WASTEFUL GOVERNMENT SPENDING AND MARKET DISTORTION: AN EMPIRICAL ACCOUNT OF MODERN INTERVENTIONISM'S UNINTENDED CONSEQUENCES IN PUBLIC PROCUREMENT

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Resumen: El malgasto público puede ser abordado desde la tradición de Mises como un tipo de intervencionismo con consecuencias involuntarias, como lo son la distorsión del mercado y la creación de privilegios. Un problema subyacente en las prácticas de compras gubernamentales que encaja en el intervencionismo se da en las llamadas "culturas del malgasto público". Estas representan un problema difícil de detectar en la práctica, que se manifiesta en pérdidas de bienestar al volver las distorsiones de mercado una tradición. La creciente compatibilidad de la Escuela Austriaca y los estudios de políticas públicas abre las puertas a una mejor comprensión de políticas imperfectas, sus consecuencias y las maneras de mejorarlas. Este trabajo ilustra cómo la distorsión de mercado se da bajo narrativas construidas, mientras grupos de interés capturan rentas a expensas de la ciudadanía. Empleando un análisis de costo efectividad en compras públicas de vehículos blindados en Colombia se identifica cómo se construye una tradición de compras públicas con resultados subóptimos, reflejando un planeador central fallido en la administración pública de un país en desarrollo.

Palabras clave: intervencionismo; malgasto público; costo de oportunidad social; políticas públicas; Escuela Austríaca.

Clasificación JEL: H30; H57; B53.

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Abstract: Wasteful government spending can be seen in the Misesian tradition as a type of interventionism with unintended consequences, such as market distortion and the creation of privilege. An underlying problem that helps the distortion become a tradition is that of 'wasteful spending cultures'. The latter reflects a hardly identifiable problem in practice, i.e. the creation of welfare losses through public administration practices that are influenced by bureaucratic inertia. The growing acceptance of the compatibility of the Austrian tradition and public policy studies allows for a better understanding of imperfect policies, their consequences, and ways to improve both the process and its result. Using data from government-driven procurement of armored cars in Colombia, this paper illustrates how the distortion of the market mechanism is affected by narrative-driven practices and how special interest groups derive rents at the expense of citizens. Using a cost-effectiveness analysis, the study identifies how a tradition is built around procuring high-end vehicles, portraying a failed central planner in the modern public administration context of a developing country.

Keywords: interventionism; wasteful spending; social opportunity cost; public policy; Austrian economics.

JEL classification: H30; H57; B53.

1. **Introduction**

> "Control of production always means the creation of privilege."
>
> F. Hayek (1953)
>
> "He misuses an official car!"
>
> M. Bulgakov. *Master and Margarita*

Public spending need not foster the common good automatically; on the contrary, its creation of potential social opportunity costs speaks in favor of exploring the details of expenditures to define its contingent contribution to welfare. Bastiat (2012) wrote that to have a public post that would be worth for society, it would be necessary to prove the value it renders. As the Austrian tradition and

issues of public policy, e.g. through Public Choice Theory find more common grounds (Leeson & Boettke, 2003), empirically exploring the matter of public spending from an Austrian perspective can shed light on whether and how public spending is to bring about more welfare. This goes in line with accepting a degree of empirical work in the Austrian tradition (Horwitz, 2012) and the weakness of merely looking into aggregate effects, e.g. how spending may correlate positively with a production function (Barro, 1990). At the same time, this fulfills the original idea of J. Buchanan (1984) in Public Choice Theory of establishing a new paradigm that embodies "more skepticism about what governments can do and what governors will do" (p.11). This paper suggests opening the door to a case-based approach that is anchored on methodological individualism, while not rejecting a pluralistic view of economics, as extensively discussed by Garnett (2011) and Boettke (2011) in the context of Austrian Economics.

Procurement practices that are anchored in organizational traditions may be linked to wasteful spending, albeit in developed and developing countries. The latter may include the custom of spending more with worse results as the end of the year approaches (Liebman & Mahoney, 2017), or procuring products at distorted market prices, thereby creating more distortions for future procurement contracts (Behar-Villegas, 2021). Yet beyond the calculated waste itself lies another layer of problems that helps understand its sustained nature. Wasteful practices may be governed and even fostered by strongly anchored narratives, e.g. national security, the fight against corruption, etc., that render the questioning of procurement results more difficult. Armored cars procurement in developing countries serves as a compelling example regarding the power of narratives, in this case that of security, with the justification of public spending that is hardly perceived as wasteful. The latter is made possible by the clouded nature of procurement practices, where the market optimum can be artificially replaced by market prices that already have been distorted given the influence of public spending.

This paper explores, using an empirical study regarding the procurement of armored vehicles, whether wasteful public spending fits Rothbard's interpretation of Misesian interventionism. It

nurtures the growing critical mass of work that binds public policy studies with the Austrian tradition, highlighting the relevance of the latter in public administration scenarios that explore public value or welfare in general, while being able to benefit from tools that make it more understandable in practical terms. Its second contribution relates to bringing in the issue of narratives, a topic that has found its way into economics through the work of Shiller (2019) into the Austrian perspective. The first section provides a literature review and a theoretical discussion, together with a simple model of government spending. The latter helps understand how an agency carries out procurement operations, distorting the market mechanism. The second section presents the specific case of armored vehicle procurement, followed by a discussion of implications for Austrian thought and beyond.

