help for this group of clients are lower on average.
- No significant relationship could be established for other client characteristics (non-Western background and low income).
- A higher overhead ratio leads to increased cost, reducing cost efficiency in all municipality size classes.

Performance differences related to overhead

- The cost-efficiency scores of 316 municipalities calculated on the basis of the overhead ratio vary from 66 to 100%, with an average of 87%.
- A significant proportion of municipalities score below average, indicating opportunities for cost savings without a negative impact on performance.
- 79% of the municipalities can improve cost efficiency, with a certainty of more than 90%.

Performance differences not related to overhead

- Non-overhead-related cost efficiency ranges between 20 and 100%, with an average of 71%.

Intervision

The results of this study could help municipalities to learn from comparable municipalities (*peers*) and to gain insight into opportunities to increase efficiency through peer review. Which *peers* these are, how they score on cost efficiency and how this is influenced by different purchasing characteristics can be determined for a large number of municipalities on the basis of the research results. The results can be made available on request.

Appendix

Background

The municipal tasks in the field of social support are broadly regulated in the Social Support Act (in Dutch WMO)(Staatsblad, 2014), which came into force in 2015. The main purpose of the WMO is to set (new) rules for municipal support for people who are insufficiently self-reliant or unable to participate sufficiently, in particular people with a disability or chronic psychological problems. The goal is to let them live in their own environment for as long as possible. Municipalities must also provide facilities for sheltered housing and arrange social shelter for people who have left their home situation, for example because of domestic violence.

The WMO leaves municipalities relatively free in the way they shape their social support (Ter Haar, 2024). However, this policy freedom is limited by budgetary restrictions. Many municipalities are struggling with deficits due to inadequate government budgets (SCP, 2022). Partly as a result of these shortages, the Ministry of Health, Welfare and Sport and the VNG have started a joint research project into the long-term sustainability of the WMO 2015 (House of Representatives, 2024).

The financial problems vary from municipality to municipality. This may be related to specific socio-economic and demographic conditions, but also to differences in efficiency. Some municipalities carry out their tasks more efficiently and thus keep costs under control. Research into youth care shows that there are large differences in cost-efficiency between municipalities (Blank, Heezik & Valdmanis, 2023). This suggests that it is possible for some of the municipalities to substantially increase efficiency, creating room to reduce the financial deficits.

Because the same may apply to the Wmo tasks of the municipalities, it has been decided to analyse the cost-efficiency of the municipal implementation of the Wmo as a follow-up to the youth care study. The method used is in line with the approach of the youth care research, but has been adjusted in a number of parts. We describe this below.

Methodology

We use a cost model to calculate the cost efficiency. A cost model shows the mathematical relationship between the costs on the one hand and the services provided and client characteristics on the other (Blank & Valdmanis, 2019; Fried et al., 2008). In addition, the model contains a component that reflects cost-efficiency. This concerns the difference in costs between best practice municipalities and other municipalities. This approach is also found in a number of other studies (Alvarez et al., 2006; Blank, Heezik & Blank, 2023; Niaounakis & Blank, 2017). To the mathematical equation, in which the various components are incorporated, we also add a stochastic term for specification and measurement errors. The usual prices for the resources deployed have been omitted here, because we only have cross-sectional data and assume that municipalities are dealing with the same wages and prices. The estimated relationship is as follows:

$$\ln(c) = a_0 + \sum_m b_m \ln(y_m) \; + \sum_k d_k \ln(z_k) + eff + err \qquad (1)$$

Whereby:

c = costs;

y_m = production of service m;

z_k = percentage of deviating costs due to environmental factors;

eff = percentage of extra costs due to inefficiency;

err = specification and measurement error.

$a_0,\ b_m,\ d_k$ are the parameters of the model to be estimated. The parameter is the constant. The parameters are elasticities and represent the effect of production growth on the growth of costsa_0.

$$eff = \exp[-\textstyle\sum_l \theta_l \ln(u_l)] \qquad (2)$$

Whereby:

u_l = purchasing characteristic of a municipality;

θ_l = parameters to be estimated.

We use a method that makes a separate estimate for each cluster of comparable municipalities. Large cities such as Amsterdam and Utrecht, for example, do not play a role in the estimate for a small municipality such as Roozendaal (Gld). We distinguish a limited number of clusters based on municipality size.

Advantages of this method are:

- A simple specification will suffice.
- Results are much more accurate than those of one analysis of all municipalities at the same time.

Model reliability testing:

- common tests, such as R2, t-tests, etc.;
- a skew test answers the question of whether there is any more (unobserved) inefficiency;
- different sets of outputs, environmental and efficiency indicators have been applied.

