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Title: On a Diet: Explaining Differences in Overhead among Public Agencies in the Era of Austerity

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On a Diet

Explaining Differences in Overhead Among Public Agencies in the Era of Austerity

Abstract

Reducing overhead has increasingly become a target for governments across Europe that are looking for easy ways in which to economize. Overhead refers to all the functions that aim to support employees in the primary process. This study contributes to our understanding of overhead levels among different types of agencies. Whether more autonomous agencies, which are frequently monitored by performance-based targets, report more or less overhead compared with other agencies is unclear. On the one hand, granting autonomy to agencies and monitoring them by setting performance-based targets has been considered to provoke efficient behavior during NPM-inspired reforms. On the other hand, formally more autonomous agencies have certain formal characteristics that increase overhead, and they are more preoccupied with the performance of their primary processes to build a favorable reputation in the eyes of external stakeholders. We apply regression and fuzzy set Qualitative Comparative Analysis (fsQCA) to examine how the reported overhead levels of agencies can be explained by combinations of formal autonomy, result control (performance-based target setting and monitoring frequency), agency size and task. Our results provide more support for the claim that higher formal autonomy leads to a higher overhead, especially when combined with performance-based target setting or when frequent monitoring is absent. The relationship between formal autonomy and overhead is, however, non-linear. We find distinct effects for the different sub-dimensions of result control (monitoring frequency and performance-based target setting) and show that agency size and task further mediate the relationship between formal autonomy, result control and overhead, but only in specific combinations.

1. Introduction

Well before the turn of the century, many Western states had abandoned Weberian bureaucracy as the dominant paradigm and replaced it with ideas related to the New Public Management (NPM) doctrine (Hood, 1995). The objective of NPM was twofold: cutting budgets and improving bureaucratic

efficiency and effectiveness (Van Thiel & Leeuw, 2002). One of the key benefits of these two objectives was to separate policy-making and policy-implementing organizations. Autonomous agencies were thus created and additional autonomy was granted to existing agencies (Van Thiel, 2000). The main argument was that agencies equipped with sufficient autonomy and monitored by performance-based targets had the flexibility and incentives to improve their performance in terms of efficiency (Dan, 2014; OECD, 2002). Efficiency improvements were further said to be gained from disaggregating the public sector into smaller, more manageable entities (Hood, 1991).

In recent years, the global financial and fiscal crisis has again placed efficiency measures at the top of government agendas all over Europe. European governments have been facing an era of austerity that requires them to function more efficiently (Kickert, 2013; Liddle & Murphy, 2012). Many governments focus on reducing overhead (or back-office) personnel as a means to increase efficiency. Overhead here refers to all the support functions within an organization (Huijben, Geurtsen, & van Helden, 2014). These functions relate to financial management and control, the management of personnel and the organization, ICT, facilities management, internal communication and legal affairs. Overhead reductions would thus allow for budgetary savings and the reallocation of relatively more budgetary means to the primary processes of public organizations (Departement Bestuurszaken, 2012; Gershon, 2004; Ministerie van Binnenlandse Zaken, 2007; National Audit Office, 2012). Rather than enhancing efficiency, however, the NPM-inspired model with disaggregated, autonomous, policy-implementing agencies monitored by performance-based targets is now perceived as causing a high overhead at the agency level, because more autonomous agencies have certain formal characteristics that require more (overhead) support. Furthermore, they are more preoccupied with the performance of their primary processes to build a favorable reputation in the eyes of external stakeholders (Carpenter, 2001).

This study treats overhead as an indicator of agency efficiency. We agree with Huijben and Geurtsen (2008) that overhead is more than the mere ‘fat of an organization’ that needs to be reduced as much as possible. Indeed, there is no ‘right’ level of overhead other than the one that fits the organizational circumstances (Andrews & Boyne, 2014). However, reducing overhead has been an explicit target put forth by the Flemish government as part of a broader plan to increase government efficiency (Stroobants & Bouckaert, 2013).

We analyze how and to what extent this target has been implemented by different types of agencies. Are disaggregated NPM-inspired agencies models of bureaucratic efficiency through the proper combination of autonomy and result control incentives? Or are these agencies likely to produce more overhead given their formal characteristics? The research question is as follows: *How can the reported overhead level of different types of agencies be explained by combinations of formal autonomy, result control, agency size and task?*

The limited academic attention paid to public sector overhead stands in sharp contrast to the ample governmental attention. Research has focused on overhead allocation or (to a lesser extent) overhead cost drivers in the private sector (Armistead, Bowman, & Newton, 1995; Banker, Potter, & Schroeder, 1995; Foster & Gupta, 1990), in the non-profit sector (Hager, Pollack, & Rooney, 2000) or in specific subsectors within the public sector (see Goddard & Ooi, 1998 and Mitchell, 1996 on universities; MacGowan & Vendryk, 2002 and Rogerson, 1992 on defense procurement; Noreen, 1994 on hospitals; Van Helden, 2000 on municipalities). So far, few scholars have carried out empirical research at an aggregated public sector level by taking several policy domains into account (exception: Huijben and Geurtsen, 2008, 2014). This study thus contributes to this body of empirical work on overhead by focusing on the several types of public agencies active in different policy domains. In particular, we aim to understand and explain overhead from a public administration perspective, rather than describing overhead allocation practices from an accounting perspective.

The remainder of this paper is structured as follows: first, the rational choice theoretical framework is outlined; second, we describe the applied methodology in which an OLS regression is complemented by fsQCA; third, we present and summarize the results, after which we end by discussing the main findings.

2. A rational choice perspective on overhead

The study builds on a rational choice framework. Individuals are seen as actors striving for utility maximization given their preferences and constraints (Coase, 1937). Two sub-streams are especially relevant for explaining the differences in overhead among different types of agencies.

First, agency theory looks at the problems that might arise from a contractual relationship between principal(s) and agent(s) (Jensen & Meckling, 1976). It provides expectations about why agencies with different degrees of autonomy report different overhead levels. The obligation imposed by the Flemish government on each agency to lower its overhead has been presented as an explicit target in policy documents. We thus apply agency theory, given that goal incongruence between the principal and the agent is likely to occur. Indeed, while the Flemish government perceives overhead as an indicator of inefficiency (Departement Bestuurszaken, 2012), agencies rather consider it to be necessary support for their organizations and as a manifestation of their autonomy. Furthermore, information asymmetries are present since each agency produces overhead specifically tailored to its needs. Agencies legally situated further from central government are likely to benefit more from information asymmetries, as it is harder for the government to monitor their activities. According to agency theory, goal incongruence and information asymmetries can be reduced through the proper combination of result control mechanisms.