2. **Literature Review and Theoretical Approach**

Recent contributions argue that the Austrian tradition and public policy studies can be compatible, a thought that stems not only from conceptualizing the policy cycle as imperfect but also from a general affinity between Public Choice Theory and Austrian Economics (Bitteti, 2019; Boettke & Lopez, 2002). The latter is exemplified in Buchanan's (1984, pp. 13-19) concern about our not understanding government behavior and his hope for the resurgence of Austrian Economics in the 1980s. A central implication of this crossroads is the opportunity to improve the policy process and its outcomes, including the effects of public spending, i.e. fiscal policy.

However, while some authors point to the initial relationship of Public Choice and government, specifically public finance, paradoxically as a means to legitimize interventionism (Marciano, 2019) or to see the advantage of government discretion within the boundaries of the Law (Spicer, 1993), the Austrian literature brought forward a body of work against it, especially through the work of Mises (1929/2011) and its further developments (cf. Lavoie, 1982), including the importance of recognizing the institutional framework that surrounds economic actors (Zywicki & Boettke,

2017). However, this does not contradict Buchanan's (1984) Public Choice Theory perspective, as he advocated for a better understanding of institutional interactions using the tools of economic analysis.

While a debate ensues about the acceptance of empirical work in the Austrian tradition (cf. Horwitz, 2012), this paper does not address the concrete question of testing a specific Austrian contribution such as business cycle theory. Instead, it views a public procurement problem from an Austrian perspective. In Horwitz (2012) interpretation of Mises' Human Action, "most of the interesting work in economics is institutionally contingent", opening the way for empirical work that goes beyond the simplification of correlations.

In the Austrian tradition, government intervention leads to unintended consequences for which individuals pay a price and special interest groups may even derive a rent, thereby perpetuating the artificial need to advance more laws (Von Mises, 2011 [1929]). In Rothbard's expansion of Mises' theory of interventionism, government spending appears as a "binary intervention", i.e. one in which the government forces market actors into a coerced transaction with it (Lavoie, 1982), which directly affects the taxpayer. For Rothbard (2006), resource-using expenditures cannot even be considered investments, yet a "wasteful form or 'consumption' (p.213). A misunderstanding that can arise when reinterpreting Mises regards seeing all government decisions as an intervention. Government purchases are, for example, not necessarily an intervention if it has to do with redistributing a good such as milk to "poor mothers" (Von Mises, 1976, p. 5). However, interventions that thoroughly affect the market mechanism may lead in the end to disaster due to "bureaucratic rule" (Ikeda, 2015), let alone to rent seeking. In this sense, Mises' view on special interest groups can be related to public spending, as he saw the emergence of these groups as a consequence of interventionism (Leeson & Boettke, 2003), which fits Hayek's view on socialism, in which particular groups turned out to be favored, thus creating privilege at the expense of others (p.4).

Beyond Austrian Economics, the issue of inefficient spending has been addressed extensively (Filmer et al., 1997; Haque & Kneller, 2015; Pritchett, 1996; Rayp & Van De Sijpe, 2007), yet

calculating losses, waste or inefficiencies is only one layer of the issue of interventionism. Another layer regards the question about how those inefficiencies are sustained and what they imply. This layer can be addressed from an Austrian lens and Garnett's (2011) call for pluralism in economics, which benefits from bringing concepts such as Herbert Simon's bounded rationality into a thorough analysis of policymaking. Note that in the literature that discusses a "new generation" in Austrian economics, Simon's view is seen as having been influenced by Hayek's theory of dispersed knowledge (Bitteti, 2019, p. 148), potentially underpinning new studies in the tradition.

1.1. *A Theory of Wasteful Spending Cultures from an Austrian Lens*

One opportunity to illustrate the compatibility of the Austrian tradition and Public Policy arises with the issue of wasteful spending and the special case of "wasteful spending cultures" (Behar-Villegas, 2021). The latter depicts a narrative-driven tradition of spending based on previous practices that increase the gap between an optimal expenditure and a wasteful one in a government agency, distorting the market mechanism while benefitting special interest groups. To use Krueger's (1974) terminology, this may lead to competitive rent seeking, a practice in which market interventions lead to a political vicious circle that fosters a consensus of more intervention and even more rent seeking (p.302).

A further problem for the public arises when these traditions settle as unquestionable narratives, i.e. what Bitteti (2019, p.156) calls an "abused concept". This concept fits into Shiller's (1995, 2019) view of economic narratives, i.e. stories that may shape (economic) behavior. Consider now that a subtype of narrative can appear in the budgeting process, meaning that it is a story, explicit or implicit that becomes a mechanism of justification or even a heuristic to make decisions under bounded rationality. This implies that one can have a hierarchy of narratives, i.e. a meta-narrative such as that of security and a technical narrative in the budgeting process that allows for the existence of a heuristic that transforms decision making into a process of bureaucratic inertia.

The technical narrative can be defined as *unconsciously induced stories that operate as instructions, which guide a technical decision* (e.g. a procurement operation that favors a particular car model). While a legal framework also serves as a compendium of technical narratives that are imbued with institutional legitimacy[1], I refer to those stories that agents are not necessarily conscious of and are not subject to a clear legal ordinance. Considering the example of armored car procurement, a government agency decides to procure high end vehicles given the security concern, does not evaluate the problem fully and decides based on narrative driven heuristics (e.g. choose the option that has always been chosen in the past), which perpetuates itself as a standard for future decisions.