This is different from previous studies (Blank & Heezik, 2023; Blank, Heezik & Valdmanis, 2023), using *locally weighted least squares*. In those studies, we included the degree of comparability in the weighting of the estimates. The disadvantage of this method is that it creates a variety of results that actually require a follow-up analysis. The transparency of the results presented here is much greater.

Purchasing Attribute

With equation 2, we calculate the cost-efficiency of the service that is related to various purchasing characteristics, such as contract duration, type of outsourcing and form of funding. However, data on this are not available for the Wmo provision for aids and services. Therefore, only the 'overhead ratio' was included in the model as a purchasing characteristic in the analysis. The overhead ratio is the ratio between the (netted) implementation costs and the programme costs (purchasing costs). We use this to measure the effort of a municipality to manage purchase.

Statistical description

Table B1 contains a statistical description of the original data as used in the statistical analysis. No selection has yet been made of municipalities that were ultimately included in the analysis. For the analysis, only the data from those municipalities for which none of the variables are missing are used. In the case of the overhead ratio, extreme values are capped. This concerns a limited number of municipalities.

Table B1 Statistical description of all variables used in the model

Variabele	Observati-ons	Average	Standard deviation	Minimum	Maximum
Cost	340	2439,398	4235,136	60,000	54967,000
Number of clients	320	2299,063	4128,715	30,000	54875,000
Share of non-western immigrants	323	0,048	0,051	0,005	0,407
Share of over-60s	323	0,790	0,048	0,614	0,914
Share of low income	323	0,575	0,073	0,005	0,748
Overhead ratio	344	0,215	0,188	0,010	0,500

Estimation results

The analyses are carried out on four different databases, distinguished by four size classes of municipalities:

- up to 20,000 inhabitants (N = 66);
- 20,001-35,000 inhabitants (N = 107);
- 35,001–60,000 inhabitants (N = 82);
- From 60,001 inhabitants (N = 61).

To ensure that the efficiency measurements of the individual municipalities at the tails of the clusters (e.g. a municipality with 19,950 inhabitants) are also based on larger municipalities, we use larger (overlapping) size classes for the regression analyses:

- up to 30,000 inhabitants (N = 145);
- 15,001–40,000 inhabitants (N = 158);
- 25,001-70,000 inhabitants (N = 158);
- from 35,000 inhabitants (N = 143).

Table B2 contains the estimation results of the analyses by size class of municipalities. The values with a statistical significance of 5 and 10% are indicated by ** and *, respectively.

Table B2 Results summarised: parameter estimates by size class of municipalities

	≤ 30.000	15.001-40.000	25.001-70.000	≥ 35.000
Constant	-1,451 **	-1,486 **	-1,243 **	-1,114 **
Number of clients	0,741 **	0,617 **	0,728 **	0,916 **
Share of non-western immigrants	0,004	0,001	0,013	0,026
Share of over-60s	-1,424 **	-0,914 **	-1,391 **	-2,411 **
Share of low-income households	0,017	0,115	-0,247	-0,152
Overhead ratio	0,702 **	0,654 **	0,685 **	0,601 **
Number of observations	145	158	158	143
R-squared	0,78	0,48	0,57	0,84
Log-likelihood	-30,71	-38,58	-27,97	-20,47

