

Individual capabilities of the Brazilian agribusiness public bureaucracy

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This article analyzes the individual capabilities of government employees working in Superior Management and Advisory (SMA) positions in the Brazilian federal bureaucracy regarding the solution of problems in the agribusiness sector. The data were obtained from the Integrated Personnel Administration System (IPAS). Three proxies were defined to build an analytical construct to reflect the individual capabilities of the Ministry of Agriculture, Livestock, and Supply's (MALS) personnel: political, operational, and analytical competencies. The proxies were analyzed using a quantitative-descriptive approach. The study observed the bureaucrat's turnover from 1999 to 2012. Subsequently, using the Mann-Whitney U test for independent samples, data from 1998 and 2018 were compared to verify changes in operational and analytical competencies, represented by the leadership capacity and ability to process information, respectively. The results showed that the individual capability of MALS's personnel remained unchanged, indicated by the permanence of tenured employees in high-level positions and the maintenance of the level of formal education, which did not evolve over time.

Keywords: bureaucrats; public service; competence.

Capacidades individuais da burocracia pública do agronegócio brasileiro

Este artigo aborda a capacidade individual da burocracia pública federal, no âmbito dos servidores ocupantes de posições de Direção e Assessoramento Superior (DAS), para a resolução dos problemas no contexto do agronegócio brasileiro. Os dados foram obtidos por meio do Sistema Integrado de Administração de Pessoal (SIAPE). Foram delimitadas três *proxies* como bases formativas de um construto de análise no intuito de representar a capacidade individual da burocracia vinculada ao Ministério da Agricultura, Pecuária e Abastecimento (MAPA): política, operacional e analítica. Essas *proxies* foram analisadas sob uma abordagem quantitativo-descritiva. Inicialmente, verificou-se o nível de rotatividade dos burocratas no período de 1999 a 2012. Posteriormente, por meio do teste de amostras independentes Mann-Whitney U, foram comparados dados de 1998 e 2018, como forma de verificar modificações nas competências operacionais e analíticas, representadas pela capacidade de liderança e habilidade de processar informações, respectivamente. O conjunto de fatos resultantes evidenciam certo conservadorismo da capacidade individual da burocracia do MAPA, uma vez que se observam a não modificação de ocupantes de cargos mais elevados na condição de efetivos, com destaque para aqueles na posição de ativos permanentes, e a não evolução do nível de instrução formal.

Palavras-chave: burocratas; serviço público; competências.

Capacidades individuales de la burocracia pública del agronegocio brasileño

Este artículo aborda la capacidad individual del gobierno para resolver problemas en el contexto de los agronegocios brasileños, específicamente al nivel de la burocracia en el estrato de Gestión Superior y Asesoría (DAS). Los datos se obtuvieron a través de la base de datos del Sistema Integrado de Administración de Personal (SIAPE). Tres *proxies* se definieron como bases formativas para el análisis a fin de reflejar la capacidad individual de la burocracia vinculada al Ministerio de Agricultura, Ganadería y Abastecimiento (MAPA) en las competencias política, operativa y analítica. Estas aproximaciones se analizaron utilizando un enfoque cuantitativo-descriptivo. Inicialmente, se verificó el nivel de rotación de los burócratas, de 1999 a 2012. Posteriormente, utilizando la prueba de muestras independientes U de Mann-Whitney, se compararon los datos de 1998 y 2018 como una forma de verificar los cambios en las competencias operativas y analíticas, representadas por la capacidad de liderazgo y la habilidad de procesar información, respectivamente. El conjunto de hechos resultantes muestra un cierto conservadurismo de la capacidad individual de la burocracia del MAPA, dada la no modificación de ocupantes de cargos superiores en la condición de personal permanente, con énfasis en los de carrera en el propio órgano, y la no evolución del nivel de educación formal.

Palabras clave: burócratas; servicio público; competencias.

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1. INTRODUCTION

The elaboration of effective, efficient and equitable public policies by government actors is essential in public administration, given the limited financial resources due to growing and different social demands (Fischer, Miller & Sidney, 2007; Kraft & Furlong, 2007; Mukherjee & Bali, 2019; Souza, 2017). Thus, several actions have been taken over time, either in relation to the restructuring of forms of government, with administrative reforms - from the ideological-behavioral perspectives of political agents - or through the progressive incorporation of innovations¹ in the scope of public administration (Gow, 2012; Steingerg, 2014).

However, the individual capacity of the public bureaucracy, understood as a key factor for the success of government interventions (Baekgaard, Mortensen & Seeberg, 2018; Wu, Howlett & Ramesh, 2018), has received minor attention. Pires (2012) and Olsen (2006) emphasize that, despite some studies focusing on the analysis of the role played by bureaucracy in the government structure, there is still an omission in focusing on the profile of these actors and their implications regarding the assertiveness of actions taken, that is, the government's capacity to improve its conditions for delivering better services to citizens. Therefore, this capacity is related to the solution of public problems and the different ways (characteristics) on how institutions are designed and structured, which reflects on how they work.

Furthermore, in Brazil, specifically, with the promulgation of the 1988 Constitution, there was a progressive expansion of the bureaucratic apparatus, since the government attributions in the delivery of services, notably in the social areas, were increased (Souza, 2001, 2014). Research has been conducted to understand the profile of bureaucracy at the general level of the Brazilian federal government, that is, in an aggregated way, as seen in Lopez, M. Bugarin and K. Bugarin (2014) and also in Pires, Lotta and Oliveira (2018); as well as others dedicated to sectors considered important, such as Paula, Palotti, Cavalcante and Alves (2017) on the field of transportation and energy. However, a specific economic sector has been neglected in these studies: agribusiness.

Even though agribusiness can be considered a strategic sector of the first order in the context of the Brazilian public administration, mainly due to the balance it has provided to deficits in other fields (Moreira, Kureski & Pereira-Veiga, 2016), the studies aimed at understanding the bureaucracy in this field are incipient. By congregating an extensive organizational structure, with public policies aimed at different agendas and different target audiences, the effectiveness or not of government interventions in the Brazilian rural sector directly depends on the capacity of the technical staff of the Ministry of Agriculture, Livestock and Supply (MALS).

¹ Vries, Bekkers and Tummers (2016), in a systematic analysis of research related to the study of innovation in public organizations, indicated that one of the desired objectives is the expansion of efficiency and effectiveness.

In the study by Simão et al. (2017), for example, it was found that a reduction in the interest of rural producers from poor regions to participate in the Food Acquisition Program (PAA) was linked to constant changes in the form of accountability, in the discontinuity of the program² and in the delay in the release of food payments by the National Supply Company (Conab)³. Igari and Pivello (2011) emphasize that, at the time of the creation of the Forest Code, specifically in the year of 1965, the then minister of MALS credited to a group of bureaucrats the construction of the draft project, believing to obtain a result more consistent with reality.

When considering the individual capacity of bureaucracy and the different areas of government action, it must be admitted that there are differences in its way of acting on political issues (public policies relating to the sector) and in the types of policy formulated and implemented. Given the above, can one think about verifying the individual capabilities of bureaucracy through the analysis of the structure and characteristics of bureaucrats related to agribusiness?

Thus, the objective of this work is to analyze the individual capacity of bureaucrats within the scope of MALS of the Brazilian federal government as a means of understanding the assertiveness of government actions undertaken in the rural sector.