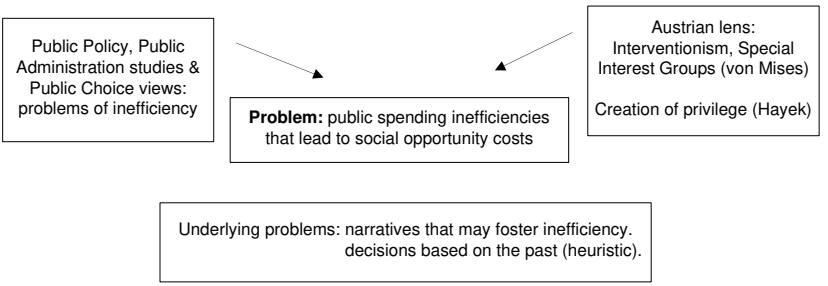
The efficiency criterion that seeks "best value for money" is relativized if the problem of inefficiency or ineffectiveness starts already with the government body's preferences that follow bounded rationality, which materializes in deciding under a particular heuristic that is fostered by the technical narrative. One example may be a solution that is termed "good enough", known in behavioral theory as "satisficing" (Cyert & March, 1963). If an armored car is selected based on prior experiences and it slowly becomes the standard in the market, an agency can satisfice thanks to a technical narrative. In the case at hand, the requirements of a vehicle to protect a person in an urban scenario usually depart from former contracts and experiences that are consolidated through time as valid criteria. With complex artifacts such as armored cars, the information asymmetry that arises between suppliers and institutions that may lack expertise (Izquierdo & Pessino, 2018) or decide under heuristics can increase the risk of tendering with customer requirements that do not follow socially cost-efficient criteria, making the formulated requirements offshoots of technical narratives.

In accordance with a boundedly rational policymaker (Bitteti, 2019), the government agency need not be aware of the inefficiency or wasteful practice at hand, appearing in a rewording of Mises as

[1] Cf. for example Martin, S., Hartley, K., & Cox, A. (1999) who study whether different procurement bodies in the European Union adhere to legal changes in the context of international competition.

a failed de-centralized planner. The following figure illustrates the problem with its theoretical elements, featuring the issue of narratives as an underlying, latent problem that nurtures the main issue of wasteful spending, which implies a social opportunity cost. The latter is a fundamental concept that implies forgoing a better investment when a wasteful one is preferred.

FIGURE 1. THE PROBLEM OF WASTEFUL SPENDING: A THEORETICAL VIEW BOTH FROM AN AUSTRIAN LENS AND FROM A PUBLIC CHOICE VIEW, THE PROBLEM OF PUBLIC SPENDING INEFFICIENCIES IMPLIES A COST THAT THE PUBLIC MUST FINANCE THROUGH MORE TAXATION. THE UNDERLYING PROBLEM OF WASTEFUL SPENDING IS, HOWEVER AND AMONG OTHERS, THAT THIS WASTE MAY BE FUELED BY OVERARCHING AND TECHNICAL NARRATIVES THAT DO NOT ALLOW THE ISSUE TO BE QUESTIONED IN THE BUDGETARY PROCESS



An example of social opportunity cost occurs if the government agency follows the technical narrative and leases a high-end armored car when it could have leased or even purchased a car of a lower viable category for a much lower price, meaning that it also guarantees the same purpose of saving a person's life in case of an attack. The aggregate of such price differences, which need not refer to overpriced assets but simply to the choice of a wasteful ones, becomes not only an opportunity cost for public welfare, i.e. the money could have not been taxed or it could have been spent elsewhere. At the same time, the wasteful expenditure can reflect a market distortion and a creation of privilege if vehicles of the same type are always preferred and a special group of suppliers is

artificially preferred, i.e. through the technical narrative that later governs how tenders are written and bids selected.

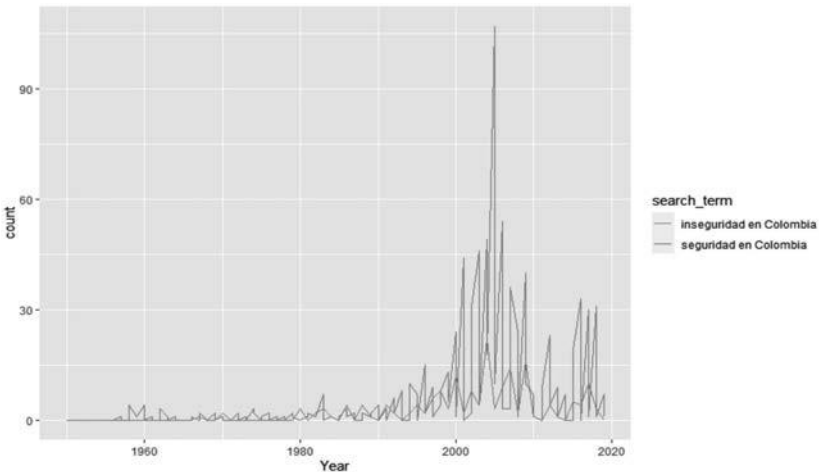
Procuring an armored car can be seen as cost-effective if the car protects the life of an agent, i.e. if the cheapest way to achieve a particular objective is found (Tietenberg, 1992). It is cost-efficient if the protection of the agent's life is ensured while minimizing the costs necessary to contract a technically viable car (e.g with a minimum curb weight), in other words, doing "more with less" (Izquierdo & Pessino, 2018). Discussions on effectiveness and efficiency in a public procurement operation need not relate only to technical matters or simple cost-benefit definitions. These do not reveal, i.a. narrative-related issues that can affect procurement decisions and increase the social opportunity cost of wasteful expenditures. By identifying those further issues, welfare-improving oriented cost-benefit analysis can build on insights that are not easily addressed when a policy is assessed. For example, does a procurement official question why particular brands and/or models of leased cars have been preferred for decades?

