

**The Comparative Performance of For-profit, Public and Third-sector Providers  
in the Field of “Voucher Services” in Belgium:  
a DEA Frontier Approach**

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**ABSTRACT**

The “service voucher” scheme recently launched by the Belgian government to fight unemployment provides a major example of a fast developing quasi-market in which providers of all types compete. This paper presents a comparative analysis of technical efficiency for various categories of organisations operating in this field and belonging to the for-profit, the non-profit and the public sectors. Results suggest that the most efficient organizations vary greatly depending on the specification of the outputs expected from the providers. More specifically, when indicators related to the training and supervision of unemployed people put back to work and the type of labour contracts proposed to the latter are introduced to enlarge the specification of the production, third sector organizations tend to perform better than public organizations and for-profit firms.

## **Introduction**

Quasi-markets introduce regulated competition between public, for-profit and third-sector providers. The need to compare and evaluate these different providers has therefore become an important issue. However, except for some particular fields (such as schools, hospitals and nursing homes), such comparative evaluations between different types of providers remain rather scarce, especially in terms of economic efficiency.

In this paper, we will focus on a comparative performance analysis of the various types of providers operating within the “service voucher” scheme introduced by the Belgian government in the area of domestic services. We won’t repeat all descriptive features of that scheme already detailed in the previous article of this special issue (Defourny et al., 2010). We will also rely on the same survey and we will address various issues already dealt with by these authors. However, we will do so in a totally different perspective focusing on the comparative technical efficiency of the providers, the output of the latter being defined in different ways.

We will first look at some theoretical arguments as to the expected behaviours of for-profit, non-profit and public providers when competing in a same market and we will see how relevant these arguments may be in our specific field of study (section 1). For our empirical work, we present the data, the Data Envelopment Analysis techniques as well as the various specifications of the production we will use, gradually enlarging the definition of providers’ outputs beyond the sole quantity of service (section 2). Having reached efficiency scores for the various types of providers, we will try to see if differences among those various categories can be explained by factors like ownership structure and other contextual characteristics (section 3).

### **1. Defining and approaching the performance of voucher service providers**

If we consider a rather standardized product such as an hour of cleaning service, provided at a fixed price, a first approach of comparative performance among providers may refer to cost efficiency in a simple way: the best performer is the one which provides the highest quantity of services at a given

cost or a given quantity of services at the lowest cost. In such a case, that provider also has the highest profitability (at least for a given quantity or cost). Such a situation may be seen as the classical target of a for-profit whose principals are equity owners who seek the best returns on their investments and have strong incentives (through their profit claims) to monitor the firm toward such a direction.

Compared to such a situation, the “property rights” school stresses problems non-profit or public enterprises may face when ownership rights are not in the hands of those who control the organization. The monitoring of managers may therefore prove to be less strictly orientated toward cost efficiency, unless the motivations of the managers and the organisational design are such that they may solve agency problems in a way which is as effective as in a traditional for-profit firm (Fama and Jensen, 1983).

This first ownership issue may result in different behaviours among types of organisations but our approach of comparative performance has also to take into account the fact that the output of voucher service providers is much more complex than a standardized product. Indeed, it can be argued that we have here two quite distinct categories of buyers: the direct user of the service, who pays about a quarter of the service's overall production cost, on the one hand, and the government, who pays the three other quarters of the production cost, on the other hand. While the direct user mainly or exclusively cares about the quality of the provided service (especially at a fixed price), the government is mainly concerned with job creation and reduction of undeclared employment, so as to reduce unemployment. As stated in the law which created the service voucher scheme, the government is also concerned with the overall quality of those jobs, especially in terms of stability and fulfilment of certain conditions as to the minimum number of work hours and the type of work contract proposed after a certain period. Those dimensions are probably also important for the managers and other decision makers of public and non-profit providers.

We could also argue that all providers in this specific industry have three or four stakeholders, namely the principals, the direct service users, the government and the workers (probably looking for job quality), who all value differently the various types of outputs and outcomes.

In any case, it seems straightforward that the providers' performance cannot be apprehended through the cost efficiency criterion. However, provided that the outputs or outcomes should be defined so as to capture major concerns of the second (governmental) buyer, cost efficiency can still be used as a key criterion to ensure that public funds are used in the best possible way.