The present work is structured in four parts, in addition to this introduction, to fulfill this objective, in order to answer the research question, In the first, of a theoretical nature, the construction of the theoretical-analytical model used is presented, with emphasis on the adaptation of the concepts discussed in Wu, Ramesh and Howlett (2015), which deal with government capabilities. The methodology is presented in the third topic, in which the analytical constructs of interest are elaborated. In the fourth topic, the results are presented, as well as the discussions that originated from them. Then, the main conclusions are indicated.

2. THEORETICAL REVIEW

2.1 The role of bureaucracy in the capabilities to generate public policies

The Citizen Constitution, as the Constitution of the Federative Republic of Brazil is called (Constituição da República Federativa do Brasil, 1988), expanded the State's attributions in relation to the problems faced by the population, especially regarding to greater social protection, as well as delimited the inter-federative attributions through greater decentralization of resources and responsibilities (Castro & Ribeiro, 2009; Souza, 2001). Allied to this context, in the mid-1990s, it was realized that it would be necessary to "modernize" the governmental apparatus with a view to delivering better results to the population (Bresser-Pereira, 1998). In this context, the so-called administrative management reform emerges, which would place at the center of discussions the need for greater efficiency in central public administration.

In Paula's (2005) view, managerialism implied the incorporation of administrative guidelines common to the scope of capital companies by the sphere of public administration. Under the managerial model, efficiency, as already mentioned, became a guide, since the citizen started to be seen not only as a user, but also as a customer.

² Discontinuity is related to the period of analysis and approval of a new proposal, upon completion of the previous project.

³ Conab is a public company linked to MALS.

Therefore, the offer of services should supply the needs of individuals by optimizing the use of public resources and modernizing the state apparatus. As a result of this perspective, Pacheco (2002) indicates that there was a need for greater training of bureaucrats, including formal education, since the prevailing level of education was not relevant to the aspirations of the management reform.

The levels of efficiency and assertiveness (effectiveness) in the actions undertaken by government actors from then on became a guide in the analysis of any action. Despite this, due to some inconsistencies in the management model⁴, the means of conceptualizing and/or analyzing the effectiveness in the scope of public administration are still diverse and, therefore, not very clear, including in this scenario the capacity of actors to deliver services that meet to what is demanded by society in an equitable way.

Wu et al. (2015) emphasize that there would be three bases for the elaboration of effective, efficient and equitable government interventions⁵: analytical, operational and political. These bases would manifest themselves on three levels: individual, organizational and systemic. Box 1 lists the main characteristics of these analytical bases in relation to their different levels of manifestation.

BOX 1 INTERRELATED ANALYSIS MODEL OF GOVERNMENT CAPACITY

		Capabilities		
		INDIVIDUAL	ORGANIZATIONAL	SYSTEMIC
Competencies/Skills	ANALYTICAL	Access and/or application of technical and/or scientific knowledge and analytical techniques in defining and/or implementing policies. Focus: processing information.	Availability of individuals with analytical skills and instruments for collecting and processing data. Focus: efficient information systems.	Ability to access a wide range of data. Focus: data availability.
	OPERATIONAL	Ability to perform key managerial functions. Focus: leadership and/or freedom in relation to managerial functions.	Availability of an internally organized environment. Focus: institutionally organized political environment.	Coordination between governmental and non-governmental sectors to solve collective problems. Focus: shared vision.
	POLITICAL	Ability to identify and/or understand interests and ideologies and their interactions. Focus: political knowledge and experience.	Developing learning relationships with governance partners and the audience. Focus: two-way communication.	Level of confidence in political actions in the political, social, economic and security spheres. Focus: gain of public confidence.

Source: Adapted from Wu et al. (2015).

⁴ Paula (2005) indicates that the social controls prescribed by the management model were not effective in reality, as is the case of detachment from bureaucracy, as there was only an idealization of the so-called public service orientation.

⁵ The concept coined by Wu et al. (2015), policy capacity, will be used here as the capacity of public administration to develop and implement effective, efficient and equitable public policies.

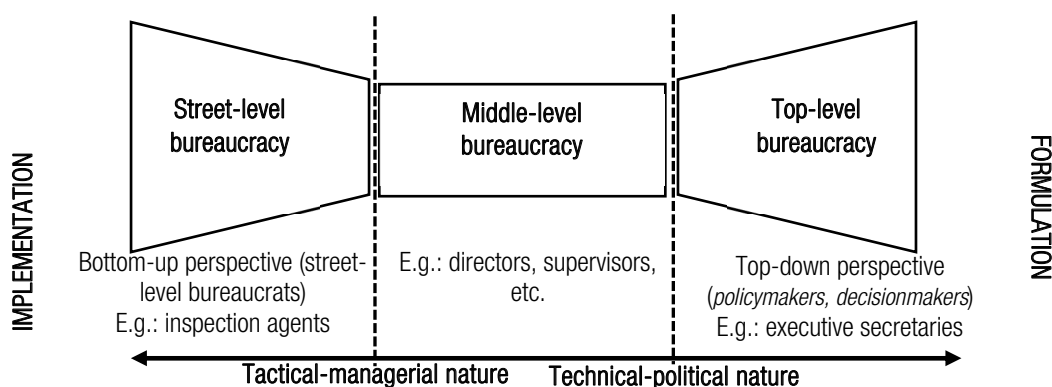
Although the interrelated model presented in Box 1 emphasizes a multilevel basis in relation to capabilities, it should be noted that any action undertaken within the scope of public administration is preliminarily understood at the individual level (densest line in the box). This level would be the one in which social actors cooperatively combine efforts in a public configuration (F. A. Nigro & L. G. Nigro, 1970). Additionally, as highlighted by Lavee, Cohen and Nouman. (2018), one of the main causes of the inefficiency of government actions results from the removal of bureaucrats from political programs (organizational level), creating noise and, consequently, problems.

From this perspective, Baekgaard et al. (2018) are emphatic in highlighting the active role of bureaucrats in all stages of government decisions, which confronts the idea that these actors are mere implementers of public policies. Faced with a complex scenario, bureaucrats interpret the data and inform the decision makers the best actions to be taken in adjusting the public policy agenda (Workman, 2015). Therefore, it is noteworthy the important role that bureaucracy, at the level of individual capacity, tends to play in the context of decision-making and the results achieved in the public sphere.

2.2 The characterization of the bureaucracy profile in the context of the Brazilian federal government

With the changes coming from the 1988 Constitution, Abrúcio and Loureiro (2018) emphasize that there was an increase in the Brazilian state bureaucracy. In addition, infrastructure investment programs, implemented in the mid-2000s, increased the demand for bureaucrats with technical skills (Freire, Knop, Alves, Cavalcante & Palotti, 2017). This amplified set of bureaucrats in the Brazilian federal sphere can be analyzed, in the view of Pires (2012), of two natures: tactical-managerial, understood as the understanding of strategic guidelines and its explanation to actors at the operational levels; and technical-political, conceived as the capacity to negotiate with stakeholders; as well as under three levels in relation to the position occupied by bureaucrats: street, middle, and top level.

FIGURE 1 ANALYTICAL PERSPECTIVES OF THE LEVELS AND ROLE OF BUREAUCRATS IN PUBLIC ADMINISTRATION



Source: Elaborated by the authors based on Pires (2012).