3. A case-based approach to public spending as narrative-driven interventionism

This study departs from a security & insecurity narrative that is linked to the Colombian conflict (Echavarría, 2010). These in/security narratives were reinforced in Colombia through the government of Alvaro Uribe (2002-2010), who coined his umbrella Policy as Democratic Security. For decades, the Colombian conflict has brought considerable hardships to its population, reaching more than 7.9 million internally displaced persons in 2019 and more than 250.000 deaths (UN Refugee Agency [UNHCR], 2019): While the number of intentional homicides dropped from 84.1 per 100.000 people in 1991 to 25 in 2018 (United Nations Office on Drugs and Crime [UNODC], 2020), violence remains a major concern in the country. As an example of the reach of the security narrative, Figure 2 portrays a spike in interest for the subject of security and insecurity in Colombia, as documented by the Google Ngram

Spanish corpus. It is noteworthy that the frequency of the terms increases throughout the first Uribe administration (2002-2006).

FIGURE 2. THE SECURITY NARRATIVE IN COLOMBIA. GOOGLE N-GRAM SEARCH FOR INSECURITY, SECURITY IN COLOMBIA (SPANISH CORPUS). SOURCE: AUTHOR'S ELABORATION BASED ON GOOGLE N-GRAM DATA. THE FIGURE SHOWS THE COUNT OF BOOKS IN SPANISH THAT INCLUDE THE EXACT NGRAMS "INSEGURIDAD EN COLOMBIA" (INSECURITY IN COLOMBIA) OR "SEGURIDAD EN COLOMBIA" (SECURITY IN COLOMBIA)



The security narrative is connected to the growth of the Colombian armoring industry in the last decades, which in the Misesian tradition corresponds to a special interest group and, in general microeconomic terms, to an oligopoly. Beyond the armed conflict, yet not fully detached from it, urban insecurity has boosted the demand for lightly armored cars and car-safety solutions, growing by 20% in 2018 and finding international customers in several continents (Portafolio, 2018). As one CEO of a leading armoring company told *Revista Dinero*/*Semana* (2002) "as security and public order deteriorates, the protection industry grows", reflecting a 12.18% CAGR of the security industry's income, whereby the armoring industry has a share of ca. 3%

(Perez, 2018). The more specialized the industry grows, and the more standardized some of the armored cars become, the more concentrated the market turns, creating barriers around this special interest group, which in Hayek's (1953) terms, derives privilege, or in Krueger's (1974), rent.

Despite the industry's growth and the technical improvements of the last decades, scarcity of armored cars, amid a surge in violence against candidates and social leaders, has been officially recognized by the National Protection Agency (UNP), which rented out at least 2400 cars in 2019 (Held, 2019). As the results indicate, there is a paradox between this reported scarcity and the technical viability of having more cars to protect more people or redistributing the budgets for other socially relevant issues. This points to a loss of welfare, as costly cars are assigned to a group of politicians, while conflict-ridden areas where social leaders require protection are bereft of armored cars.

The use of more-costly-than-necessary vehicles can signal another paradox: enjoying these vehicles appears as a *passive rent-seeking* behavior that goes beyond Krueger's (1974) competitive rent seeking. Here, the agent enjoys the vehicle that implies a social opportunity cost, removing the possibility of investment in other necessary areas or reducing taxation, while the agent does not directly make the decision of procuring the car, as contracts are operated by a centralizing agency that fulfills traditionally-expressed requirements of security. The technical study of the two vehicles for the Colombian watchdog agency *Procuraduría General de la Nación* (2016) exemplify this situation by quoting the UNPs criteria and directly identifying the *need* for a Toyota 4Runner, "newest model, armored at level III following NIJ 0108.01" (p.2).

The custom in Latin America is for companies to either produce (e.g. in Mexico and Brazil partially) or import (e.g. Colombia) the vehicles and then armor them through local contractors, who act either as single bidders or consortia. The latter usually bid for the complete service. Colombia's UNP and other agencies follow the US's *National Institute of Justice's* Standard 0108.01[2] (cf. Procuraduría

[2] Note that this standard is different from the NIJ's Performance Standard for Body Armor.

General de la Nación, 2016), which dates back to 1985 and provides different ballistic levels of protection. These levels and a selection of test-related details are provided in Figure 3.