Still, empirical attempts to measure performance in fields like services, even through the cost-efficiency evaluation, are facing major challenges, as some attributes of the service may not be observable. It is why many studies trying to compare for-profit, non-profit and public providers of services tend to focus on observable outputs and observable dimensions of service quality (or, more precisely, dimensions of quality which are relatively easy to monitor or assess); these dimensions are what Weisbrod and Schlesinger (1986) term "Type I dimensions". "Type II dimensions" are those which are difficult to monitor because customers (here, the direct users and the government) suffer from asymmetric information in their relation with producers.<sup>1</sup>

For the direct users of voucher services, unobservable attributes of the service refer mainly to the quality of the house cleaning, especially if they are not at home or if they do not have the time or the willingness to check such a quality in details. However, it seems possible to argue that, although not on the spot of the service delivery, the managers of the providing organisation explicitly or implicitly receive an overall evaluation of the service through more or less frequent complaints or the absence of such feedback. We may expect that all types of providers will care about delivering a quality of service which is at least sufficient to avoid losing customers. In such a perspective, however, the mix of management decisions - firing a worker, assigning him or her to another customer, developing

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<sup>1</sup> Schlesinger and Gray (2006) offer a large survey of the literature comparing nursing homes with different ownership structures while making clear distinctions between Type I and Type II dimensions.

training programs, monitoring strategies or pressures to avoid absenteeism - will probably differ according to the main goals of the providers.

As to the other “customer” (the government), the main observable dimension it cares about is the number of jobs created. As to job quality, many parameters are affected by a severe asymmetry of information, but this asymmetry may be at least partly overcome in two ways. Firstly, the service voucher law has imposed various requirements on providers. However, these will be effective only if the providers’ compliance with these requirements is controlled. Secondly, some providers may send signals indicating that they particularly care about job quality and integration of the hard-to-place jobseekers, either through the traditional non-distribution constraint (in spite of the well-known limitations of such a constraint) or through an explicit accreditation as work integration enterprise or as home care provider. As already mentioned, such providers may even receive some additional subsidies for pursuing those “accredited” goals.

These elements suggest that all providers do not probably behave in the same way as to their jobs’ quality, although it is likely that they all try to offer a quality at least sufficient to avoid losing workers.

In short, the diversity of the providers’ main objectives as well as the complexity of the outcome mix in this “industry” lead us to expect differences in terms of performance level, at least according to the dimensions taken into account in such an overall performance.

## **2. Method, data and specifications of the production**

There are various methods to approach the comparative performance of the various types of producers, from descriptive indicators through more sophisticated indexes or econometric methods. In line with the above discussion as to an enlarged conception of performance as well as with a legitimate search for a cost-efficient use of public resources, we have chosen to focus on the cost efficiency (also named technical efficiency) of the production of two outputs or outcomes “embedded” in the voucher service, namely the quantity of housework provided (the number of vouchers received by a provider) and, after

this first step, the job quality apprehended through some indicators. No survey is available about the service quality as perceived by the direct users, so we make the assumption that, given a fixed price, all providers try to offer at least the minimum level of quality needed to keep their customers.

In order to calculate the technical efficiency of organisations for different specifications of the production, we use the Data Envelopment Analysis (DEA) method. As already mentioned in the introduction, the underlying idea is indeed to compare providers on the basis of their production, using different – and increasingly larger - notions of production, including, at each stage of analysis, different job quality indicators. The idea is firstly to compare the three sectors on the basis of their technical efficiency. We then compare the seven categories of providers as defined by the typology presented in the previous article of this volume, and we integrate in our analysis the existing differences in terms of mission pursued by the organizations, with a view to completing our first results.

### ***2.1 The DEA method***

The DEA approach measures the firm's efficiency, a notion developed by Farrell (1957). According to this author, a firm is technically efficient if it obtains maximal outputs from a given set of inputs (output-oriented approach), or alternatively if it minimizes inputs for a given set of outputs (input-oriented approach). In order to construct the production frontier and thus to measure the firm's efficiency, different empirical approaches exist. These are different according to whether they are parametric or not and deterministic or stochastic (Hollingsworth et al, 1999). Data Envelopment Analysis (DEA) is a non-parametric and deterministic approach which allows to catch efficiency scores of each decision-making unit (or DMU) by calculating the distance between DMUs and the production frontier (this distance is then considered as an inefficiency measure). Although this approach has the disadvantage to be sensible to "outliers", it also has different advantages. First of all, because of its non-parametric characteristic, DEA does not assume any specific functional form. The production frontier is then quite easily built, thanks to the best practices observed in the population, with the only requirement that each firm be on or under the production frontier. The DEA approach does not need to

a priori assume weights on the multiple inputs and outputs of DMUs. Secondly, DEA can handle multiple inputs and multiple outputs of the decision-making units (or DMUs). Thirdly, this approach also satisfies unit invariance.

In order to compare voucher service organizations (our DMUs), we consider the DEA model under the assumption of variable returns to scale (VRS). This model, developed by Banker, Charnes and Cooper (1984), adjusts the model of constant returns to scale developed by Charnes, Cooper and Rhodes in 1978 by adding a new convexity constraint. Moreover, we use the output-oriented version of this model to measure the firm’s efficiency. In any case, the choice for a particular orientation is not as important in DEA approaches as it is in econometric studies (Coelli and al, 2005). In particular, the choice of an orientation has only limited effects on the efficiency scores obtained by organizations (Coelli and Perelman, 1999).