Regarding street-level bureaucracy, it is in the stratum of the governmental apparatus that the refinement of the effect of public policy on the citizen occurs. More clearly, Lipsky (2019) draws attention to the fact that, in the figure of bureaucrats at this level of bureaucracy, the citizen finds the government, which places these professionals in a critical position regarding the success, or not, of certain actions.

At the other extreme are the so-called top-level bureaucrats, who are conceived by D'Araújo (2009, p. 18) as those bureaucrats who, alongside bureaucrats occupying special positions and political agents, configure "the ruling elite who governs the country". At the intermediate level, the middle-level bureaucrat, as highlighted by Cavalcante and Lotta (2015), in a contingent perspective, depending on the sector and policy, can act with a high level of autonomy in relation to the decision-making process or not. The greater the situational stratum, the greater the attributions related to political technicality; the closer to street level, the greater the demands on tactical-managerial characteristics.

Lopez et al. (2014) indicate that, in addition to these different hierarchical levels, two other distinctions can be found in the context of personnel in the government sphere, namely: related to the nature of the relationship or the categorization of commissioned positions. In the aspect of the nature of the relationship, there are career bureaucrat, or permanent, who are those incorporated into the governmental apparatus through approval in a civil service entrance examination, who have stability. In the categorization of commissioned positions, there are those bureaucrats who are likely to be dismissed from public service at any time.

Specifically, in relation to middle and upper class positions, inserted in the so-called Superior Management and Advisory (SMA) positions, there is a breakdown into six hierarchical levels divided into two categories - management and advisory - to which the occupants of such positions are susceptible. As can be seen from the information in Box 2, the positions of trust, specifically within the scope of MALS, the entity responsible for congregating the attributions pertaining to government intervention in the Brazilian rural sector, encompassed six levels of management (DAS 101) and five of advisory (DAS 102) in the year 2018. Both management and collaboration positions can be occupied by career bureaucrats and bureaucrats under temporary contract.

BOX 2 BREAKDOWN OF POSITIONS OF TRUST WITHIN THE CONTEXT OF MALS - 2018

		SENIOR MANAGEMENT POSITIONS		FEDERATED STATE
HIERARCHY AND NATURE	ACTIVITY FUNCTION IN MALS	ATTRIBUTIONS		
CAREER BUREAUCRAT	DAS 101.6	<ul style="list-style-type: none"> Secretary 	<ul style="list-style-type: none"> Planning. Supervision. Coordination. Guidance/control of the formulation of programs and standards. 	DF
	DAS 101.5	<ul style="list-style-type: none"> Chief of Staff Legal Advisor Magistrate Director Programs Director Internal Control Secretary Deputy Executive Secretary 	<ul style="list-style-type: none"> Coordination/articulation between the technical and political areas. Preparation of documents for dispatch. 	DF; RJ
	DAS 101.4	<ul style="list-style-type: none"> Chief of Advisory Chief of Staff General coordinator Coordinator of Nat. Agric. Info. Doc. System <i>Ombudsman</i> Superintendent 	<ul style="list-style-type: none"> Develop public policies. Justify editing of normative acts. Assist the minister/directors of autarchies. 	AC; AL; AM; AP; BA; CE; DF; ES; GO; MA; MG; MS; MT; PA; PB; PE; PI; PR; RJ; RN; RO; RR; RS; SC; SE; SP; TO
	101.3	<ul style="list-style-type: none"> Coordinator Superintendent 		DF; BA; RO; PA; SP
	101.2	<ul style="list-style-type: none"> Chief of Division 		AM; BA; DF; GO; MA; MG; MT; PA; PE; PI; PR; RJ; RO; RR; RS; SC; SP
	101.1	<ul style="list-style-type: none"> Chief of Service 		AC; AL; AM; AP; CE; DF; ES; PB; RJ; RN. RS; SC; SE; TO
	ADVISORY POSITIONS			
	DAS 102.5	<ul style="list-style-type: none"> Special Advisor Ministerial Special Advisor 		DF
	DAS 102.4	<ul style="list-style-type: none"> Advisor Executive Secretary Advisor 		DF
	DAS 102.3	<ul style="list-style-type: none"> Technical Advisor 		DF
	DAS 102.2	<ul style="list-style-type: none"> Assistant Cabinet Assistant 		DF; RJ
	DAS 102.1	<ul style="list-style-type: none"> Technical Assistant 		DF; RJ

BUREAUCRAT UNDER CONTRACT

Source: Adapted from Lopez et al. (2014) and research data.

There is still no consensus in the literature regarding the best way to distribute hired bureaucrats and career bureaucrats (permanent) who occupy higher-level positions. D'Araujo (2009), for example, considers that, when there is a high number of positions to be filled by designation of the president (positions of trust), as is the case of Brazil, there would be two negative perspectives: high centrality and lack of transparency in screening processes.

This scenario is in conflict with what values the principles of good public administration, since the screening may not occur by merit, in the case of temporary bureaucrat in the public career. Lopez (2017) highlights that the increase in the number of occupants in higher commissioned positions is commonly considered a problem, since, in the Brazilian context, there is a recurrent use of party nominations for these positions. This fact, together with the existing political coalition at the federal sphere, leads to a high turnover⁶, which ends up harming the sequencing of the actions undertaken.

In contrast to this conception, Praça, Lotta and Oliveira (2012) found that the commissioned positions are not necessarily modified by changes in ministers, since the predominant factor in many cases is the experience of bureaucrats. Also discussing about the context of the expertise of bureaucrats occupying positions of trust, Bresser-Pereira (1996) has already emphasized that, as there is flexibility in the choice of those occupying positions of this nature, merit would, in theory, become a guide in the screening, with a consequent option for the most suitable board.

It is necessary to delimit that there is legislation that self-limits⁷ item V of Article 37 of the Federal Constitution of 1988⁸, precisely the constitutional precept related to this flexibility indicated by Bresser-Pereira (1996). The first legislation in this sense was Decree No. 5,497, of July 21, 2005 (Decreto nº 5.497, de 21 de julho de 2005).

This first decree stipulated that career bureaucrats (permanent) would occupy minimum percentages in senior management and advisory positions, in DAS positions, in the following delimitations: 75% in DAS 1, 2 and 3 positions; and 50% in DAS 4. Subsequently, there was a new decree, number 9,021, of November 31, 2017 (Decreto nº 9.021, de 31 de março de 2017), changing some mechanisms of the predecessor ordinance. The main changes brought about by this second decree were the inclusion of 60% of permanent staff in relation to the total set of bureaucrats for DAS 5 and 6 positions, and 50% in the other levels (DAS 1, 2, 3 and 4).

⁶ “Each ministerial change activates the bureaucratic carousel of new designations (and dismissals) at all DAS levels” (Lopez, 2017, p. 31).

⁷ Denomination given by Rezende (2017).

⁸ The aforementioned item indicates that “[...] functions of trust, exercised exclusively by servants occupying permanent positions, and commissioned positions, to be filled by career servants in the cases, conditions and minimum percentages, provided by the law, are intended only for the attributions of management, leadership and advisory” (Constituição da República Federativa do Brasil, 1988).