Second, we apply transaction cost theory on the basis that overhead levels are mediated by structural organizational and service-specific features. Andrews and Boyne (2014, p. 13) state that *‘organizational leaders have a freedom of choice about their overhead levels, but their decisions are clearly contingent upon changes in complexity and size’*. These features suggest a framework within which rational decision-making occurs driven by a desire to lower the cost of transactions (Huijben & Geurtsen, 2008). We deduce four elements from the rational choice framework and analyze how they combine and interact to explain differences in overhead: formal autonomy, result control (monitoring frequency and performance-based target setting), size and task.

2.1 The agency theory puzzle

Agency theory describes the problems that might arise from a contractual relationship between one party (the principal) who delegates work to another (the agent). To counter goal incongruence and information asymmetries, contracts must be specified in such a way as to steer the agent into behaving according to the wishes of the principal. Agency theory is more than just a theory. It has inspired reforms globally (Van Thiel, 2000). Specialized public organizations have been assumed to perform tasks more efficiently when they have more autonomy from the principal, on the condition that the principal uses appropriate result control mechanisms to mitigate potential opportunistic behavior (Osborne & Gaebler, 1992).

First, the concept of autonomy refers to discretion, which is the extent to which an agency can decide itself about matters it finds important (Maggetti, 2012). We focus on the formal autonomy of an agency, which is granted through legislation and regulative frameworks. Formal autonomy is closely linked to agency type, which corresponds to a body of legislation and regulation designing the formal autonomy of agencies. Previous research has demonstrated the existence of a relationship between the formal autonomy of an agency and its de facto managerial autonomy, although the relation is not always straightforward (Yesilkagit & Van Thiel, 2008). In the context in which we study agencies (the

Flemish public sector), a structural reform in 2006 brought both the formal autonomy and the de facto autonomy of agencies in line with each other (Verhoest et al., 2013). We consider managerial autonomy to be more relevant than policy autonomy in relation to overhead, as it deals with the choices agency managers can make with regard to the use of inputs (including personnel in overhead functions). Second, result control means that the central government controls a public organization by setting clear objectives and targets, by monitoring and by evaluating the achieved results against the targets set (Bouckaert, 1997). How decisions on overhead personnel are affected by the interplay of autonomy and result control presents a puzzle. We argue that agency theory deals with both overhead-reducing and overhead-increasing aspects.

2.1.1 Overhead-reducing perspective

The overhead-reducing perspective expects more autonomous agencies that are more controlled according to results to report a lower overhead. Extended managerial autonomy combined with the frequent monitoring of performance-based targets by the political principal encourages agencies to modernize their management and optimize their functioning (Verhoest et al., 2010). Goal incongruence and information asymmetries are reduced by granting autonomy to agencies to enhance the motivation and capacity to increase efficient behavior (Van Thiel, 2000), and by monitoring them by performance-based targeting in order to prevent shirking (Osborne & Gaebler, 1992). In addition, shifting the focus from ex ante means of control towards ex post result control frees agencies from cumbersome procedures that hamper the efficient use of their resources (Verhoest et al., 2010). Following this reasoning, a high overhead will primarily be found in those agencies that lack the combination of high formal autonomy and high levels of result control. Therefore, *the first hypothesis expects the (combined) effect of low formal autonomy and low levels of result control to contribute to a high overhead* (H1). To provide a fit between theory and method, all the hypotheses presented herein are written in terms of (combined) effects that contribute to an outcome (in this study: high overhead).

The methods applied and their assumptions and implications for the formulation of each hypothesis are explained later in the paper.

2.1.2 Overhead-increasing perspective

We also discuss an overhead-increasing perspective on the relationship between autonomy, result control and overhead. First, several formal characteristics might lead agencies with higher levels of formal autonomy to have a higher overhead. We take three categories of formal autonomy into account (for a more elaborate discussion, see section 3.2.2): departmental agencies (Type A), public law agencies with full ministerial authority and without a governing board (Type B) and public law agencies without full ministerial authority and a governing board (Type C). According to this definition, public law agencies have a higher level of formal autonomy compared with departmental agencies. In contrast to departmental agencies, public law agencies (Types B and C) have their own legal personalities, enabling them to buy, manage and sell their own assets; to act as the legally recognized employer of their staff; to save money; to be active in the capital market; and to launch (or be called to) court cases. These extended degrees of autonomy could evoke higher numbers of staff involved in overhead functions (related to personnel management, financial management and legal support) to support the agency management to make the right use of this extended managerial freedom. Next, we include the public law agencies that are controlled by a governing board and are not under full ministerial authority (Type C agencies). The formal autonomy of this type of agency is even more extensive compared with agencies with full ministerial authority, leading to extra requirements for support by overhead staff. Moreover, the boards governing these agencies involve an additional management layer with extra meetings and reporting systems, which lead to greater support by overhead personnel (Christensen, 2001).

A second argument relates to psychological/behavioral motivations. Research has shown that more autonomous agencies are relatively less oriented towards their political principals and more towards

their users and stakeholders (Egeberg & Trondal, 2009). As they are further away from government, they are more visible as self-standing organizations and hence more vulnerable to criticism from stakeholders and the media (Schillemans, 2012). This vulnerability makes these formally more autonomous agencies in general more conscious of their reputations in the eyes of external stakeholders (Boon, Verhoest, & Wynen, 2014). A favorable reputation is highly valuable for agencies, as it might be used as a political asset to gain resources, to increase autonomy from the government and even to secure future existence (Carpenter, 2001). In order to build and maintain a positive record of performance and a favorable reputation, these agencies want to avoid any risks in terms of malfunctions in their primary processes. They will therefore consider sufficient overhead under their own control to be necessary support for their primary processes and a way in which to reduce the risks of external criticism.

Third, rational choice theorists argue that monitoring agencies based on performance-based targets comes at a cost at the agency level because of monitoring costs, bonding costs and a residual loss (Jensen & Meckling, 1976). Agencies must develop and employ systems to measure, manage and evaluate results, which translates into additional overhead. Taking the potentially overhead-increasing effects of formal autonomy and result control together, *the second hypothesis expects the (combined) effect of high levels of formal autonomy and high levels of result control to contribute to a high overhead (H2)*.