## **2.2. Collected data**

The data we use in the three tested specifications are based on diverse sources. Firstly, it originates from surveys carried out on a sample of 52 organisations located in the three regions of Belgium and belonging to the different categories of providers identified in our typology. In addition, in order to complete our data as well as to add some complementary variables, two exhaustive databases from the Belgian national office for employment (“ONEM”) have been used. The first one provides data about the amount of service vouchers reimbursed annually to each organisation. The second provides information on the contracts of every worker involved in the system of service vouchers.

**Table 2: Sample of voucher service providers used for the DEA method**

<b>Categories</b>	<b>Number of organisations</b>
Work integration social enterprises	7
Public work integration organizations (local welfare offices, local employment agencies, municipalities)	9
Accredited home care providers, registered as associations	4

Accredited home care providers, registered as local welfare (public) offices	5
Temporary work companies	3
Other private commercial companies	5
Other third-sector organisations	5

The database constituted in this way has been arranged carefully. Providers presenting incoherent data were deleted. Since all data used referred to 2006, the few providers of the sample who had begun their activities in 2007 were deleted too. Finally, some organisations could not be included in the final database because pieces of information were missing. *In fine*, out of the 52 organisations initially surveyed, 38 have been used in our specifications. These organisations are spread among the various categories of our typology as presented in Table 2.

### 2.3. Variables and specifications

The first specification tested, that we call the “restricted specification of the production”, takes into account the sole production of providers in the more narrow sense: the inputs defined by the number of workers in FTE are only put in relation with the “number of reimbursed service vouchers” output. The choice of the sole “labour” factor in the input category seems relevant in the case of domestic services, given the low importance of the “capital” factor for this type of service. It allows to determine which kinds of organisation are able to get the highest amount of voucher services and hence to provide the highest number of paid service hours with a fixed number of employees (house-workers and supervisors).

**Table 3: Restricted specification of the production**

<b>INPUTS</b>	
<b>HW FTE</b>	Number of house-workers in full-time equivalent in 2006
<b>SP FTE</b>	Number of supervisors in full-time equivalent in 2006
<b>OUTPUTS</b>	

<b>VS</b>	Number of service vouchers reimbursed in 2006
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In order to go further than the sole productive aspects of efficiency, we have then developed a specification of the production that includes, in the outputs, two elements related to job's quality, namely the training provided to the workers and the meeting which are organised to discuss and solve various problems faced by the workers. This specification presents at least two advantages. First, it considers that the working time considered in the inputs actually generates an output which is made of the labour paid *via* service vouchers and the hours of training and meeting.<sup>2</sup> Secondly, it integrates elements of job quality that are crucial, given that most workers involved here are low-qualified workers.

**Table 4: Enlarged specification of the production**

<b>INPUTS</b>	
<b>HW FTE</b>	Number of house-workers in full-time equivalent in 2006
<b>SP FTE</b>	Number of supervisors in full-time equivalent in 2006
<b>OUTPUTS</b>	
<b>VS</b>	Number of service vouchers reimbursed in 2006
<b>TRAIN + MEET</b>	Training hours in 2006 + meeting hours in 2006

In order to build the TRAIN variable, we have considered the number of training hours that each organisation claims to provide per year and per worker. This result has then been multiplied by the number of HW who, according to the organisation, actually benefited from such training in each company. As to the MEET variable, it relies on the assumption that most meeting hours for supervision contribute to improve the quality of the job and/or of the service provided to users as well as workers' qualification as a factor of reduced probability to fall unemployed, an output which may be valued by both workers and the government.

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<sup>2</sup> In order to be complete, we should also have included the time spent by houseworkers travelling between different workplaces. Unfortunately, these data were not available. Nevertheless, by integration a variable related the population density in the regressions on efficiency scores (see hereafter), we probably capture part of this factor.

The third and last specification tested is the extended model. This model, which aims to capture the stability of the contracts offered to the workers, adds a complementary factor of employment quality in the set of outputs. Similarly to the former one, this specification aims to consider the underlying logic of the service voucher mechanism, i.e. a policy aiming to create jobs and to rehabilitate low-qualified workers. The introduction of an indicator based on the type of labour contract is particularly interesting as providers have different policies regarding this criterion.

**Table 5: Extended specification of the production**

<b>INPUTS</b>	
<b>HW FTE</b>	Number of house-workers in full-time equivalent in 2006
<b>SP FTE</b>	Number of supervisors in full-time equivalent in 2006
<b>OUTPUTS</b>	
<b>VS</b>	Number of service vouchers reimbursed in 2006
<b>TRAIN + MEET</b>	Training hours in 2006 + meeting hours in 2006
<b>STAB</b>	$\frac{HW \text{ under open – ended contract on Dec.31,2006}}{HW \text{ under contract on December31,2006}}$

### 3. Efficiency scores and the role of the ownership structure

Table 6 provides some basic information as to the efficiency scores identified by a VRS output-oriented model for the different specifications.