2.2.1 Government bureaucratic structure and Brazilian agribusiness

Setting the agenda in relation to government policies and programs within the scope of Brazilian agribusiness is a strategic issue for public administration, given the field's relevance for the country's economic development (Bacha, 2004; Gonçalves, Alves, Shikida & Staduto, 2009; Filippi, Guarnieri, Carvalho, Reis & Cunha, 2019). Over the past few years, agribusiness has played an important role in the balance of trade and, as a result, has a considerable influence on the constitution of the Gross Domestic Product (GDP), that is, on the generation of wealth in Brazil (Castro, Barros, Almeida, Gilio & Moraes, 2020; Moreira et al., 2016).

Abbey, Baer and Filizzola (2006) argue that decisions taken in the public sphere, especially the rural credit policy and investment in research and development, implemented in the 1960s, which culminated in the expansion of productivity in Brazilian agriculture. However, with the structural changes that Brazil went through in the early 1990s, highlighting the process of trade openness, there was a reorganization of the agribusiness productive sector, allowing the most diverse actors to seek greater assistance from the government on their interests. This context ended up influencing the definition of the agenda related to the field and led to an expansion in lines of financing, rural insurance, etc. (Machado, 2009).

Regarding the role of bureaucracy in the context of MALS, which is the sectorial entity within the Brazilian federal government responsible for defining actions related to the rural sector, few studies have been conducted. The work of Costa (1993), for example, indicated that certain employees remained in their management positions for long periods due to the knowledge they had in relation to articulation with lobbies and congressional caucuses. This perception is contradicted by Lopez and Praça (2015), who asserts that MALS's state superintendencies are one of the sectors of the federal government with the greatest dispute for political and/or party nomination, given the capacity for influence and, consequently, for projection of parliamentarians at their bases.

Medeiros et al. (2005), in a study on actions for structural changes in the organization of MALS, highlights that in 2005 there were intentions to implement processes for the dissemination of priorities and strategic goals to bureaucrats, in order to optimize the effectiveness of the actions. However, there are no major academic indications related to the effects of these interventions, except for the fact identified by Vicari (2020) about the occurrence, at that time, of a rapprochement with the business community, due to the consolidation of the sectorial chambers, the composition of positions and gains of administrative capacity. It is noteworthy, therefore, that analyzing the characteristics of bureaucracy within the scope of the MALS is a relevant condition for understanding the way in which this strategic government sector is situated and structured in Brazilian public administration.

From 2016 to 2019, in a synthetic way, MALS presented the structure according to Box 3.

BOX 3 **MALS'S REGIMENTAL STRUCTURE VALID FROM 2016 TO 2019**

IMMEDIATE ASSISTANCE TO THE MINISTER	SECRETARIATS	DECENTRALIZED UNITS	COLLEGIATE BODIES	LINKED ENTITIES
<ul style="list-style-type: none"> • Minister's office • Special Internal Control Advisory • Executive Secretary • Comptroller • National School of Agricultural Management • Department of Administration • Executive Commission for Cocoa Cultivation and Planning 	<ul style="list-style-type: none"> • Secretariat of Aquaculture and Fisheries • Secretariat for Agricultural Defense • Secretariat of Social Mobility, Rural Producers and Cooperatives • Secretariat of Agricultural Policy • Secretariat of Agribusiness International Relations 	<ul style="list-style-type: none"> • Federal Superintendencies of Agriculture, Livestock and Supply • National Agricultural Laboratories • Regional Superintendencies for the Development of Cocoa Cultivation • Public Fishing Terminals • Meteorology Districts 	<ul style="list-style-type: none"> • Interministerial Rural Insurance Management Committee (CGSR) • National Horse Breeding Coordinating Committee (CCCCN) • Special Appeals Committee (CER) • Deliberative Council on Coffee Policy (CDPC) • Interministerial Council on Sugar and Alcohol (CIMA) • National Council for Aquaculture and Fisheries (CONAPE) • National Council for Agricultural Policy (CNPA) 	<i>Autarchy</i>
				<ul style="list-style-type: none"> • National Institute for Colonization and Agrarian Reform (INCRA)
				<i>Public Companies</i>
				<ul style="list-style-type: none"> • Brazilian Agricultural Research Corporation (Embrapa) • National Supply Company (Conab)
				<i>Joint Capital Company</i>
				<ul style="list-style-type: none"> • Supply Centers of Minas Gerais S.A. (CEASA/MG) • Company of Warehouses and Silos of the State of Minas Gerais S.A. (CASE/MG) • Company of Warehouses and General Warehouses of São Paulo (CEAGE/SP)

Source: Decree No. 8,852, of September 20, 2016 (Decreto nº 8.852, de 20 de setembro de 2016).

The information presented in Box 3 allows to identify the existence of a bureaucratic staff closer to the minister, secretariats with attributions related to the most diverse areas of the rural sector, decentralized units - which characterize the capillarity of the entity in the federation units - and linked entities, these the latter comprising the set of companies and autarchies linked to the ministry. Furthermore, in the period under review, there were also collegiate bodies, whose attributions were basically about defining guidelines and priorities and forwarding demands related to the respective areas of activity of the ministry.

3. METHODOLOGY

This quantitative-descriptive research aimed, at first, to analyze differences in bureaucratic turnover in positions of trust in the context of MALS. The concept of turnover, as well as the methodology used, are aligned with that presented in Lopez et al. (2014, p. 445), who indicate “[...] the relationship between the number of dismissed employees and the number of hired employees”. It is, therefore, an index referring to the replacement of bureaucrats.

We used a panel analysis between the years 1999 and 2012⁹ to observe the turnover. It is noteworthy that the spatiotemporal of turnover proxy diverges from the lapse of the other variables, since, as highlighted by Lopez et al. (2014), from 1999 onwards the data are robustly reliable. The final year, 2012, is the last with the existence of sequential information contained in the microdata made available by the Institute for Applied Economic Research (IPEA), a characteristic necessary for this proxy.

Subsequently, with the use of the Mann-Whitney U independent test¹⁰, we intended to verify statistically relevant distinctions in the data of MALS bureaucrats between two times cuts - the years 1998 and 2018 were considered. In the view of Field (2009), when one intends to compare the means of two independent groups for mutual conditioning, specifically when these groups do not assume a normal condition, the most advisable statistical test is the Mann-Whitney U test. It is an analysis of secondary data in cross section, commonly conducted in research within the scope of structural analysis of public administration, as verified in Bogoni, Nelson and Beuren (2011).

The year 1998 was considered because this would correspond to the period in which there was a reduction in protectionist practices by the federal government, as highlighted by I. V. Lopes and M. D. R. Lopes (2010), with considerable impact on agribusiness and, by inference, on public administration related to this sector. In addition, this milestone of 1998 was the starting point for changes in the scope of MALS, which would reflect, in the following year, in the creation of the Ministry of Agrarian Development (MDA)¹¹, for instance. The year 2018, as a point of opposition for the analyses, was chosen because it represents a period in which there were structural changes in MALS's policies, with emphasis on Agro+, that focused on specific procedures for debureaucratization¹².

The main source of data related to what is here called bureaucracy was the system that manages the information pertaining to the bureaucrats' board of the federal government, the Integrated Personnel Administration System (IPAS). It is noteworthy that the classification concept adopted was the set of bureaucrats occupying DAS positions in the MALS.