Empirical evidence on the specific relationship between autonomy, result control and agency overhead is mixed and rather indirect. Several authors have pointed to organizational culture as a determinant of overhead. For example, organizations with a results-based culture of cost consciousness produce less overhead (Booth, 1994; Stratton, 1972; Tatikonda & Tatikonda, 1991). Proponents of NPM-inspired reforms claim that this culture is more often present among more autonomous agencies (Sanger, 2008; Wynen et al., 2014). However, other authors have claimed that result control instruments actually

increase organizational overhead. Rather than contributing to a cost-conscious culture, Lewy (1996) argues that tighter lines of control provoke monitoring costs at the agency level and thereby increase overhead.

More empirical work exists for the combined effect of autonomy and result control on agency efficiency in general. However, the results are clearly mixed, with some authors finding positive effects (Hammerschmid, Krischok, & Steigenberger, 2012; Kraak & Van Oosterom, 2002; Office of Public Services Reform, 2002) and others negative effects (Boyne, 1996), while most studies seem to find no clear effects (Andrews, 2011; James, 2003). Overall, previous research confirms that more empirical research into the context-dependent effects of autonomy and result control is necessary. Different outputs and outcomes have been described depending on the research context, chosen indicators of autonomy, result control and efficiency (Dan, 2014).

2.2 Transaction cost theory

Transaction cost theory posits that rational decision-making about overhead is mediated by a desire to minimize transaction costs. Transaction costs are driven by behavioral characteristics (opportunism and bounded rationality), structural organizational characteristics (size) and service-specific characteristics (task) (Williamson, 1981). We treat behavioral characteristics as elements of agency theory (see the overhead-reducing perspective). However, behavioral characteristics do not operate in a vacuum. They are mediated by structural organizational and service-specific characteristics.

The first structural transaction cost driver is agency size. This factor has been identified as a crucial determinant of organizational behavior in general (Blau, 1970), and overhead levels more specifically, since size determines the number of internal customers (Foster & Gupta, 1990). Transaction cost theory suggests a specific relationship between size and (overhead) costs. While small organizations often have behavioral advantages in many activities, they are disadvantaged when it comes to costs

(Nooteboom, 1993). Previous research has found that small organizations experience disadvantages of scale, resulting in a high overhead (Andrews & Boyne, 2014; Hager, Pollack, & Rooney, 2000; Huijben & Geurtsen, 2008). Smaller organizations must thus perform the same range of overhead functions compared with medium-sized and larger ones, but for fewer internal customers (Mansfield, 1985; Samuelson, 1947). Therefore, a third hypothesis expects size to mediate the relationship between formal autonomy, result control and overhead. Hence, *the third hypothesis expects small agencies to contribute to a high overhead (H3)*.

The second transaction cost-driving determinant of organizational overhead is service-specific and refers to the nature of the primary task of an agency. Transaction cost theory predicts clear differences in cost structures based on the primary task of an organization (Williamson, 1981). Three elements are expected to increase organizational overhead: asset specificity means that tasks require specialized investments to be produced (Brown & Potoski, 2005); the level of the measurability of outputs/outcomes affects the investments needed by an agency to optimize its monitoring instruments (Lewy, 1996; Wilson, 1989); and the level of uncertainty relates to the (in)ability to predict future transactions. These three elements increase the costs needed to reduce uncertainty, such as collecting information or coordinating activities (Ter Bogt, 2003). They also show a high convergence in their presence or absence in different primary task categories (see Table 1).

[Insert Table 1 here]

Huijben and Geurtsen (2008) state that the nature of the primary task directly influences the number of transactions within an organization, which in turn increases the volume of overhead costs. On the one hand, policy-formulating agencies provide services that are both highly asset-specific (as they often require expert knowledge) and thus difficult to measure (such as the outcome of a policy note) and

uncertain in nature (as it is difficult to predict the political agenda). Supporting these functions therefore requires specialized knowledge (such as legal advice, recruitment of expert personnel, staff training) and thus increasing investment in overhead functions. On the other hand, agencies delivering general public services (such as public transport) provide services that are often standardizable (public transport is organized in the same way across the country), easy to measure (number of customers) and predictable (no sudden fluctuations in customer number). Therefore, *a fourth hypothesis expects the primary task of an agency to mediate the relationship between formal autonomy, result control and overhead. Thus, agencies providing primary tasks with fewer standardizable overhead functions are expected to contribute to a high overhead (H4).*

3. Methodology

3.1 Research context

Flanders is a region in the Federal Belgian state. It has its own parliament, government and public sector and forms an interesting case for this study for two reasons. First, the Flemish government has clearly been engaged in the European trend towards creating autonomous agencies and granting more autonomy to existing agencies. Since 2002, it has embarked upon an NPM-inspired reform (officially launched in 2006), known as ‘Beter Bestuurlijk Beleid’. This reform resulted in a massive structural reorganization of the Flemish agency landscape, with 52 departmental and public law agencies (besides many more private law agencies) being transformed or created (Verhoest et al., 2012). Second, the same reform gave birth to a plan to reorganize overhead functions within the Flemish government with the aim of raising the effectiveness, efficiency and quality of these functions (Vlaamse Overheid, 2002).

The Flemish administration organizes overhead at three levels. First, horizontal policy domain ministries organize a limited number of overhead functions intended for all agencies government-wide. These functions are mandatory for agencies to use. Second, all horizontal and vertical policy domain ministries organize overhead functions intended for agencies from their respective policy

domains. These functions are voluntary. Third, most public law agencies organize or outsource their own overhead functions – sometimes also intended for other agencies. The overhead functions that are organized are diverse in nature (such as financial management and control, the management of personnel and the organization, ICT, facilities management, internal communication and legal affairs).

In 2009, the newly installed Flemish government increased top-down pressure to lower overhead by installing a maximum of 10% of public sector employees working in overhead functions in each organization as an explicit target (Departement Bestuurszaken, 2012). This target aimed to incentivize agencies towards reducing their level of in-house and outsourced overhead. A few months earlier, the Flemish Audit Office had pointed out the large potential for efficiency savings in a report on the state of affairs of overhead in the Flemish government (Interne Audit Vlaamse Administratie, 2009).

3.2 Operationalization

3.2.1 Dependent variable: overhead

The meaning of the concept of overhead has often been difficult to grasp, both for practitioners and for academics (Huijben, Geurtsen, & van Helden, 2014). In this paper, the term overhead refers to all ‘functions aimed at supporting employees in the primary process’ (Huijben, Geurtsen, & van Helden, 2014). The primary process refers to those employees whose work directly affects the end users of the agency’s services. Further, overhead is measured as the share of full-time equivalents (FTE) working in overhead functions (spending more than 20% of their time on overhead functions) divided by the total number of FTE within an organization. Our focus is on overhead functions that agencies produce in-house (‘make’) or outsource (‘buy’).