**Table 6: Summary statistics of DEA method**

	Mean	Standard deviation	Minimum	Maximum	% of efficient organisations
Restricted specification	0.396	0.202	0.173	1	7.9%

Enlarged specification	0.575	0.287	0.173	1	21%
Extended specification	0.940	0.118	0.456	1	57.9%

The share of efficient organisations (score = 1) is higher when using larger conceptions of the production, as the growing number of variables included in the model offer more possibilities to perform well.

### ***3.1. What induces efficiency: A second-stage analysis***

Since we wanted to analyze the impact of the ownership structure of service voucher organizations on their technical efficiency, we defined a “sector” dummy variable, which refers to the sector of the organisations (the public sector being the reference), or alternatively a “category” dummy variable, which refers to the seven categories of providers identified (work integration public organisations being the reference). Other contextual characteristics taken into account in the model were the size of the organization (size of its workforce), the age of the organizations (expressed in months, as the system was created recently), the population density of areas where organizations operate and the “regional location” of organizations (a dummy variable was created for organizations based in Flanders, Brussels and Wallonia, with the last one used as a reference).

To regress efficiency scores on these variables, we used the following Tobit model<sup>3</sup> :

$$Efficiency\ scores_i = \beta_0 + \beta_1 SECTOR_i + \beta_2 SIZE_i + \beta_3 AGE_i + \beta_4 DENSITY_i + \beta_5 LOC_i + \epsilon_i$$

Or alternatively:

$$Efficiency\ scores_i = \beta_0 + \beta_1 CATEGORY_i + \beta_2 SIZE_i + \beta_3 AGE_i + \beta_4 DENSITY_i + \beta_5 LOC_i + \epsilon_i$$

### ***3.2. Role of the ownership structure when considering the restricted specification***

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<sup>3</sup> We used a Tobit regression method, since our dependant variable is bounded between 0 and 1.

When using the restricted specification of the production, sector-based comparative analyses show that, in terms of efficiency, third-sector and for-profit organizations obtain better results than public providers (table 7a). With for-profit organizations chosen as a reference, the regression furthermore shows that for-profit organizations are significantly more efficient than third-sector and public organizations (table 7b). This is not a surprising result: for a given set of inputs, for-profit providers indeed are expected to focus exclusively on income-generating strategies and to maximize the resources coming from the reimbursement of service vouchers. Such strategies will include minimizing both the number of staff workers to monitor house-workers and the non-productive hours of the latter devoted to training and meeting. They may also avoid counting travel time from a workplace to another in the paid hours as well as involve pressures to minimize absenteeism.

As to differences in efficiency scores obtained by third-sector and public organizations, they can probably be explained by different ways of functioning. Public organizations generally rely on a more bureaucratic and hierarchical management, which makes their organisation heavier and less flexible. In a restricted view of production, these characteristics lead to lower efficiency scores, resources being equal. Moreover, third-sector organisations, since they are private entities, bear greater risks than public organisations, which cannot go bankrupt. They are therefore more strongly induced to use their resources efficiently, in order to ensure their viability.

These first results are supported by the model that tests the “category” effects (table 8). All for-profit organizations (temporary work companies and other private commercial companies) obtain a positive and statistically significant coefficient. We also have to notice the positive coefficient obtained by accredited home care NPOs, which can probably be accounted for by the experience accumulated by these providers in managing and planning their traditional home care services which require to a large extent the same kind of tools and practices as those needed by the voucher services. For instance, we refer here to past experience in managing services supported by public subsidies and to planning tools which allow to minimize waste of time by house-workers when travelling from a user’s home to another. Such transfers of experience within the same organization may certainly contribute to

improve workers' productivity. In this context, the non significance of the coefficient obtained by accredited home care public providers may seem surprising, as they follow the same mission and thus theoretically also benefit from the same kind of accumulated experience as accredited home care NPOs. However, the already mentioned differences between public and third-sector operators in management styles and search for economic viability should probably be kept in mind. Moreover, although we do not have evidence on this, some field actors suggest house-workers hired by those public providers may experience more precarious living conditions as they more often rely on minimum assistance schemes.

By maximizing the number of hours provided at the user's home and, consequently, the number of service vouchers, for-profit providers and accredited home care NPOs seem to favour productive aspects of their activity more than the other types of organizations do. However, we do not know so far whether this choice is made to the detriment of non-productive activities which could for instance improve the qualification of the workers or the overall job's quality. It is why we now turn to an analysis based on larger conceptions of the production.

### ***3.3. Role of the ownership structure when considering the enlarged specification***

With a specification of the production enlarged to training activities and meetings for supervision, third-sector organizations remain more efficient than public organizations (table 7a, second column). However, for-profit organizations no longer perform better than public organizations. Furthermore, the alternative version, with for-profit organizations chosen as a reference, no longer presents for-profit organizations as more efficient than third-sector organizations (table 7b). For-profit organisations thus lose their status of "most efficient organizations" when aspects linked with job quality are taken into consideration in the measurement of efficiency.