As this system has restricted access, data analysis was possible with the collaboration of IPEA, which, through a formal agreement to guarantee the confidentiality of personal information¹³, provided the database for the period considered. Authorization for the use of data is linked to the aggregated divulgation of the information.

⁹ The spatiotemporal turnover diverges from that considered in the other variables of interest, since, as highlighted by Lopez et al. (2014), it is from 1999 that the data are robustly reliable.

¹⁰ The option for the Mann-Whitney U test was due to the fact that the Smirnov-Kolmogorov normality test indicates that all construct analysis proxies are distinguished from a normal distribution.

¹¹ In 2019, given the restructuring of the federal government's organization, the MDA was extincted and its attributions returned to MALS.

¹² Released in December 2017 by then Minister of Agriculture Blairo Maggi.

¹³ Authorization is only related to aggregated data, preserving personal information from servers.

As a way of verifying the capacity to generate public policies in the unit of analysis of interest, based on the concept discussed by Wu et al. (2015), presented in Box 1 – considering the data from the IPAS database, as well as the information contained in the microdata made available by IPEA – the variables of interest (proxy) presented in Chart 4, were listed discretionally. By selecting these proxies, the intention was to create a construct that would enable the analysis of individual capacity.

BOX 4 **VARIABLES OF INTEREST AND ANALYTICAL BASES OF INDIVIDUAL CAPABILITIES OF MALS'S BUREAUCRACY**

FORMATIVE BASES OF ANALYSIS			selected proxy	Inference	THEORETICAL SUPPORT
Analytical	Individual	Process information.	Level of instruction.	Greater formal qualification means greater ability to process information.	Pacheco (2002)
			Status of bond.	Greater number of permanent MALS bureaucrats, occupying DAS position, denotes more conditions of freedom to make decisions.	
Operational	Individual	Leadership/ freedom in relation to managerial functions.	Sub-function occupied.	According to the attributions listed in Box 2, bureaucrats occupying top-level positions would tend to have greater conditions to exercise leadership due to the attributions of the positions held.	Lopez (2017); D'Araújo (2009)
			Bureaucrats' turnover in positions of trust.	Higher turnover denotes a decrease in political knowledge and experience.	
Political	Individual	Political knowledge and experience.			Lopez et al. (2014)

Source: Research data.

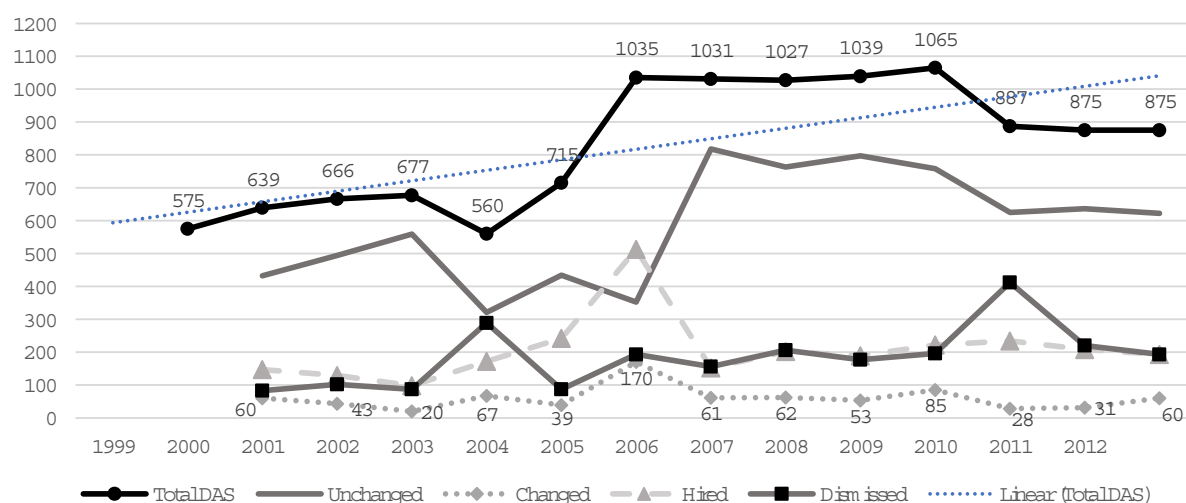
Despite the fact that Wu et al. (2015) have emphasized that the capacity to design effective, efficient and equitable government interventions is linked to a multidimensional set - individual, organizational and systemic -, this study will focus only on the individual conditioning factor. This choice is linked to the assumption of the indicatives of Baekgaard et al. (2018), Lavee et al. (2018), F. A. Nigro and L. G. Nigro (1970) and Workman (2015), as already discussed, that the characteristics of bureaucracy at the individual level of actors (bureaucrats) are considered the backbone of any structuring in the sphere of government.

4. RESULTS AND DISCUSSION

4.1 Turnover of DAS bureaucrats in the MALS

As already mentioned, the turnover calculation follows the pattern presented in Lopez et al. (2014). This pattern considers four variables, taking as a reference, the total number of bureaucrats occupying DAS positions and the previous year. The approaches, based on this structuring, are given in relation to: number of bureaucrats who did not have their role changed; number of bureaucrats whose positions have changed (promotion or demotion); hired bureaucrats; and number of dismissed bureaucrats. Graph 1 shows the evolution of turnover of DAS position occupants in the period between 2000 and 2012.

GRAPH 1 TOTAL EMPLOYEES HOLDING THE DAS POSITION IN THE MALS (2000-2012)



Source: Elaborated by the authors based on IPAS data.

By the Graph 1, it is possible to verify that the peaks of greatest upward change in the total set of commissioned bureaucrats, between the years 2000 and 2012, occurred between 2003 and 2005. This growth was responsible for a modification (alteration) index of around 11% in 2003 and 16% in 2005. Considering the premise proposed by Wu et al. (2015) in relation to political capacity, this scenario of greater change in the scope of MALS would be harmful, as it would tend to reduce the expertise of the Ministry’s technical staff in identifying key actors within and outside the state structure, their relationships, as well as the conflicts of choice necessary to construct agreements.

In 2003, a change was already expected in the number of dismissals. It is clear that, in the establishment of a new central government, especially when there is a reorganization of the base of the presidency¹⁴, the minister is replaced, indicating a trusted occupant of the president, a view contrary to the precepts of Praça, Freitas and Hoepers (2012), since it leads to changes in the bureaucrats' board, in the positions in question.

Furthermore, another possibility that leads to change, not only in the position of minister, but in higher-level positions, is the alteration in the political-party coalition that supported the candidates. Especially in relation to 2003, it is known that there was the beginning of a new government at the federal sphere and that these changes would be equally expected.

The year of 2005 draws attention due to the oscillation in the hiring line. This change can be explained by the so-called administrative reform¹⁵, actualized in February of that year and implemented by the then minister Roberto Rodrigues¹⁶. In short, the reform expanded and created secretariats, restructured the then state delegations, which came to be called superintendencies, and created advisory bodies.

Medeiros et al. (2005) emphasize that, in 2005, there was an effort to optimize efficiency through self-assessment diagnoses, internal and external consultations. Thus, the aforementioned reform is possibly the explanatory factor for the upward peak of "hired"¹⁷ bureaucrats in the period. These changes were implemented under the aegis of Decree No. 5,351 of January 21, 2005 (Decreto nº 5.351, de 21 de janeiro de 2005).