Overhead data were provided by the Flemish Department of Public Governance. Contrary to the independent variables, the dependent variable was self-reported by agency managers. However, data collection took place based on detailed instructions by the Department of Public Governance. In addition, the Flemish Audit Office had already performed a validated audit on organizational overhead. The likelihood of subsequent audits was a real threat for agency managers during the period

of data collection. Therefore, detailed instructions and the threat of further audits incentivized agency managers to report accurate data.

3.2.2 Independent variables

- Formal autonomy

Formal autonomy is operationalized as the legal type of the agency. Each agency type is associated with specific regulatory frameworks and provisions for autonomy in enacting legislation (see section 2.1.2). The categorization of types of agencies is based on Van Thiel (2012), although it is adapted to the Flemish context by adding an extra category. Table 2 provides an overview of the different types of agencies considered in this study.

[Insert Table 2]

Our focus is on departmental agencies and two types of public law agencies. Units or directorates of the Flemish government (ministries, departments), which have the lowest level of formal autonomy, are not taken into account, nor are externally autonomous agencies with a hybrid or private law legal personality, which have the highest possible level of formal autonomy. The agencies under study offer the required variation in degrees of formal autonomy (see Table 3). The total number of agencies under study is 47. Please note that, for instance, H2 expects Type B agencies to have a higher overhead compared with Type A agencies (because Type B agencies have a legal personality). Likewise, H2 expects Type C agencies to have a higher overhead compared with Type B agencies (because Type C agencies have a governing board and are not under full ministerial authority, besides having a legal personality). Therefore, the distinction between Type B and C agencies, although unusual in international comparative research, is relevant in light of the objectives of this study.

- Result control

Result control is defined as an ex post monitoring arrangement on previously set performance-based targets (Bouckaert, 1997). We distinguish between two sub-dimensions of result control in order to analyze their distinct effects on organizational overhead. First, performance-based target setting captures whether an agency is committed to such targets in the performance agreement with the political principal. Performance-based target setting is the most ambitious type of target setting as it aims to improve actual outcomes. Second, monitoring frequency captures the frequency with which the progress on these performance-based targets is monitored by the principal.

Performance agreements between agencies and the Flemish government (2008–2010) were analyzed in order to generate the data. The first sub-dimension of result control (performance-based targets) is a dummy variable. If an agency has at least one performance-based target present in its performance agreement, it scores ‘1’ (otherwise ‘0’). The second sub-dimension of result control (monitoring frequency) is a categorical variable. Every agency with a performance agreement is subjected to annual monitoring (‘1’), biannual monitoring (‘2’) or more than biannual monitoring (‘3’).

- Size

Size is measured as the number of FTE working in the organization, as retrieved from the annual report of 2011 from each agency.

- Task

We distinguish between five primary task categories, largely based on Van Thiel and Yesilkagit (2014), although adapted to the context of this study:

- Policy formulation: agencies active in policy preparation; or consultation and advice to policy-makers
- Regulation: agencies active in regulation; inspection; registration and assignment of licenses; or quality evaluation
- Exercising other kinds of authority: agencies active in the paying out of subsidies; financial benefits and allowances; or tax collection, retributions, sanctions and rewards

- General public services towards other public entities: agencies active in research; maintenance; or government-wide support functions
- General public services towards external audiences: agencies active in direct service delivery; advise to citizens or companies; or commercial and industrial services

Information on the primary task of an agency was based on document research (mainly websites and enacting laws). Table 3 provides the descriptive statistics of the variables used.

[Insert Table 3 here]

3.3 Regression Analysis

This study examines the effects of formal autonomy, result control (performance-based target setting and monitoring), size and task on a moderately large dataset of 47 cases. The number of cases offers the opportunity to apply both regression analysis and fsQCA (Vis, 2012). The use of fsQCA complements the regression analysis. The size of the sample, however, prevents the regression models from including interaction terms, which makes the regression unable to provide information on the combined effects of the variables. Nevertheless, the standards of best practice of fsQCA dictate that it is best combined with another technique (Schneider & Wagemann, 2010).

Table 3 presents the descriptive statistics for the dependent and explanatory variables in the OLS regression with robust standard errors. The dependent variable in the regression analysis is ‘reported overhead’, which is a ratio. Therefore, we transform the dependent variable and regress the model on the transformed dependent variable (Baum, 2008). The explanatory variables are ‘formal autonomy’, ‘performance-based targets’, ‘monitoring frequency’, ‘size’ and ‘task’. Owing to the restricted sample size, we are limited in the number of independent variables to include in the regression models. We include no more than four independent variables in each model. We use two dummies for the effect of formal autonomy (‘Type A’ as the reference group), referring to the other two agency types. We recode ‘monitoring frequency’ into a dummy (‘0 = annual monitoring’ and ‘1 = more than annual

monitoring’). We recode ‘task’ into a dummy, with categories 1–3 set to ‘0’ (task with no standardizable overhead) and the others set to ‘1’ (task with a standardizable overhead). We also use the logarithm function to transform size, the distribution of which is skewed.

We run five models. The first model combines the dummies for formal autonomy with the two variables linked to the sub-dimensions of result control (‘performance-based targets’ and ‘monitoring frequency’). Model 1 relates to H1 and H2. Models 2 and 3 each include one of the two dummies for formal autonomy, the result control sub-dimensions and size as an extra variable. These models relate to H3. Models 4 and 5 again include one of the two dummies for formal autonomy each, the result control sub-dimensions and task as an extra variable. They relate to H4. The regression analysis thus provides some first insights into the independent effect of our variables.

3.4 FsQCA

FsQCA is a set-theoretic and case-based approach that aims to improve the dialogue between theoretical ideas and empirical evidence (Ragin, 2000). A central feature of fsQCA – and set-theoretic approaches in general – is the assumption of causal complexity in describing the relationship between conditions (or independent variables) and an outcome (or the dependent variable). Causal complexity manifests itself through three premises: conjunctural causation means that the effect of a condition is present only in combination with other conditions; equifinality means that an outcome can be explained by different, mutually non-exclusive conditions; and causal asymmetry means that the presence of the outcome may have different explanations than its absence (Schneider & Wagemann, 2012).