These results can be better interpreted when considering the "category" effects as well (table 8). Indeed, the results for third-sector organisations are to a large extent linked to the fact that both work

integration social enterprise and accredited home care NPOs obtain a significant and positive coefficient.

Here again, the higher scores of accredited home care NPOs can be partly explained by a transfer of functioning patterns from the section of the organisation dedicated to the accredited home care services to the newly created section devoted to voucher service activities (Vermer et al, 2008). We especially refer here to practices concerning workers' training and supervision, two dimensions which are precisely taken into account in the enlarged specification of the outputs/production. This effect is probably combined with the more general transfer of experience already identified in the restricted specification.

Moreover, the results reached by these NPOs are also linked to a probably important “shared resources” effect. “Shared resources” are resources of an organization for its traditional activities and put at the disposal of its new voucher service section (for free or under-priced in internal accounting terms). For instance, a NPO can make an accountant or premises available, free of charge, to its voucher service section and therefore improve the observable efficiency of the latter through those hidden inputs. This phenomenon which could not be apprehended through our survey can of course occur in every type of organization which has other activities than just the voucher services and it may have an positive impact on efficiency with both the restricted and the enlarged specification of production<sup>4</sup>.

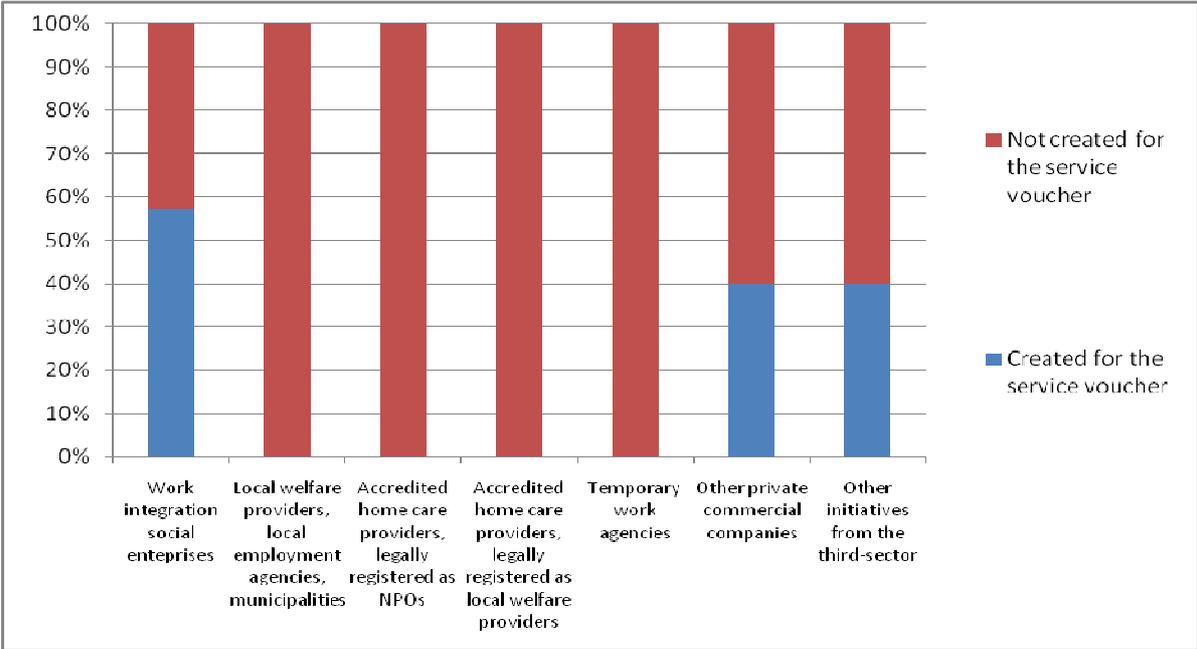
As suggested by Figure 1, the “shared resources” effect probably plays a greater role for providers such as accredited home care providers (both non-profit and public), public work integration initiatives and temporary work companies which generally existed before the setting up of voucher service activities. As a result, in addition to factors already listed, it may contribute to explain higher “restricted” efficiency of both accredited home care NPOs and temporary work companies. It probably

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<sup>4</sup> Shared resources can have a significant impact on efficiency with the enlarged specification of production when they are represented by employees providing training and supervision to house-workers.

also explains part of the higher “enlarged” efficiency of both non-profit and public accredited home care providers (table 8).

**Figure 1: Share of organizations specifically created to operate in the service voucher scheme within the sample of 38 organisations**



Source: survey data

As to the positive coefficient obtained by work integration social enterprises for the “enlarged” efficiency, it can be explained by the specific mission they pursue. These organizations indeed try to create jobs by developing productive activities with disadvantaged workers, notably unemployed people who have not reached the upper secondary school level. Such a social mission leads these organisations to be accredited by regional governments and to receive public subsidies in order to train and supervise their workers. Unlike shared resources, which remain hidden, these additional resources are taken into account by the “supervisors (SP FTE)” variable in all our specifications of the production. The positive and significant coefficient of work integration social enterprises thus tends to suggest that these organisations make an efficient use of these resources provided those activities related to their social mission are considered as valuable outputs.