In Graph 1, there is another inflection of the curve in 2010, when a reduction in the absolute number of bureaucrats occupying DAS positions is noticed. We also observed, in the scope of this inflection, that the reduction in the absolute number resulted from dismissals (layoffs of bureaucrats in DAS positions).

It is noteworthy that, in this period, MALS underwent a forced restructuring, since there was a change of ministers as a result of dissatisfaction on by the political party with influence of nomination in the body¹⁸. In April 2010, the then minister Reinhold Stephanes left to give place to Wagner Rossi. As is the nature of so-called coalition governments, as highlighted in Lopez et al. (2014), changes in several positions occur when the maximum supervisory position changes, which, in this case, concerns the position of minister of state. Obviously, the positions with the greatest influence are those of trust, that is, free from designation, as in the case of DAS.

¹⁴ Luiz Inácio Lula da Silva, from PT, assumes the presidency of the Republic – after two consecutive presidential tenures of Fernando Henrique Cardoso, from PSDB (01/01/1995 to 01/01/2003) –, who would also govern the country for two consecutive periods (01/01/2001 to 01/01/2011).

¹⁵ Changes actualized by Decree n. 5,351, of January 21, 2005 (Decreto nº 5.351, de 21 de janeiro de 2005).

¹⁶ Minister of Agriculture (2003-2006), succeeded by Luís Carlos Guedes Pinto (2006-2007). Followed by Reinhold Stephanes, minister from 2007 to 2010, succeeded by Wagner Rossi (2010 to 2011).

¹⁷ The term "hired" should not be confused with external hiring, as it involves the incorporation of a greater number of bureaucrats in DAS positions.

¹⁸ With the so-called coalition governance, political parties usually have influence on the designation and, as a result, on the permanence of their nominees in government sectors. In the end, as Cavalcante, Magalhães, Goellner and Palotti (2018) highlight, the so-called coalition government is accepted by the president as an instrument for forming a majority in the National Congress.

During the transition, Rossi deepened relations with party caucuses. In early 2011, he slowly changed the team left by Stephanes. And he opened the doors of ministry to almost all of Dilma's allies. He designated PMDB secretaries, PR and PTB directors, and coordinators linked to the PP. Ruralists established several names in the structure. Rossi's openness was even criticized internally by the PMDB leadership, who wanted a "closed gate" in the ministry (Romero, 2011, p. A6).

We realized that the politics of the so-called coalition presidentialism is, possibly, a factor responsible for the amplitude of turnover among bureaucrats in the period under analysis. In spite of the individual capabilities of bureaucrats, their performance may vary, given the frequent changes, which will influence their capabilities to act on the sector's political problems. Table 1 shows the absolute difference and the percentage decrease in bureaucrats in the 2009-2010 period, by hierarchical nature of the position held.

TABLE 1 VARIATION IN THE ABSOLUTE NUMBER OF BUREAUCRATS BY NATURE OF POSITION (2009-2010)

Levels	2009	2010	Absolute difference	Variation (%)
DAS1	368	349	19	-5,2
DAS2	316	268	48	-15,2
DAS3	178	134	44	-24,7
DAS4	145	97	48	-33,1
DAS5	49	34	15	-30,6
DAS6	9	5	4	-44,4
Total	1065	887	178	-16,7

Source: Elaborated by the authors based on IPAS data.

Based on the information presented in Table 1, it is possible to verify that the reductions in positions occurred more intensely at the highest DAS levels. As already presented (see Box 2), DAS levels 4, 5 and 6 have attributions of elaboration and/or advisory on government policies and programs. Occasionally, and more recurrently in the change of governments and/or ministers, the presidency of the Republic, via the Civil House, issues decrees stipulating the demonstrative board of positions in the ministries, as well as the regimental structuring of the bodies. Through these decrees, departments, secretariats and others are established. In addition, these decrees indicate possible reductions, expansions and/or

reallocations of positions between central government bodies to suppress other bodies or to create new structures.

Specifically in 2010, Decree No. 7,127 (Decreto nº 7.127, de 4 de março de 2010) was published in March, still under the direction of Minister Reinhold Stephanes, who revoked Decree No. 5,351 (Decreto nº 5.351, de 21 de janeiro de 2005) and Decree No. 6,348 of January 8, 2008 (Decreto nº 6.348, de 8 de janeiro de 2008). The decree published in March 2010, as well as its predecessors, defined a new regimental restructuring, as well as the number of positions of trust to be occupied within the scope of MALS.

By means of the referred legal determination, some positions were exchanged with the Secretariat of Management, of the Ministry of Planning, Budget and Management¹⁹. In addition, article 46 of the aforementioned ordinance delegates to the minister the designation of commissioned positions to be occupied by career bureaucrats, which would occur through an internal screening process²⁰.

Briefly, such decrees aimed to regulate, at the time of the facts, article 50 of Law No. 10,683, of May 28, 2003 (Lei nº 10.683, de 28 de maio de 2003), which stipulated to the Executive Power the responsibility for the organization, and its changes, of the bodies that composed the public administration, including autarchies and foundations, as well as by the definition and/or designation of positions.

4.2 Characterization of bureaucrats in relation to the possibility of leadership and capacity to process information

As indicated by Pacheco (2002)²¹, from 1995, the board of bureaucrats in the sphere of the Brazilian federal government started to be seen as a strategic asset, which led to instructional qualification being considered a key aspect. This point, the qualification of public bureaucrats, started to be conceived as a relevant aspect in improving the levels of efficiency and assertiveness in the actions undertaken. Specifically, in the context of MALS, the descriptive structure of positions of trust, in the years analyzed, can be seen in Table 2.

¹⁹ The referred ministry was incorporated into the Ministry of Economy from January 1, 2019.

²⁰ It is necessary to emphasize that, as already presented, since July 2005 there has been a legal determination (Decreto nº 5.497, de 21 de julho de 2005) indicating the minimum percentages to be met with the occupation of permanent bureaucrats in all central government.

²¹ Pacheco (2002, p. 81) indicates that in 1995 more than 60% of the work positions were of medium level and, therefore, the conditions of bureaucrats were deficient in “activities of formulation and assessment of public policies, regulation and development [...]”.

TABLE 2 MANN-WHITNEY U TEST FOR EDUCATION OF DAS OCCUPANTS

Educational Stages	1998		2018		Mann-Whitney U Statistical Test for Independent Samples			
	Frequency	Percentage	Frequency	Percentage	Significance	Decision		
Incomplete Elementary School – complete 4 th grade	2	0,4	-	-	,798	Retain the null hypothesis		
Incomplete Middle School – complete 8 th grade	4	0,7	2	0,5				
Incomplete High School	-	-	1	0,2				
Complete High School or Technical Professional	81	14,4	69	16,4				
High School (secondary school)	-	-	1	0,2				
Specialization	11	2,0	-	-				
Incomplete Higher Education	-	-	26	6,2				
Complete Higher Education or Legally Equivalent Qualification	447	79,4	300	71,3				
Undergraduate education	-	-	1	0,2				
Master's degree	13	2,3	17	4,0				
Doctor's degree	4	0,7	4	1,0				
Lost informaton (<i>missing</i>)	1	0,2	-	-				
Total	563	100,0	421	100,0				

Significance level: 0,05; Confidence Interval: 95%.

Source: Research data.