The choice to complement a regression analysis with fsQCA is theoretically and empirically grounded. First, fsQCA is highly suited to explore and test configurational theories. We are interested in how formal autonomy and the sub-dimensions of result control combine to produce more or less overhead (H1 and H2) and how this combined effect is further mediated by agency size and task (H3 and H4). Since our theoretical expectations are configurational, the choice of fsQCA offers an excellent fit

between ontology and methodology (Hall, 2003). Second, previous research has pointed to the benefits of using fsQCA on a moderately large dataset compared with traditional regression analysis (Vis, 2012). The combined effects that are theoretically assumed are impossible to find in a traditional regression analysis given the number of cases. FsQCA explicitly accounts for the combined effects of the conditions. This study presents the fsQCA results after those of the regression analysis to assess whether they bring more detail, nuance and insights into the (theoretically assumed) combined effects of the conditions.

These assumptions have their implications for the formulation of the hypotheses. Regression hypotheses focus on the average effect of individual variables or interactions. QCA hypotheses, on the contrary, focus on the combined effects of the conditions and on how these conditions relate to one another in contributing to an outcome. Ideally, these relationships between combinations of conditions and an outcome are written in terms of necessary or sufficient conditions (Vis, 2012). In this study, we do not adhere fully to QCA language. The hypotheses refer to the ‘combined (or mediating) effects that contribute to an outcome’ to facilitate the discussion of the regression and fsQCA results. However, as stated above, readers must keep in mind that owing to the small sample size, the regression analysis does not consider interaction effects. Insight into combined effects is provided by fsQCA.

3.4.1 Operationalization

A crucial element of any QCA analysis is the calibration procedure (see Table 4), in which cases are assigned to sets (such as ‘the set of agencies with a high reported overhead’). Each case is given a membership score for each set that reflects the degree to which it is fully in (‘1’) or fully out (‘0’). According to standards of best practice, we determine the scores for each case by using prior theory or empirical evidence (Schneider & Wagemann, 2010). An exception to this rule is the calibration of a high reported overhead, which is based on the distribution of the data (through the identification of the 5th/50th/95th percentiles). The rationale for using data-driven calibration for the overhead condition is twofold. First, finding an accepted overhead benchmark is an ongoing topic of discussion in the

literature (Huijben & Geurtsen, 2008). Second, our dataset forms a representative sample, as it comes close to the full population of Flemish Type A, B and C public agencies (47 agencies present out of a total population of 54). This representativeness makes it highly likely that the anchor points produced by the data distribution are the same as those found in the overall population. Table 4 provides an overview of the calibration procedure.

[Insert Table 4 here]

3.4.2 Analysis

Fs/QCA 2.5 software was used to perform the analysis. First, a truth table was constructed by the software that lists all the logically possible combinations of causal conditions (configurations) and sorts the cases along these logically possible combinations (Ragin, 2008). Second, logical minimization was performed by using Boolean algebra to arrive at conclusions (called solution terms) that explain the outcome stated in the most compact form (Fiss, 2011). We set a minimum consistency level of 0.85 to determine the configurations to be included in the process of logical minimization. This is well above the generally accepted level of 0.8, which corresponds to our strong theoretical expectations (Schneider & Wagemann, 2012).

Logical minimization was based on a counterfactual analysis. By discriminating between easy and difficult counterfactuals, the algorithm distinguishes conservative, intermediate and parsimonious solutions. Conservative solutions do not take account of any assumptions made on counterfactuals; parsimonious solutions take account of both easy and difficult counterfactuals; and intermediate solutions rest only on easy counterfactuals. We also used the concepts of core conditions and contributing conditions, as introduced by Ragin and Fiss (2008). The former represent those that are part of both the parsimonious and the intermediate solutions, whereas the latter are only part of the intermediate solution. As such, core conditions were considered to be causally more strongly connected to the outcome, since the process of logical reduction did not lead to their removal from the solution term (Ragin & Fiss, 2008).

4. Results

4.1 Regression analysis

We first present the results of the OLS regression analysis with robust standard errors. Post-hoc tests demonstrate no problems of omitted variables (Ramsey test), no explanatory power of squared predictions (link test) and no issues of multicollinearity (VIF values are well below 5). We present the results in Table 5.

[Insert Table 5]

The results are straightforward. Concerning the effect of increasing formal autonomy, Type B agencies consistently report a higher overhead in comparison with the baseline category (Type A agencies). This effect is highly significant and strong. However, the effect of increasing formal autonomy weakens when we compare Type C agencies with the baseline category: the effect on overhead remains positive, although less strong and less significant (even non-significant in model 5). Looking at the sub-dimensions of result control, we find that performance-based target setting leads to a higher overhead in four out of five models. However, we find no effect of monitoring frequency on overhead. Lastly, neither agency size nor task has a significant independent effect on the overhead levels of agencies.

4.2 FsQCA

To what extent do the fsQCA results support and complement those from the regression analysis? FsQCA expresses causal relationships in terms of necessity and sufficiency. A condition is necessary if a high reported overhead cannot be produced without it, while a condition is sufficient when it consistently leads to a high reported overhead, but when a high reported overhead can also be produced by combinations of other conditions. Necessary conditions are identified through an analysis of necessary conditions, sufficient conditions through an analysis of sufficient conditions. Following best practice, the analysis of necessary conditions is reported first (Schneider & Wagemann, 2010).

4.2.1 FsQCA of necessary conditions

Table 6 presents the results from the analysis of necessary conditions. The threshold used for the analysis of necessity typically exceeds the one used in the analysis of sufficiency, which was set at 0.85 (Schneider & Wagemann, 2010). A consistency threshold of 0.9 is thus applied. Consistency levels are followed by the coverage levels between brackets. Consistency reflects the degree to which cases sharing a combination of conditions have the same outcome (Ragin, 2008). Coverage indicates how much of the outcome is covered by a condition (or a solution term). Table 6 shows that none of the conditions seems to be necessary for a high reported overhead.

[Insert Table 6 here]

4.2.2 FsQCA of sufficient conditions

Before presenting the results, we dedicate a few words to the interpretation of Table 7. The crucial difference with traditional regression techniques lies in the configurational nature of set-theoretic methods. The results are interpreted in terms of combinations of conditions (or solution terms) that explain an outcome. In our analyses, we observe only core conditions, meaning that all effects are consistently present in both the parsimonious and the intermediate solutions (Ragin & Fiss, 2008). A black circle refers to the presence of a condition that explains the outcome, while a white circle represents the absence of a condition.

The left column of Table 7 presents the different sets. The right columns present the different solution terms, which are ordered according to how much of the outcome they explain (coverage). Raw coverage refers to how much of the outcome is covered by the solution term together with the other terms, unique coverage to how much of the outcome is covered only by the specific path (Schneider & Wagemann, 2012).