If we come back to the “enlarged” efficiency of the whole third-sector as compared to the for-profit sector (table 7b), it however appears to be mitigated by the non significant coefficient obtained by the “other initiatives” from the third-sector (table 8). This is mainly due to the fact that these organisations less frequently offer training to their workers.

The results for the public sector are somehow positively influenced by the scores obtained by accredited home care public organizations. These can rely, as already stated, on transfers of experience and shared resources. However, the performance of the public sector as a whole is also negatively affected by the scores obtained by work integration public organizations (reference of the model), despite the fact that these organizations are theoretically close to work integration social enterprises and can moreover benefit from more shared resources than their third-sector counterparts. Again, such differences may be explained by potential differences between third-sector and public organizations in terms of management (and perhaps workers’ profiles). Furthermore, some work integration public organizations acting as local welfare providers for deeply disadvantaged users sometimes pursue a home care mission rather than a work integration mission. For such organisations, aspects linked to job quality may have a lower priority than more global objectives linked to home care as well as the personal and social life of these persons.

In conclusion, when using the enlarged specification of production, for-profit organizations no longer perform better than other types of organization. Unlike home care NPOs, for-profit providers are no longer significantly more efficient than other organisations when job quality aspects are included in the model (and this holds true both for temporary work companies and other private commercial companies). For-profit organizations seem to privilege productive hours at the expense of non-productive hours dedicated to the workers' training and supervision. Our analysis however does not cover all aspects of workers’ guidance and more detailed indicators used elsewhere suggest strong differences in the behaviour of temporary work companies and other private commercial companies, the latter being, in several aspects, more concerned than the former with the quality of the jobs offered (Henry, Nassaut and Nyssens, 2009).

### ***3.4. Role of the ownership structure when considering the extended specification***

The extended specification of the production takes into account a variable related to the stability of the contracts offered, that is the proportion of house-workers under open-ended contracts. To the extent the government wants to foster the creation of stable jobs through the service voucher scheme, it seems reasonable to give some weight to providers' practices oriented toward such a perspective. Of course, an open-ended labour contract does not necessarily mean a long term perspective for the worker within the enterprise. However, it is clearly different from a situation where the employer just offers successive short-term contracts.

The extended specification of the production highlights the positive and significant coefficient of third-sector organizations in comparison with public ones and, in an alternative specification, in comparison with for-profit providers (tables 7a and 7b). This result reinforces what already appeared partly with the enlarged specification: when enough job quality indicators are included in the model, third-sector organizations appear to be the most efficient organizations on the quasi-market.

A clearly new feature is the fact that the results for the for-profit sector are essentially mitigated by temporary work companies (table 8). These organizations indeed obtain a statistically significant negative coefficient while this is not the case for other private commercial companies. This can be explained by the weak guidance offered by temporary work companies to their workers, but, even more, by the fact that, in a large majority of cases, these firms offer fixed-term contracts to their workers. By so doing, they try to combine profitability and flexibility objectives. In terms of profitability, they keep a majority of workers under very short-term contract in order to avoid paying hours which are not reimbursed by service vouchers (for instance when a user is absent, on holidays or for any other reason). It also allows them to easily put an end to relations with workers that they do not want to keep. These practices also reveal a strategy to remain as flexible as possible, with a view to answering easily and quickly every request made by the users. The use of fixed-term contracts indeed allows providers to propose or replace workers more easily, according to the desiderata of the users.

The worker is not offered a more stable status until the organization has the certainty that the user is a regular user and is satisfied with the worker. The labour relation then tends to be *de facto* located between the worker and the user, without practically any intervention by the employer in terms of supervision and guidance. Our efficiency analysis had already revealed that heterogeneity exists within the third-sector and the public sector; the extended specification shows that it is also true in the for-profit sector.

Work integration social enterprises and accredited home care NPOs again account for the positive results obtained by third-sector organisations as a whole, once more in contrast to other third sector initiatives. It is worth noting that accreditation of work integration social enterprises by regional governments here plays a particular role since these organizations are required in most cases to hire their workers directly on an open-ended contract. The “Stab” variable included here among the outputs therefore takes a high value.