FIGURE 3. BALLISTIC CATEGORIES FOLLOWING THE NIJ STANDARD. BALLISTIC LEVELS FOR VEHICLES FOLLOWING THE NIJ 0108.01. SOURCE: SELECTION OF DATA FROM NIJ (2020). ACTIVE NIJ STANDARDS AND COMPARATIVE TEST METHODS. URL: HTTPS://NIJ.OJP.GOV/ACTIVE-NIJ-STANDARDS-AND-COMPARATIVE-TEST-METHODS

Armor Type	*Test Ammunition and selected details**
I	22 Long Rifle High Velocity, 38 Special. "Protection against lesser threats".
II-A	Lower velocity 357 Magnum, 9 mm, i.a. Also protects from threats in I.
II	Higher velocity 357 Magnum, 9 mm, i.a. Also protects from threats in I and IIA.
III-A	44 Magnum, 9 mm, Full Metal Jacket. "Provides protection against most handgun threats" (p.2) Also protects from threats in I, IIA and II.
III	High Powered Rifle .7.62 mm** (e.g. Kalashnikov, G3 rifle, 5.56 caliber Full Metal Jacket, 223 Remington) Also protects from threats in I, IIA, III and IIIA.
IV	Armor-Piercing Rifle "provides at least single hit protection" from threats in I, IIA, III, III-A.
Special Type	Custom requirements (e.g. protection against explosions).

* I-III require 5 hits per armor specimen, while IV required 1 hit during test, whereby there can be no armor penetrations. Selected details were taken from NIJ (2020, pp. 1-5).

** While the Colombian Armed Forces mainly use locally produced redesigns of the Israeli Galil rifles with a 5.56 caliber, 7.62 caliber weapons are commonly found among illegal groups, both before and after the Peace Process of 2016. Information on the new AR Galil rifle generations is available under www.indumil.gov.co

The custom in Colombia is to bid a certain protection level adding whether heavy or light materials will be used. This is fundamental to understand some of the implications of this study, as the

Gross Vehicle Weight (i.e. the curb weight plus the payload) determines whether the car can hold light or heavy materials. For example, a large car such as a Toyota Prado TX 4000 CC allows for a payload of ca. 825 kg. However, cars of this and similar characteristics (e.g. payload higher than the industry standard of ca. 700 kg for heavy armor materials) are also bid with light materials. This means that a smaller car (i.e. one that holds a smaller payload, e.g. 561 kg for the Renault Koleos) could be leased or purchased under the same ballistic level if light materials are needed. An expert interview with one of the industry's leading companies suggests that there are no technical justifications for the preference of more expensive vehicles if the payload exceeds 700 kg for heavy materials, or a much lower weight (e.g. 400 kg) when light materials required. Put differently, if one needs a car that holds a certain armor level using light materials, a bigger car that withstands heavy materials is not necessary.

Expenditures on armored cars can be classified from a functional and an economic point of view, following the standards of the IMF Government Finance Statistics Manual of 2014. Under the functional classification, cars are assigned to the category of "General public services", typically used in the public spending literature related to endogenous growth models (Bleaney et al., 2001; Chu et al., 2020) Using the economic classification, armored cars can be classified under more than one category, as some are purchased and others leased. For example, car rentals fall under "operating leases" of assets (International Monetary Fund [IMF], 2014, p. 313), whereas purchased armored cars appear as fixed assets under "Transport Equipment-61121" (p.181). It is important to differentiate them from armored vehicles used by the security forces, (e.g. tanks), which are also fixed assets, yet appear under categories 3114 (weapons systems) or 3112 (machinery and equipment). This classification is important, as it signals that procurement of armored cars is diversified and may imply differing details that are hardly captured by aggregate studies, affecting the potential of studying the quality of public spending.

3.1. *A simple model of government spending*

Consider now a simple model for the role of different agents in the context of public procurement. The first step is defining a price level P_p as the de facto purchasing price that a public body pays either to purchase or to rent a good, e.g, the armored car. Let P_m be the market price and P_{amp} the price that the central purchasing agency has referenced. In Colombia, Framework Agreements (Acuerdos Marco de Precio) are coordinated by the national procurement agency *Colombia Compra Eficiente* (CCE). Assuming there are no further distortions on the market through collusion or other practices, and that the good to be purchased fits the requirements, an initial level of cost efficiency is attained if

$$P_p - P_m = 0 \text{ and } P_{amp} = P_m$$

Consider the role of the public body that requires the cars, i.e., "the agency". For simplicity reasons that do not affect the analysis, we will assume that $P_m = P_{amp}$, and that there is only one agency purchasing the cars, the government body faces the following problem,

$$x_i = f(p_p, n, \beta_i) \tag{1}$$

where x_i, the value paid for the cars of agency i, is a function of the final price paid, the number of cars, and an exogenous inefficiency coefficient β_i, which is similar to the one proposed by Bandiera et al. (2009). It indicates how inefficient the purchasing manager of the agency operates. This inefficiency is influenced by technical narratives that increase β_i when the agent has ways of reducing wasteful spending but does not do it. The agency must minimize x_i, subject to financial and technical constraints. For example, if the purchasing manager must buy a motorcycle for the Police, buying the smallest model possible will not satisfy the technical requirements. Yet the devil lies in the details because technical criteria are not necessarily considered, and the agent opts for satisficing. Following Rayp & Van De Sijpe (2007), one can separate x_i into a wasteful and non-wasteful spending component, given by the coefficient δ, thus