[Insert Table 7 here]

A first observation is that the fsQCA findings support the results from the regression analysis. Higher formal autonomy contributes to a high overhead (solution terms 1 and 2), as does the presence of performance-based targets (solution terms 1 and 3). Second, these findings complement the regression findings in uncovering combined and contingent effects. The overhead-increasing effect of higher formal autonomy is contingent upon the presence of performance-based targets (solution term 1) or upon the absence of frequent monitoring and the presence of small size (solution term 2). Thus, we find support for the combined effect of autonomy and result control. However, the sub-dimensions of result control display distinct effects. Furthermore, we now clearly see why we did not find an independent effect of monitoring frequency in the regression analysis. Solution terms 2 and 3 demonstrate that frequent monitoring plays a different role in explaining overhead depending on the other conditions in the configuration. In solution term 2, less frequent monitoring combines with higher formal autonomy and being small. In solution term 3, more frequent monitoring combines with performance-based targets and the absence of tasks with a standardizable overhead. These distinct effects are neutralized in the regression analysis. Lastly, support for the contributing effects of size (solution term 2) and task (solution term 3) – which went unnoticed in the regression analysis – also seem to be contingent upon the presence or absence of other conditions.

4.3 Main findings and support for the hypotheses

Before discussing the results, we present our key findings and the extent to which the results of the analyses support our hypotheses (Table 8).

[Insert Table 8 here]

An important finding is that formal autonomy and result control matter for explaining overhead. First, more formal autonomy on average leads to a higher overhead. In particular, the middle category of Type B agencies (having a legal personality but not governed by a board) with the corresponding levels of formal autonomy reports a higher overhead. However, the regression suggested a non-linear relationship between formal autonomy and overhead. Therefore, we also performed an additional

fsQCA on a reduced sample of public law agencies (N = 20) to confirm the lower overhead of Type C compared with Type B agencies. When explicitly comparing the two types with the highest formal autonomy within the scope of our analysis (Types B and C), we see that *not* having the highest formal autonomy (Type B) in itself uniquely accounts for 39% of the outcome of a high overhead. Agencies with the highest level of formal autonomy (Type C) show a relatively low overhead in comparison with those with more moderate levels of formal autonomy (Type B). Second, we find that higher formal autonomy combines with either the presence of performance-based targets (sub-dimension 1 of result control) or the absence of frequent monitoring (sub-dimension 2 of result control) and being small to explain a high overhead. The non-linear and contingent effect of autonomy and distinct effects of the result control sub-dimensions make it difficult to provide *full* support for either H1 or H2, which is in line with QCA standards of best practice of hypothesis testing (Schneider & Wagemann, 2010). However, we do find relatively *more* support for the overhead-increasing perspective in which increasing formal autonomy and result control corresponds to a higher overhead (H2). Third, we expected agency size and task to mediate this relationship. The regression analysis finds no independent effects of size and task on agency overhead. However, the fsQCA results do provide support for the contributing effect of both conditions (providing support for both H3 and H4).

5. Discussion

Our findings indicate a non-linear relationship between formal autonomy and agency overhead in the setting of the Flemish government. Figure 1 offers a visual representation of this relationship.

[Insert Figure 1]

We find more support for the claim that higher levels of formal autonomy increase agency overhead. All analyses confirm that Type A agencies report less overhead compared with both Type B and Type C agencies. It seems as though having formal autonomy associated with a legal personality – and the extended managerial freedom this entails – evokes higher numbers of staff to be involved in overhead functions (such as those related to personnel management, financial management and legal support) to

support the agency management to make the right use of this extended managerial freedom. This finding does not necessarily mean that more autonomous agencies operate inefficiently, as there is no 'right' level of overhead (Andrews & Boyne, 2014). This result does, however, mean that formal characteristics mostly outweigh the behavioral advantages of reduced goal incongruence and information asymmetries for achieving a lower agency overhead. Structural explanations further account for the relatively low overhead among Type A agencies. Type A agencies originate from ministerial units and are not perceived as truly independent organizations (Verhoest et al., 2012). These agencies maintain close ties with the departments from which they originated and they may even share certain support processes (Interne Audit Vlaamse Administratie, 2009). In other countries, departmental agencies – or Type 1 agencies (Van Thiel, 2012) – are also generally more closely linked to their parent departments compared with legally independent public law agencies (for different country discussions, see OECD, 2002; Verhoest et al., 2012). Many governments are increasing their efforts to cluster overhead between agencies, for instance by installing shared service centers (AIM, 2012; NAO, 2014; OECD, 2010). Our findings indicate that these efforts indeed have a lowering effect on the organization-specific overhead that is produced in-house or outsourced by departmental agencies.

However, Figure 1 shows that the relationship between formal autonomy and overhead is non-linear. Type C agencies report less overhead compared with Type B agencies. Structural, cultural and reputational explanations might account for this average difference. The structural difference between these types of agencies with a legal personality is that Type C agencies are controlled by governing boards and are no longer under full ministerial authority. Rather than creating more overhead, our findings indicate that these governing boards succeed in shielding agencies from overhead-increasing top-down requests (such as providing information or writing reports). In addition, external stakeholders such as user or interest groups are often represented on these boards, which might provide an extra impetus to economize overhead functions and redirect resources to the primary process. Second, research has shown that agencies with the highest level of formal autonomy are more preoccupied with the performance of their primary processes to build a favorable reputation

(Carpenter, 2001). Contrary to what we theorized, this preoccupation might result in drawing resources from overhead processes towards the primary process instead of increasing overhead in order to secure the smooth running of the primary process. Lastly, highly autonomous agencies might have an inherent results-based culture of cost-consciousness (Booth, 1994; Stratton, 1972; Tatikonda & Tatikonda, 1991). Future research could thus further elaborate on the hypothesis that the extent to which formally autonomous agencies are more controlled by their external stakeholders affects their willingness to divert resources from overhead processes to their primary processes.

The non-linear effect of formal autonomy on overhead might explain why some studies explaining agency efficiency have come to inconclusive results (Andrews, 2011; James, 2003). Our study suggests that finding a positive, negative or no effect in such studies depends on (1) the scope of the study in terms of the different agency types covered and (2) the extent to which these studies consider contingencies with other factors (for a similar argument, see Dan, 2014). Furthermore, the non-linear effect of formal autonomy on overhead adds to the recent finding that size and task complexity have non-linear relationships with administrative intensity as well (Andrews & Boyne, 2014). More specifically, our findings corroborate those presented by Van Genugten (2008), who finds that transaction costs are non-linearly related to governance structures. She shows that hybrid governance models are characterized by higher transaction costs compared with the modes of governance situated at the extremes of the public sector spectrum (Van Genugten, 2008, p. 207). Future research should thus aim to focus on the possible inherent inefficiency of hybrid models of governance.