**Table 7a: Second-stage analysis (Tobit model) – “Sector” effect**

(with the public sector as reference)

Variables	Restricted specification	Enlarged specification	Extended specification
Constant	-0.0007 (0.1363)	0.0616 (0.2411)	0.8121 (0.1623)
For-profit	0.3196*** (0.1042)	0.0980 (0.1863)	-0.0530 (0.1220)
Third-sector	0.1551** (0.0650)	0.1906* (0.1142)	0.1658** (0.0826)
Size	-0.0002 (0.0006)	0.0013 (0.0012)	0.0002 (0.0009)
Age	0.0055 (0.0036)	0.0078 (0.0064)	0.0024 (0.0045)
Density	0.0000 (0.0000)	0.0000 (0.0000)	-0.0000 (0.0000)
Brussels	0.1512 (0.1003)	0.2812 (0.1834)	0.3453** (0.1557)
Flanders	0.2277*** (0.0708)	0.3696*** (0.1282)	0.1776** (0.0825)
Log likelihood	7.9211375	-12.911573	-2.9448

\*\*\* significant at 1%, \*\* significant at 5%, significant at 10%

**Table 7b: Second-stage analysis (Tobit model) – “Sector” effect for an alternative specification**

(with the for-profit sector as a reference)

Variables	Restricted specification	Enlarged specification	Extended specification
Constant	0.3189 (0.0951)	0.1596 (0.1736)	0.7591 (0.1166)
Public	-0.3196*** (0.1042)	-0.0980 (0.1863)	0.0530 (0.1220)
Third-sector	-0.1645* (0.0920)	0.0926 (0.1668)	0.2188* (0.1158)
Size	-0.0002 (0.0006)	0.0013 (0.0012)	0.0002 (0.0009)
Age	0.0055 (0.0036)	0.0078 (0.0064)	0.0024 (0.0046)
Density	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Brussels	0.1512 (0.1003)	0.2812 (0.1834)	0.3453** (0.1557)
Flanders	0.2277*** (0.0708)	0.3696*** (0.1282)	0.1776** (0.0825)
Log likelihood	7.9211375	-12.911573	-2.9448

\*\*\* significant at 1%, \*\* significant at 5%, significant at 10%

**Table 8: Second-stage analysis (Tobit model) – “Category” effect**

(with public work integration organizations as a reference)

Variables	Restricted specification	Enlarged specification	Extended specification
Constant	0.0328 (0.1305)	0.0795 (0.2233)	0.8230 (0.1248)
Work integration social enterprise	0.1066 (0.0807)	0.2738* (0.1380)	0.2500** (0.9734)
Accredited home care NPOs	0.3745*** (0.1050)	0.5861*** (0.1898)	0.2300** (0.1112)
Accredited home care local welfare services	0.0661 (0.0894)	0.2570* (0.1532)	0.1446* (0.0824)
Temporary work agencies	0.3910*** (0.1350)	0.0320 (0.2472)	-0.2890** (0.1281)
Other private companies	0.3070*** (0.1075)	0.1791 (0.1848)	0.0509 (0.0981)

Other initiatives from the third-sector	0.1372 (0.0904)	0.0819 (0.1521)	0.1055 (0.0840)
Size	-0.0005 (0.0006)	0.0018 (0.0014)	0.0012 (0.0007)
Age	0.0037 (0.0034)	0.0033 (0.0059)	-0.0008 (0.0036)
Density	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Brussels	0.1018 (0.1044)	0.1209 (0.1836)	0.1640 (0.1230)
Flanders	0.2511*** (0.0663)	0.3775*** (0.1161)	0.1520** (0.0631)
Log likelihood	11.242506	-9.0135583	2.0535358

\*\*\* significant at 1%, \*\* significant at 5%, significant at 10%

### 3.5. Role of contextual characteristics

Concerning the variables which are not directly linked to the ownership structure, the most striking result is the positive and strongly significant coefficient of the “regional dummy” for Flanders as compared to Wallonia in all specifications. We think that this result is most probably related to the composition of our sample: the proportion of organisations created specifically for the voucher service scheme is higher in Wallonia than in Flanders. These organisations cannot benefit to the same extent from shared resources and, all other being equal, this leads to lower efficiency scores<sup>56</sup>. The fact that accreditation systems for organizations with a specific social mission somehow vary among regions may also contribute to explain part of those differences.

We also note that the “size”, “age” and “density” variables are never significant, whatever specification is considered. For the “age” variable defined by the number of months of operation of a section or an organization providing voucher services, various elements might explain its non-significance. First, since the system under its current form was launched in 2003 and our data relate to

<sup>5</sup> The composition of our sample also explains why the “Brussels” dummy has a positive and significant coefficient with the enlarged specification when the “sector” effect is tested: the for-profit sector does not include any temporary work company (offering less open-ended labour contracts) in this region, which means it can easily have a better “extended” efficiency.

<sup>6</sup> The composition of our sample also explains why the “Brussels” dummy has a positive and significant coefficient with the enlarged specification when the “sector” effect is tested: the for-profit sector does not include any temporary work company (offering less open-ended labour contracts) in this region, which means it can easily have a better “extended” efficiency.

2006, differences among organisations in terms of age cannot be really important. Clearer differences among organisations in terms of age might appear within a few years. Secondly, as already underlined by figure 1, a large majority of providers were not created ex-nihilo and instead already existed before the setting-up of the voucher service scheme (even if they were not active in domestic services). Consequently, typical problems of infant enterprises (lower efficiency and increased risk of bankruptcy during the first year) were probably avoided in most cases. It would have been interesting to consider the role of the “age” variable with the only organizations created ex-nihilo to operate within the service voucher scheme, but we did not have enough of such enterprises in our sample to make econometric tests.