$$x_i = \delta\tau Y_i + (1 - \delta)\tau Y = p_p n + \phi \quad (2)$$

where $p_p n$ corresponds to the funds used to lease or purchase cars and ϕ sums all other expenses that are unrelated to the cars in the agency. τY_i is the portion of government revenue that is assigned to the agency, so that $\delta\tau Y_i$ corresponds to the non-wasteful use of the agency's resources. Note that in practice, this frontier is blurry and relative. Both the purchase and the lease of armored cars fall into the Government Finance Statistics classification of "General Public Services" from a functional point of view, and into "Use of Goods and Services" from an economic point of view (IMF, 2014, p.147). This category of expense has been seen as productive due to the impact on the production function (Barro, 1990; Bleaney et al. 2001) or to the role of the budget's composition on economic growth (Chu et al., 2020; Devarajan et al., 1996), yet the existence of the social opportunity cost speaks for a socially suboptimal solution.

One can now consider the components of the purchasing price p_p of the cars, introducing the possibility of wasteful spending, i.e. procurement, in a simple relationship, with β as the inefficiency coefficient stated in (1). We have that

$$p_p n = n(p_m + \beta x_{s,i}) \quad (3)$$

where $x_{s,i}$ represents the inefficiency spread that the supplier can receive as a premium from the market price p_m of n cars, which speaks for the creation of privilege of a market actor (Hayek, 1953). The spread is influenced by the inefficiency coefficient, with $\beta = 0$ meaning full efficiency if we assume that the car is the least expensive in the category that fulfills all technical criteria. If this is not the case, there will be a second inefficiency spread α that is related to the car category, such that

$$p_p n = n[(p_m + \alpha) + \beta x_{s,i}] \quad (4)$$

It is important to delve deeper into the underlying thought of (4). If the purchasing manager is inefficient and procures a car that

fulfils technical requirements even if $p_p > p_m$, the inefficiency spread will only be $\beta x_{s,i}$. But, in terms of social costs, the loss increases if the purchasing manager is not informed about the technical feasibility of buying or leasing another car of a *lower category* (i.e. with a lower max cargo capacity, curb, engine size, etc.), which also fulfills the *necessary* requirement of a ballistic level of protection, implying a degree of interventionism that forces distortions on the armored vehicle market. It is also possible that the purchasing managers know about the inefficiencies, but, given political reasons and/or lack of fiscal latitude (Meklin et al., 2000), she will not be allowed to buy a car of a lower category that is still eligible to protect a political agent at a certain NIJ level. If this is the case, then α quantifies the added waste or the result of indirect rent seeking practices. We can now rewrite x_i using (4), thus

$$x_i = \delta\tau Y_i + n(\beta x_s + \alpha) \tag{5}$$

so that non wasteful spending of agency i is given by

$$\delta\tau Y_i = x_i - n(\beta x_s + \alpha) \tag{6}$$

Assume now that beyond the procurement officer at the agency, there is a political agent in office. She can be both an elected official or a designated public servant that is entitled to using an armored car. I label this actor a *political agent* due to the political dimension that high ranking public servants play in Colombia and other countries. They may serve as legislators in one term after being elected and then, following another term, they can be appointed to a specific office during another term. We now write the problem that the political agent faces,

$$U_{pa} = f(\varphi\ P_{p,pa},\ \theta z_s) \tag{7}$$

where the utility of the political agent is a linear function of the product of a preference for high-end goods φ and the price paid for the assigned armored car on the one hand, and what Bohn (2019) calls a sympathy factor θz_s, on the other. Note that φ is a real positive factor that increases when the political agent ascribes a high

importance to the car, which fosters her privilege. If she is indifferent, $\varphi = 0$ and the car is irrelevant to the political agent who has the possibility to reject the car[3]. Further, θ refers to a sympathy parameter and z_s to a binary factor that takes a positive value when the political agent is in office and a negative one when she is not[4]. Bohn's (2019) sympathy factor, which I also consider when the political agent is not in office, stems from a framework of preferences where the political agents' motivation is opportunistic.

In Latin America, it is normal for political agents to enjoy armored cars even if not in office, due to security concerns that are justified by a narrative and translated into a technical narrative, which may or may not be justified. The higher the sympathy factor, the more visible the agent will be, making her more prone to requiring an armored car after serving. When adding the product of φ and the price of the armored car, we also consider Bohn's (2019) argument regarding the inclusion of an economic component in the utility function of this agent. Assuming a similar φ for most political agents, the higher the price of the armored car, the more utility she will derive from its use, as a high price reflects the use of a high-end car[5].

Modifying Bohn's (2019) approach to the voter, we now introduce a third agent, the citizen, whose utility is given by

$$U_J = E[\theta^i_{pa} z] + E[\delta Y \tau] - [(1 - \delta) Y \tau] \tag{4}$$

where the utility of a citizen j is the sum of the expected values of the political agent's sympathy factor, the expected results from

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[3] Exceptionally, political agents in Colombia do not make use of the armored car that the State offers them. In some cases, they accept the armored car but reject the accompanying security personnel.

[4] Bohn (2019, p.50) defines the sympathy component as one that "represents any attribute of the candidates that does not affect economic policies", where $\theta z_s \in [-0.5, 0.5]$, meaning that utility of the agent increases when in office and decreases when another party is in office.