We further find that the effect of autonomy on overhead combines with the sub-dimensions of result control. However, we find distinct and rather unexpected effects for performance-based targets and monitoring frequency. One would expect a focus on ex post result control (through performance-based target setting) to free agencies from cumbersome procedures. Rather, these ambitious targets seem to provoke or contribute to a high overhead, creating the reverse effect of increased bureaucratization. The nature of these targets increases the need for agencies to properly equip themselves with adequate monitoring instruments and support (Van Dooren & Van De Walle, 2008). Performance-based targets

formulate norms for outputs and outcomes that are more costly to develop and measure compared with traditional systems that set and define input norms (Modell & Grönlund, 2007).

Monitoring frequency, in turn, seems to mitigate the relationship between higher formal autonomy and overhead. When agencies with more formal autonomy are less frequently monitored, they report a higher overhead. We might explain this relation by referring to the overhead-reducing argument based on NPM thinking. Formally autonomous agencies that experience a less frequent and strict follow-up of their performance might see room to behave opportunistically and less efficiently by accumulating relatively more overhead. The increased potential for goal incongruence and information asymmetries between agencies and principals seems to compensate for the increase in transaction costs provoked by frequent monitoring. Future studies should therefore focus on the contradictory effects of performance-based target setting and monitoring frequency on overhead in particular and on agency efficiency in general.

Organizational (size) and service-specific (primary task) features mediate the relationship between formal autonomy, result control and overhead. In line with transaction cost theory, we observe a specific relationship between size and overhead, distinct from the one between size and performance or effectiveness. While small firms often have behavioral advantages in many activities, they are disadvantaged when it comes to overhead costs (Nooteboom, 1993). This finding supports earlier studies that have reported disadvantages of scale in the context of small public sector organizations (Huijben & Geurtsen, 2008; Hager, Pollack, & Rooney, 2000). We also find that the primary task of an agency and the related degree of overhead standardizability and number of transactions within an organization affect the overhead level of agencies (Hager, Pollack, & Rooney, 2000; Huijben & Geurtsen, 2008; Noreen, 1994). However, these effects are *mediating* effects. The regression found no independent effect of agency size and task on overhead in contrast to the findings of Andrews and Boyne (2014).

For decision-makers, our findings pose important questions about how to get the right balance in the governance models of public agencies. More formal autonomy provokes an increase in agency in-house organized or outsourced overhead levels, especially when agencies are not frequently monitored and small *or* subjected to performance-based targets. However, we especially find these effects among the hybrid type of agency with a legal personality but without a governing board (Type B). We thus advise decision-makers to formulate unambiguous governance models. They should also subject autonomous agencies to a proper combination of result control incentives and place more effort into establishing unified initiatives (such as shared service centers).

Finally, we draw attention to the benefits of using fsQCA as a complement to traditional regression analysis in a moderately large sample. Combined effects might be the rule rather than the exception. Andrews and Boyne (2014) theorize and find that the interacting effect of task complexity and size on administrative intensity is significantly positive and an improvement of their model's explanatory power. Our analyses confirm those of previous research stating QCA to be better equipped to deal with combined effects (Vis, 2012). Limiting ourselves to regression analysis would have done injustice to the specific contingent effect of formal autonomy, the distinct effects of the sub-dimensions of result control and the mediating effects of agency size and task on agency overhead. Combining regression analysis and fsQCA thus greatly enhanced our understanding of the difference in overhead levels between agencies that differ in terms of formal autonomy, result control, size and task.

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7. Annex

TABLE 1: RELATIONSHIP BETWEEN PRIMARY TASK AND TRANSACTION COST ELEMENTS

Primary task category	Asset specificity	Measurability of outputs/outcomes	Uncertainty
<i>Policy formulation</i>	Very high	Very low	Very high
<i>Regulation</i>	High	Low	High
<i>Exercising other kinds of authority</i>	Low	Medium	Very low
<i>General public services: services towards other public authorities</i>	Very low	High	Very low
<i>General public services: services towards end users</i>	Very low	Very high	Very low

Note 1: transaction cost theory predicts high asset specificity, low measurability of outcomes/outputs, and high uncertainty to result in an increase of costs (Brown & Potoski, 2005).

Note 2: the five categories are aggregated categories, largely based on Van Thiel & Yesilkagit (2014), containing several sub-categorizations (see ‘Methodology’)

TABLE 2: TYPES OF AGENCY IN THE STUDY

Types of agency taken into account in this study	Type A agencies	Type B agencies	Type C agencies
Main features	<p>Departmental agencies</p> <ul style="list-style-type: none"> • under full ministerial authority • without legal independence (no own legal personality) 	<p>Public law agencies</p> <ul style="list-style-type: none"> • under full ministerial authority • but with legal independence (having their own legal personality). 	<p>Public law agencies</p> <ul style="list-style-type: none"> • with legal independence (having their own legal personality) and • a governing board. These agencies are not under full ministerial authority, since ministerial authority is restricted by the law to scrutiny.
Relation to the Van Thiel classification	<p><i>Comparable to:</i> Type 1 agencies according to Van Thiel, (2012) like Next Steps Agencies (UK), contract/executive agencies (NL, B, AUS, IRL), state agencies (Nordic countries), direct agencies (GER).</p>	<p>This category – which combines internal autonomization with own public law legal personality – is unique to the Flemish agency landscape (Verschuere, 2007).</p>	<p><i>Comparable to:</i> Type 2 agencies according to Van Thiel, (2012), like Non Departmental Public Bodies (UK), ‘Zelfstandige Bestuursorganen’ (NL), indirect agencies (GER).</p>
Associated level of formal autonomy	Low formal autonomy	High formal autonomy	Very high formal autonomy