** $p < 0,05$; * $p < 0,1$

Names of 316 municipalities in final analysis

Aa en Hunze	Borne	Eemnes	Hengelo
Aalten	Borsele	Eemsdelta	Het Hogeland
Achtkarspelen	Boxtel	Eersel	Hillegom
Alblasserdam	Breda	Eijsden-Margraten	Hilvarenbeek
Albrandswaard	Brielle	Eindhoven	Hilversum
Alkmaar	Bronckhorst	Elburg	Hoeksche Waard
Almere	Brummen	Enkhuizen	Hof van Twente
Alphen aan den Rijn	Brunssum	Enschede	Hollands Kroon
Alphen-Chaam	Bunnik	Epe	Hoogeveen
Altena	Bunschoten	Ermelo	Hoorn
Ameland	Buren	Etten-Leur	Horst aan de Maas
Amersfoort	Capelle aan den IJssel	Geertruidenberg	Houten
Amsterdam	Castricum	Geldrop-Mierlo	Huizen
Apeldoorn	Coevorden	Gemert-Bakel	Hulst
Arnhem	Cranendonck	Gennep	Kampen
Assen	Culemborg	Gilze en Rijen	Kapelle
Asten	Dalfsen	Goes	Katwijk
Baarle-Nassau	Dantumadiel	Goirle	Kerkrade
Baarn	De Bilt	Gorinchem	Koggenland
Barendrecht	De Fryske Marren	Gouda	Krimpen aan den IJssel
Barneveld	De Ronde Venen	Groningen	Krimpenerwaard
Beek	De Wolden	Gulpen-Wittem	Laarbeek
Beekdaelen	Delft	Haaksbergen	Land van Cuijk
Beesel	Den Haag	Haarlem	Landgraaf
Berg en Dal	Den Helder	Haarlemmermeer	Landsmeer
Bergeijk	Deurne	Halderberge	Lansingerland
Bergen L	Deventer	Harderwijk	Laren
Bergen NH	Diemen	Hardinxveld-Giessendam	Leeuwarden
Bergen op Zoom	Dijk en Waard	Harlingen	Leiden
Berkelland	Dinkelland	Hattem	Leiderdorp
Bernheze	Doesburg	Heemskerk	Leidschendam-Voorburg
Best	Doetinchem	Heemstede	Lelystad
Beuningen	Dongen	Heerde	Leudal
Beverwijk	Drechterland	Heerenveen	Leusden
Bladel	Drimmelen	Heeze-Leende	Lingewaard
Blaricum	Dronten	Heiloo	Lisse
Bloemendaal	Druten	Hellendoorn	Lochem
Bodegraven-Reeuwijk	Echt-Susteren	Hellevoetsluis	Loon op Zand
Boekel	Edam-Volendam	Helmond	Lopik
Borger-Odoorn	Ede	Hendrik-Ido-Ambacht	Losser

Maasdriel	Opsterland	Soest	Waalre
Maasgouw	Oss	Someren	Waalwijk
Maashorst	Oude IJsselstreek	Son en Breugel	Waddinxveen
Maassluis	Ouder-Amstel	Stadskanaal	Wageningen
Maastricht	Oudewater	Staphorst	Waterland
Meerssen	Overbetuwe	Stede Broec	Weert
Meierijstad	Papendrecht	Steenbergen	West Betuwe
Meppel	Peel en Maas	Steenwijkerland	West Maas en Waal
Middelburg	Pekela	Stein	Westerkwartier
Midden-Delfland	Pijnacker-Nootdorp	Súdwest-Fryslân	Westerveld
Midden-Groningen	Purmerend	Terneuzen	Westerwolde
Moerdijk	Putten	Terschelling	Westland
Molenlanden	Raalte	Texel	Weststellingwerf
Montferland	Reimerswaal	Teylingen	Westvoorne
Montfoort	Renkum	Tiel	Wierden
Mook en Middelaar	Renswoude	Tilburg	Wijchen
Neder-Betuwe	Reusel-De Mierden	Tubbergen	Wijdemeren
Nederweert	Rheden	Tynaarlo	Wijk bij Duurstede
Nieuwegein	Rhenen	Tytsjerksteradiel	Winterswijk
Nieuwkoop	Ridderkerk	Uitgeest	Woensdrecht
Nijkerk	Rijssen-Holten	Uithoorn	Woerden
Nijmegen	Rijswijk	Urk	Woudenberg
Nissewaard	Roerdalen	Utrecht	Zaanstad
Noardeast-Fryslân	Roermond	Utrechtse Heuvelrug	Zaltbommel
Noord-Beveland	Roosendaal	Valkenburg aan de Geul	Zandvoort
Noordenveld	Rotterdam	Valkenswaard	Zeewolde
Noordoostpolder	Rozendaal	Veendam	Zeist
Nuenen, Gerwen en Nederwetten	Rucphen	Veenendaal	Zevenaar
Nunspeet	Schagen	Veere	Zoetermeer
Oegstgeest	Scherpenzeel	Veldhoven	Zoeterwoude
Oirschot	Schiedam	Velsen	Zuidplas
Oisterwijk	Schiermonnikoog	Venlo	Zundert
Oldambt	Schouwen-Duiveland	Venray	Zutphen
Oldebroek	's-Hertogenbosch	Vijfheerenlanden	Zwartewaterland
Oldenzaal	Simpelveld	Vlaardingen	Zwijndrecht
Olst-Wijhe	Sint-Michielsgestel	Vlieland	Zwolle
Oost Gelre	Sittard-Geleen	Vlissingen	
Oosterhout	Sliedrecht	Voerendaal	
Ooststellingwerf	Sluis	Vught	
Opmeer	Smallingerland	Waadhoeke	

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Colophon

About the study

This factsheet presents results of research that is part of the IPSE Studies research programme 2024-2026 (*Public productivity measured: implementing organisations, municipalities and sectors*). The research programme is subsidised by the Ministry of the Interior and Kingdom Relations (BZK) within the framework of the Knowledge of the Government programme.

Publisher

IPSE Studies
Delft, 2025

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E: info@ipsestudies.nl
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