We could have expected a positive impact of the population density on technical efficiency, as a high density may increase the probability of having users close to each other, therefore allowing to minimize unproductive time for travelling from a workplace to another<sup>7</sup>. It is clearly not the case here, which may mean our variable is not an appropriate proxy for the actual time devoted to travelling times. Moreover, a higher density of population may also mean more competition among providers and not necessarily a higher concentration of their respective customers.

### ***3.6. The importance of the regulation effect***

The results presented here above suggest that the organisations' ownership structure matters. However, the heterogeneity found within each sector - and particularly within the third-sector invites to go a bit further in our analysis. Indeed, it seems that belonging to the third-sector is not sufficient to ensure the implementation of good practices in terms of job quality: work integration social enterprises and accredited home care NPOs perform much better than other third sector initiatives. These two categories as well as accredited home care public organizations, which also emerge within the public sector, share a common feature, i.e. a governmental (tutelary) accreditation of their social mission

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<sup>7</sup> It should be reminded however that for-profit providers often do not count such a travelling time in the total of paid hours.

within statutory frameworks. Although such frameworks do not directly concern “voucher service” activities, they seem to have an impact on the enlarged and extended efficiency of the providers.

In order to apprehend such a potential “tutelary regulation” effect, we carried out a new analysis with a Tobit model, while replacing the “category” or “sector” variables by a new dummy variable for accredited (or not) organizations<sup>8</sup>.

**Table 9: Second-stage analysis (Tobit model) – “Regulation” effect**

	Enlarged specification	Extended specification
“Regulation”	0.2719*** (0.1036)	0.1906** (0.0793)

\*\*\* significant at 1%, \*\* significant at 5%, significant at 10%

As expected, the “regulation” effect seems to be decisive in the enlarged and extended specifications of the production.

In the case of work integration social enterprises, the better quality of the jobs provided is probably directly linked to this “regulation” effect: as already mentioned, the latter means additional resources devoted to training and supervision activities as well as mostly open-ended labour contracts for the persons in the re-integration process. In the case of accredited home care providers, this effect is rather an indirect one: practices prevailing in the pre-existing sections, accredited for domiciliary care, are generalized in the “service voucher” section of the organization, such a process being supported by shared resources<sup>9</sup>.

Moreover, the “regulation” effect brings about a new element helping to explain, partly, why public work integration organizations reach lower scores than their third-sector counterparts although they

<sup>8</sup> As they do not really differ from what was observed in previous models, we do not present here the coefficients for the “size”, “density”, “age” and “locality” variables, in order to focus on the “regulation” effects.

<sup>9</sup> This argument does not take into account the shared resources, even though these two effects can of course combine themselves.

seem to share the same social mission. Public work integration organizations are indeed not accredited for that mission (although they of course operate within some legal frameworks) and therefore do not receive the same additional resources<sup>10</sup>. The same can be said for the other “non-accredited” third sector initiatives: the lack of additional resources and of a regulatory framework certainly explains why they behave so differently than the accredited third sector categories as to job quality.

#### **4. Conclusions**

Our aim was to carry out a comparative evaluation of providers operating on the recently launched and fast developing quasi-market of “voucher services” in Belgium. With a Data Envelopment Analysis, we worked out efficiency scores for 38 organisations with three different conceptions of the production. Results based on a two-steps analysis showed that for-profit providers are the most efficient organisations when only traditional productive aspects are taken into account; results however change when job quality indicators are included in the specification of the outputs. In particular, third-sector organisations appear to be increasingly efficient, and even become the best performing providers when the analysis relies on larger conceptions of the production.

Enlarged or extended conceptions of the production seem particularly legitimate and appropriate when the delivery of services is heavily funded by the state. In that case indeed, it seems necessary to include the objectives of such a public policy in any evaluation system. Sometimes, public authorities may even offer a specific support to organizations which explicitly pursue goals in line with the public interest, such as for instance the creation of jobs for disadvantaged workers or the provision of services to vulnerable groups.

Once the need to conceive outputs in a wider sense is acknowledged, the key issue is the choice of relevant indicators to be combined with traditional measures of production. This of course involves

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<sup>10</sup> It has to be reminded that additional resources allocated to work integration social enterprises are taken into account in our efficiency analysis insofar as they actually are used to increase the number of supervisors. Therefore, differences captured by the “regulation” effect between public and third-sector work integration organizations do not concern exclusively differences in terms of available resources. As underlined previously, management practices also differ significantly.

conceptual, methodological as well as empirical challenges which are sometimes very difficult to address. From this point of view, the limits of our variables to capture job quality were clear although data had been collected through in-depth interviews. Such difficulties however should not discourage further attempts to better capture the various dimensions of service providers' performance.

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