TABLE 3: DESCRIPTIVES

Reported Overhead	<i>Mean</i>	<i>Standard Deviation</i>	<i>Min</i>	<i>Max</i>
	0.09	0.06	0.01	0.29
Formal autonomy	1. Type A			N = 27
	2. Type B			N = 7
	3. Type C			N = 13
Performance-based target setting <i>(sub-dimension 1 result control)</i>	1. No performance-based targets present			N = 25
	2. Performance-based targets present			N = 22
Monitoring frequency <i>(sub-dimension 2 result control)</i>	1. Annual monitoring			N = 18
	2. Biannual monitoring			N = 22
	3. More than biannual monitoring			N = 7
Size	<i>Mean</i>	<i>Standard Deviation</i>	<i>Min</i>	<i>Max</i>
	594	1289	18	8062
Task	1. Policy formulation			N = 3
	2. Regulation			N = 7
	3. Other kinds of authority			N = 10
	4. General public services to other public entities			N = 14
	5. General public services to external public			N = 13

TABLE 4 : CALIBRATION

High reported overhead*	0 = fully out of the set	Agencies below 5 th percentile (2% overhead)
	0.5 = crossover point	Agencies on 50 th percentile (7% overhead)
	1 = fully in the set	Agencies above 95 th percentile (18% overhead)
High formal autonomy**	0.33 = more out than in	Type A: no legal personality
	0.66 = more in than out	Type B: legal personality, under full ministerial authority
	0.8= mostly in	Type C : legal personality, governing board (no full ministerial authority)
Performance-based targets present (sub-dimension 1 result control)	0 = fully out	No performance-based targets present in performance agreement
	1 = fully in	Performance-based targets present in the performance agreement
Frequent monitoring (sub-dimension 2 result control)***	0.33 = more out than in	Annual monitoring
	0.66 = more in than out	Biannual monitoring
	1 = fully in	More than biannual monitoring
Small agency****	0 = fully out	More than 200 FTE
	1 = fully in	Fewer than 200 FTE
Task with standardizable overhead	0 = fully out	Policy formulation
	0.2 = Mostly out	Regulation
	0.6 = More in than out	Exercising other kinds of authority
	0.8 = Mostly in	General public services towards other public services
	1 = fully in	General public services towards external public

*Cases are not assigned one of these three anchor points – contrary to the calibration of the other sets. A logistic function fits the raw data in-between the three qualitative anchors.

**There is no full membership or non-membership, since departments (less autonomy than Type A) and private law agencies (more autonomy than Type C) are not included.

***There is no full non-membership, since each agency with a performance agreement is subjected to at least a yearly monitoring.

****Huijben and Geurtsen (2008) found scale economies to have an impact on overhead starting from 200 FTE.

TABLE 5: REGRESSION ANALYSIS

	Model 1	Model 2	Model 3	Model 4	Model 5
Formal autonomy					
-Type B	0.14*** (0.03)	0.13*** (0.03)		0.12*** (0.03)	
-Type C	0.07** (0.03)		0.05* (0.03)		0.04 (0.03)
Performance-based target setting	0.05* (0.02)	0.05* (0.03)	0.06** (0.03)	0.04 (0.03)	0.05* (0.03)
Monitoring frequency	0.00 (0.02)	0.01 (0.02)	0.00 (0.03)	0.00 (0.02)	-0.00 (0.03)
Size		-0.01 (0.01)	-0.01 (0.01)		
Task				0.02 (0.03)	0.02 (0.03)
Observations	47	47	47	47	47
Log-likelihood	52.904	50.593	45.932	50.044	45.441
R ²	0.36	0.29	0.14	0.28	0.12

TABLE 6 : ANALYSIS OF NECESSARY CONDITIONS

Condition	High reported overhead
High formal autonomy	0.72 (0.84)
No high formal autonomy	0.60 (0.65)
Performance-based targets present	0.64 (0.75)
No performance-based targets present	0.65 (0.71)
Frequent monitoring	0.72 (0.70)
No frequent monitoring	0.58 (0.78)
Small organization	0.40 (0.56)
No small organization	0.60 (0.56)
Task with standardizable overhead	0.75 (0.63)
No task with standardizable overhead	0.44 (0.76)

**TABLE 7 : ANALYSIS OF SUFFICIENT
CONDITIONS**

Conditions / Solution terms	1	2	3
High formal autonomy	●	●	
Performance-based target present	●		●
Frequent monitoring		○	●
Small agency		●	
Task with standardizable overhead			○
Consistency	0.90	0.93	0.90
Raw coverage	0.37	0.20	0.18
Unique coverage	0.18	0.12	0.02
Overall solution consistency		0.91	
Overall solution coverage		0.51	
<i>N</i>		47	

Note 1: The frequency cut-off is set at 1. The consistency cut-off is set at 0.90. Black circles indicate the presence of a condition, and white circles indicate its absence. Blank spaces indicate 'don't care' (Ragin & Fiss 2008).

Note 2: The following assumptions were made concerning the intermediate solution: should contribute to high reported overhead when condition is present/absent: high formal autonomy (present/absent); frequent monitoring (present/absent); performance-based targets present (present/absent); small agency (present); task with standardizable overhead (absent)

TABLE 8 : SUPPORT FOR HYPOTHESES

Hypotheses/Analysis	Regression	fsQCA
<i>H1: low formal autonomy and/or low levels of result control (less frequent monitoring / no performance-based targets) will contribute to a high overhead</i>	Rejection independent effect formal autonomy Rejection independent effect performance-based target setting No support independent effect monitoring frequency	Support contributing effect less frequent monitoring in one solution term [2]
<i>H2: high formal autonomy and/or high levels of result control (frequent monitoring / performance-based targets) will contribute to a high overhead</i>	Support independent effect high formal autonomy Support independent effect performance-based targets No support independent effect monitoring frequency	Support contributing effect high formal autonomy combined with performance-based targets [1] Support contributing effect high formal autonomy in two solution terms [1 & 2] Support contributing effect performance-based targets in two solution terms [1 & 3] Support contributing effect frequent monitoring in one solution term [3]
<i>H3: being small will contribute to a high overhead</i>	No support	Support contributing effect in one solution term [2]
<i>H4: having a primary task with less standardizable overhead functions will contribute to a high overhead</i>	No support	Support contributing effect in one solution term [3]

*We make a distinction between independent effects in the regression analysis, and contributing effects in the fsQCA

** In the overview of the regression findings, we distinguish between ‘support’, ‘no support’, or ‘rejection’ (opposite effect). This approach is not advisable when discussing QCA findings. One cannot engage in straightforward hypothesis testing in QCA, because “hypotheses cannot be supported or rejected tout court” (Schneider & Wagemann, 2012, p. 295). We will take on the standards of good practices approach of set-theoretic methods, and shed light on which parts of the previously mentioned theories are supported by our empirical findings (Schneider & Wagemann, 2010).

**FIGURE 1: RELATIONSHIP BETWEEN
FORMAL AUTONOMY AND OVERHEAD**