Regarding possible differences in the instructional training of those occupying commissioned positions, the Mann-Withey U test assumes as a null hypothesis to be tested the same educational distribution in the comparison between 1998 and 2018 data. As shown in Table 2, the reported significance is 0.798, which leads to retaining the condition that, statistically, there were no changes in the structure of instructional qualification of MALS's board of bureaucrats in the analyzed period.

About the test, and its result, it is possible to glimpse two inferences. The first is that this possible non-modification is due to the own nature of attributions of the positions, since, even at the lowest levels (DAS 1, 2 and 3), the positions occupied orbit around actions that usually require higher levels of education. Thus, due to the peculiarities in the occupation of DAS positions in a government department destined for proposing very specific actions in the context of agribusiness in the case analyzed, there is an expansion of the minimum requirements to be fulfilled with regard to the technical training of the bureaucrat.

This would be the plausible fact to justify the non-modification in the qualification of bureaucrats, since, as highlighted by Pacheco (2002), from 1995, with the administrative reform, there was an upward change in the level of education of federal bureaucrats.

Finally, the second inference is related to a possible non-update of the database used – IPAS –, notably in relation to changes in the level of training of bureaucrats throughout their careers.

However, it is noteworthy that the lack of statistical change indicated by the test related to the educational stages of bureaucrats occupying DAS positions in MALS diverges from the evolution perceived in the general level of direct administration of the Brazilian central government. In this regard, in a survey conducted by the National School of Public Administration (ENAP), published in 2018, it was found that, in the period from 2000 to 2018, there was an evolution of 26.38% in the level of education of direct public administration bureaucrats from the Brazilian federal government, even identifying that the general rate of bureaucrats with a doctorate represented, in the last year of the analysis, 1.43% of the total (ENAP, 2018). This percentage of bureaucrats with a doctorate is, therefore, above the level verified in the MALS for DAS occupants. Furthermore, the data presented by Alessio (2017) show that the internal policy of Embrapa, a public company linked to the ministry in question, advocates a minimum requirement level of master’s degree for those occupying management positions, which indicates that, at least in certain sectors, there is an observance of higher formal levels of instruction for occupying management positions.

In relation to the possibility of exercising leadership attributions, the premise is that career bureaucrats (permanent) in the federal government, as well as those occupying higher positions of trust in the DAS hierarchy, would tend to have greater freedom in defining propositions. In Table 3, the main indicators related to permanent bureaucrats within the scope of MALS in the period under analysis are presented.

TABLE 3 MANN-WHITNEY U TEST FOR THE STATUS OF BOND OF DAS OCCUPANTS

Status of Bond	General Status of Bond	1998		2018		Mann-Whitney U Statistical Test for Independent Samples*	
		Frequency	Percentage	Frequency	Percentage	Significance	Decision
Permanent Active	Permanent	262	46,5	108	25,7	,000	Reject the null hypothesis
Permanent Active Law 8,878/94	Permanent	8	1,4	-	-		
Decentralized Career Exercise*	Permanent	-	-	14	3,3		
Exerc. 7§ - art.93 8112	Permanent	-	-	2	0,5		
Requested from Other Bodies**	Permanent	58	10,3	25	5,9		
Requested**	Permanent	39	6,9	13	3,1		
Retired TCU733/94***	Permanent	3	0,5	3	0,7		
Retired***	Permanent	6	1,1	28	6,7		

Continue

Status of Bond	General Status of Bond	1998		2018		Mann-Whitney U Statistical Test for Independent Samples*	
		Frequency	Percentage	Frequency	Percentage	Significance	Decision
CLT ANS –Judicial Dec.	Hired	23	4,1	-	-		
CLT ANS – Dec. 6657/08	Hired	-	-	18	4,3		
CLT ANS Judicially Assigned	Hired	2	0,4	-	-		
Pension Application	Hired	1	0,2	-	-		
Commissioned Position Nominee	Hired	161	28,6	210	49,9		
Total		563	100,0	421	100,0		

(*) Significance level: 0.05; Confidence Interval: 95%.

(**) Decentralized Career Exercise: “[...] destined for active bureaucrats of certain careers, which in its specific legislation predicts that its members may exercise in other bodies, maintaining the division of the body of origin [...]” (Ministério do Planejamento, Desenvolvimento e Gestão, 2018, p. 50).

(**) Requested from Other Bodies: “[...]the public agent, without suspension or interruption of the functional relationship with the origin, starts to exercise outside the division unit[...]” (Ministério do Planejamento, Desenvolvimento e Gestão, 2018, p. 61).

(***) Equated to permanent staff in accordance with Decree No. 5.497, of July 21, 2005 (Decreto nº 5.497, de 21 de julho de 2005).

Source: Research data.

As shown in Table 3, the test indicates the rejection of the null hypothesis, which shows that, statistically, the level of permanent bureaucrats, occupying DAS positions, shows a difference in the comparison between the years 1998 and 2018. These differences are significantly noted in the decrease in the percentage of bureaucrats in permanent active positions, as well as in the increase in the number of bureaucrats designated in commission positions.

It is noteworthy that the status of bond permanent active means that bureaucrat took a civil service entrance examination specifically to compose a career in MALS. Commissioned positions, on the other hand, are occupied by bureaucrats outside the public career, incorporated with the confidence of the president, minister or their immediate superior, and can be dismissed at any time, as they do not have stability.

Considering the premise of D’Araujo (2009), towards a possible lack of transparency in the screening criteria for positions of trust and the growth of political nominations arising from coalition governments, the data reported in Table 3 can lead to a scenario in which bureaucrats have less freedom in decision-making²² and reduced expertise in relation to MALS-related themes. It is noteworthy that, despite the fact that Decree No. 9,021, of November 31, 2017 (Decreto nº 9.021, de 31 de março de 2017) – which deals with the minimum percentage of bureaucrats in each of the DAS strata – delimits minimum percentages of permanent bureaucrats in DAS positions, this observance occurs in an aggregated way, that is, in the entire set of federal government positions. Additionally, as seen in Table 3, the quota of permanent staff may include bureaucrats requested from other government departments.

²² It is recommended that stable career bureaucrats, even those occupying positions of trust, would have greater freedom in exercising leadership and decision-making roles.

Moreover, considering the attributions of DAS levels, listed in Box 2, it is possible to notice that top-level management bureaucrats (101.4, 101.5 and 101.6) would be able to exercise leadership functions. The condition of leadership is understood in relation to the degree of freedom to propose government programs and/or policies converted into guidelines from political actors to other bureaucrats; as well as negotiating and suggesting adjustments to those existing actions to political agents (Pires, 2012). These facts have already been perceived as pertaining to the context of MALS, as verified in Igari and Pivello (2011), who emphasizes that the then Minister Hugo Leme, in 1965, called “Top-level Commission” bureaucrats occupying management and advisory positions from the Department of Renewable Natural Resources, for the creation of a preliminary draft of the Forest Code. Table 4 presents a statistical comparison in the number of occupants of these higher positions, based on the status of permanent and hired.