[5] The discussion on whether armored cars that are leased and purchased by the Colombian State can be considered as high-end and/or luxury cars is found in Behar-Villegas (2021). In sum, using the ranking provided by the portal *Tucarro.com*, in 2019 a price-related high- end car ("gama alta" in Spanish) in Colombia cost between 53.400 and 62.500 USD, whereas the average price for cars in Colombia in 2019 was ca. 11.500 USD. Most of the sampled cars in the AMP are high end cars.

non-wasteful spending minus the wasteful spending component that is not visible for the citizen, although it does affect her as a social opportunity cost. In other words, the spread necessary to finance high-end cars relative to the technically optimal car category represents funds that could have been used for projects (e.g. education) that would benefit the citizen, or put simply, for more cars that can be used to protect any endangered person.

Following Dewatripont & Seabright (2006), the role of conspicuous spending could be modeled, as visible expenditures increase the perceived utility of a citizen, whereas less visible spending (e.g. in basic science) does not contribute to the short-term expectations of the citizen. While this is expressed in (4), a further difficulty arises with regards to the concept of conspicuity. Take the example of the armored cars, which are materially visible and tour the cities, but do not necessarily entail a structural criticism from the public that asks for the removal of them or a change in procurement policy. There are scant examples of criticism against the purchase of expensive vehicles for the State. One discussion that received press coverage is provided by Revista Semana (2020). This problem highlights the importance of narratives, i.e. the security narrative, when it comes to justifying a particular expense *for security reasons*, so that the visibility of a socially costly expense seems unquestionable for the voter. Therefore, the wasteful spending component is not modeled under an expected value.

4. **Empirical Approach, Data Collection and Study Results**

This study involves a direct measurement of wasteful spending. Using an official sample of real bids that CCE received in 2019, a dataset that used the bid prices and exact car models and specifications as reference was built. Following an expert interview from one of the car armor market leaders, who indicated that the minimum payload necessary for heavy materials is traditionally at ca. 700 kg, categories of ballistic resistance following NIJ standards were built. Then, the question of minimum viable vehicles for each category was addressed, i.e. which vehicle in the model database of the AMP fulfills the payload criterion (e.g. >700 kg for heavy

materials) and *at the same time* has the lowest price in the category? It was surprising to find real bids with small vehicles such as the Grand Vitara (payload=533 kg) with armoring heavy materials. Since cases like this did not respect the rule that the armoring expert indicated, these observations were discarded as possible replacements of considerably more expensive vehicles.

However, it is worth noting that the implication thereof is that any requirement for an armored car that must not hold heavy materials can be fulfilled by a Grand Vitara or a similar car in an urban scenario, according to an official bid. In other words, it does not seem justified to lease or buy a large expensive car if the requirement is for light materials that can easily be used in smaller cars. This discussion, however, inevitably leads to a perverse incentive: if this is the only criterion for requirements, any agency can simply argue that they need heavy materials. Once can thus approach the general problem by lowest priced vehicles that are acceptable under parameters expressed in real 2019 bids, eliminating extreme cases due to the payload criterion. After having found the lowest prices, the next step was to calculate the price difference between bid vehicles and those that were effectively procured.

The data stems from two sources: the electronic public contracts platform (SECOP) and responses to direct petitions made to government agencies. The first proved problematic for the purpose, as typically aggregate or rather vague information concerning cars was found. Taking a recent example illustrates this issue: Bogotá's city Assembly (Concejo de Bogotá) tendered the lease of 39 vehicles for ca. 760.000 USD in reference to year models 2016-2018[6]. However, the SECOP database did not include details about the car brands or every vehicle's technical specifications. What is more, searching through SECOP can be painstaking due to the quality of uploads and the loss of the search function in pdf files. Some are uploaded as images, often under 72 dpi, which makes an optical character recognition more difficult.

The second source sheds light on a second problem, i.e. lack of transparency in information disclosure on the side of the

[6] SECOP. Process Nr. SDH-CD-082—2020: 39 cars for a total value of COP 2.661.445.368 (ca. 760.000 USD).

government bodies. Poor disclosure and a lack of fiscal transparency have been linked to increasing perceptions of corruption (Chen & Neshkova, 2020). In total, 37 petitions were sent, and a database of 661 vehicles that were procured was built. I then tested whether the agencies considered that they had high-end vehicles. The mediocre answers of the agencies pointed to several issues[7]: First, most of them denied having high-end cars. Second, almost all answers included vague information such as "Toyota Prado", without mentioning the year nor any technical details, making it impossible to match the car with the AMP database.

It is important to be cautious in these comparisons because car models of the same name can be entirely different in terms of price and specifications (e.g. Land Cruiser 200 vs Land Cruiser 70). This led to eliminating most observations that did not fulfill a rigorous match and carried out the analysis with 80 observations of confirmed purchases or leases where a perfect match between the AMP references and the actual cars held.