TABLE 4 MANN-WHITNEY U TEST FOR BUREAUCRATS UNDER LEADERSHIP CONDITIONS

STATUS	Subfunction	1998	2018	Significance	Decision	Mann-Whitney U Statistical Test for Independent Samples	
		Frequency	Frequency			Signif.	Decision
Permanent/ Career**	DAS 101.4	21 (3**)	50 (29**)	,337	Retain the null hypothesis*		
	DAS 101.5	10 (2**)	18 (8**)				
	DAS 101.6	3 (1**)	2 (1**)				
	Executive Secretary	-	1				
	Subtotal	33	63				
Hired	DAS 101.4	12	32	,625	Retain the null hypothesis*	,653	Retain the null hypothesis*
	DAS 101.5	5	10				
	DAS 101.6	-	2				
	Executive Secretary	1	-				
	Subtotal	18	44				
Total in Subfunctions analyzed		52	115				
TOTAL OF DAS BUREAUCRATS		563	421				

Significance level: 0.05; Confidence Interval: 95%.

(*) The test was conducted comparing the number of bureaucrats only in the four sub-functions (strata) in the years 1998 and 2018. It is necessary, therefore, to make it clear that bureaucrats in other positions are not considered in this test.

(**) Stratum of permanent bureaucrats relates the number of bureaucrats in functional status of permanent active.

Source: Research data.

The results shown in Table 4 indicate that there were no significant changes on the means of bureaucrats likely to exercise leadership, considering the aspect of individual capacity in proposing public policies and government programs. This non-statistical distinction occurs when comparing the strata of permanent bureaucrats among themselves, those hired among themselves, and, finally, in the contraposition of permanent and hired in the period confronted.

A fact that can be verified is that the number of permanent bureaucrats, in the analyzed strata, is higher or, when not, equal to the number of hired ones. However, when analyzing the number of career bureaucrats at MALS itself, which are those who held civil service entrance examinations specifically for the body in question, we verified that there was a relevant growth²³ in the participation of this segment only in the DAS 101.4 stratum. This fact can be conceived as positive, since these bureaucrats, in that subfunction, in the category of permanent active, mostly occupied the function of general coordinator or superintendent²⁴. In the superintendencies, as indicated by Lopez and Praça (2015), are the most targeted positions for political nominations in disputes between parliamentary caucuses.

5. CONCLUSIONS

This study aimed to analyze the individual capacity of bureaucracy in the context of MALS in relation to the proposition of public policies in the context of Brazilian agribusiness. This analysis was possible by selecting proxies representing three individual capabilities: experience and political knowledge; information processing; and freedom from managerial functions, also understood as leadership capacity.

In relation to the political knowledge and experience of bureaucrats, there was a trend of stability among bureaucrats occupying DAS positions in the periods from 2006 to 2009 and from 2010 to 2012. Furthermore, more abrupt oscillations occurred in changes of holders, in structural reorganizations through internal administrative reforms or urged through presidential decrees, which generally occur with the aim of improving the levels of efficiency in the governmental structure.

With regard to the ability to process information, the analysis of the levels of formal education of DAS bureaucrats indicated the absence of statistically relevant changes. Even though the levels are established above 70% in both years for higher education, the available information did not indicate evolution in more advanced qualifications, such as specialization and doctorate in particular.

Considering the national evolution in the number of people holding a postgraduate diploma in the period²⁵, as well as that indicated in ENAP (2018), it is clear that, in the intra-organizational context of MALS, this process was not the same. This fact requires some attention from decision makers, since the ability to apply technical knowledge and analytical techniques is central to proposing faster and more efficient interventions, as highlighted by Wu et al. (2015).

Finally, the results indicate statistically relevant changes in the profile of bureaucrats in relation to the status of bond to the MALS. There is, on the one hand, a reduction in the number of bureaucrats

²³ Taking as 2018 the posterior aspect of comparison in relation to the indicatives for the year 1998.

²⁴ Of the 29 bureaucrats in 2018, only three occupied the position of chief of staff, except for the positions of superintendent (14 bureaucrats) and general coordinator (12 bureaucrats). In 1998 all three bureaucrats occupied the general coordinator position.

²⁵ As shown in the work by Magalhães and Real (2018), with the data analysis from the Coordination for the Improvement of Higher Education Personnel (CAPES), in 2016 there were about 260,000 researchers linked to *stricto sensu* postgraduate courses in Brazil, whereas in 1998 this amount was in the order of more than 76 thousand.

in hiring positions by examination, specifically for positions in the ministry, and, on the other hand, an increase in the number of occupants designated in commissioned positions. However, in higher strata – DAS 101.4, 101.5 and 101.6 – there is no change in the composition of occupants related to the condition of hired and permanent staff (bureaucrats approved in entrance examination).

Thus, considering the construct defined in this study, there were no changes in leadership capacity or substantive changes in the level of freedom of managerial functions in the years compared, even with institutional changes in the period, such as the greater participation of career bureaucrats in these positions.

The set of facts, especially regarding the constructs related to the capacity of processing information, as well as the levels of exercise of leadership, shows a certain conservatism in the capacity of MALS bureaucracy. An expansion in the capacity of processing information and a greater propensity to increase the participation of active bureaucrats in the exercise of leadership positions would be expected when comparing information in a time horizon of twenty years. This is expected, considering the changes undergone by agribusiness in that same period with the expansion of productivity levels, as well as the growing role of Brazil in this sector in international trade²⁶ and institutional-legal changes, such as the greater participation of bureaucrats, approved in entrance examination, in higher positions. It is interesting, in this sense, to rethink the forms of replacement of bureaucrats in status of permanent active, as well as the delimitation of mandatory minimum percentages listed in Decree No. 9,021, of November 31, 2017 (Decreto nº 9.021, de 31 de março de 2017), for each of the bodies that compose the federal government, that is, separately.

The results of this work bring contributions associated with the relevance of considering the individual capacity of the professional staff, focusing on bureaucrats within the government sector aimed at the Brazilian national agribusiness. In addition, the construct presented here can fill a gap indicated by Wu et al. (2015), namely: listing instruments that can measure the individual capacity of the bureaucracy within the larger scope of discussions related to the government's capacity to deliver effective solutions to the society. Using the analyzes presented here, the political actors will also be able to, equally, list which individual capabilities of the national agribusiness bureaucracy can be strengthened, which contributes to the refinement of strategies to improve government actions to be implemented in the Brazilian agricultural sector. Thus, the gaps found in Olsen (2006) and Pires (2012), which report the lack of studies focusing on the assertiveness of government actions limited to the rural sector in Brazil, are partially overcome.

Even with these contributions, some limitations of the present work need to be indicated. As this is an analysis with cross-section data, specifically in the constructs that used the statistical test – even though they are used with recurrent research similar to this one –, the deficiency of not identifying changes in the temporal series of the years comprised in the analyzed period must be recognized.

Adding to this question, certain points of interest delimited for the analysis of the individual capabilities of bureaucrats could have been better explained if qualitative methodologies had been used, such as conducting interviews, for example. Finally, possible biases in the data used, such as the lack of updating them, especially those related to the levels of educational background of the

²⁶ As indicated by Bojanic (2017).

bureaucrats, as well as the non-discrimination of their field of instructional training, can impair the accuracy of the results obtained.

The results of this study open up new possibilities for future research. For example, an analysis of panel data that can identify structural changes in bureaucracy in an annual comparison and verification of the perception of bureaucrats through the collection of primary data in order to identify factors intervening in the individual capacity of these actors in relation to the focus on effectiveness in proposition of public policies and government programs.

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