After organizing the dataset, a cost-effectiveness analysis following Cellini & Kee (2010) was carried out in order to quantify the potential wasteful spending relative to lower-technically viable car categories[8]. Two cost effectiveness ratios for armored vehicles were used, based on Behar-Villegas (2021).

$$\textit{Cost Effectiveness Ratio (CER)} = \frac{s}{(p_{p,i} - p_{m,i})} \tag{9}$$

[7] For example, one of the government bodies that received a petition was the Ministry of Housing (*Ministerio de Vivienda*). According to the Ministry, they do not have any armored vehicles, which is unlikely given that the Minister and the Vice Minister use armored vehicles. This suggests a legalistic bias on the side of institutions that lease vehicles and therefore prefer to say that they do not "own" them, as the coordination of the procurement process occurs through the UNP. Among the 37 answers, we can only highlight one as containing a high quality and detailed answer, i.e. that of the Supreme Court. Other institutions provided vague answers. A surprising answer came for a government body that formally required me to provide all university data to understand whether the petition of information was legitimate or not.

[8] For discussions on alternative calculations of cost effectiveness cf. Postle M., A. Markandya, R. Boyd and M. Hickman (1999); Health Economics Resource Center-HERC (2020).

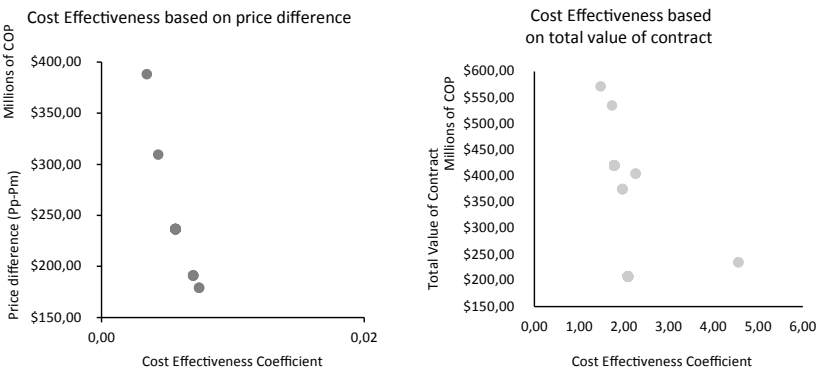
where s is the unit of effectiveness, referring to security or a life saved with the corresponding armor. The CER takes the value of 1 when there is full cost effectiveness, meaning that the procurement price matches that of the market (or the AMP). If the price gap grows, the CER value converges to 0, which indicates null cost effectiveness in the operation, i.e. the life of the protected person is saved, but any other car of a viable category would provide protection). Additionally, I introduced an alternative CER, dividing the price difference by the total value paid for each car and created a measure of effectiveness relative to each accounting unit, thus

$$\textit{Alternative Cost Effectiveness Ratio (ACER)} = \frac{s}{\left(\frac{p_{p,i} - p_{m,i}}{x_{j,}\, i}\right)} \tag{10}$$

where $x_{j,}\, i$ represents the value paid for car j of agency i, following the same intuition. The lower the ACER value, the less cost effective the transaction will be, even if the original goal of protecting the life of the public servant is guaranteed through a technical criterion, which is confirmed when seeing the official bids of suppliers who provide smaller cars with the same ballistic level of protection. This explains why a measure of effectiveness and not one of technical or allocative efficiency is used. The latter refers to input minimization and/or output maximization, which is unclear when considering output as lives saved. The introduction of an alternative efficiency measurement such as a QUALY does not improve the analysis, as a measure of years becomes irrelevant for the punctual binary outcome of saving or not saving a life. Further, since this analysis does not measure the performance of cars in attacks on protected persons, measuring this output would correspond to another type of study.

On the other hand, the effectiveness measure relates to the lives saved per expense. If a life can be saved with a smaller car that fulfills the technical criteria, then a higher price is not justified, because the fulfillment of the car's mission is the same. The results of both measures are presented in the following figure. Note that the points include cars of the same model, summarizing the 80 observations in a few category clusters.

FIGURE 4. COST EFFECTIVENESS MEASURES



Source: authors' calculations using available prices.

The left-side plots the price difference against the CER, logically implying that a higher price difference between a real contract and the market price will result in lower cost effectiveness. On the right, the total value of each contract is plotted against the CER, showing a negative relationship that suggests room for gains in effectiveness, i.e. purchasing or leasing cars of technically viable lower categories.

The results point to potential savings of 51% of the contractual values, i.e. 44.000 USD saved per vehicle. Assuming no difference between leases and purchases (cf next section), using the most conservative values (lowest resulting savings rate) and the number of armored cars in service minus 2% of the cars for extreme risk (e.g. President, military, endangered social leaders), the savings for an adjusted value of the cars operating for the State in 2019 would have amounted to 390 million USD, which corresponds to 0.457 % of Colombia's total public budget in 2019. As explained in the next section, once the purchase vs. lease problem is introduced, the potential savings increase considerably if cars are purchased and not leased.

4.1. *The Purchase vs. Lease Problem*

Armored cars tend to be leased more often than they are purchased in the Colombian public sector. The explanation is complex and, at the same time, revealing. The in-depth interview with an armoring industry's experts points to an artificial argument used by government officials, according to which the maintenance of the cars, if bought, would be more expensive than their lease. This was tested in the sample of real contract, no evidence for the argument having been found. Using the example of the car model with the highest frequency of use in out sample (Toyota Prado TXL), one can conclude that a 9 year use of a purchased car corresponds to 40% of the total price of three similar three-year lease contracts, assuming an inflation rate of 5% and the maintenance costs provided by one of the biggest car-armor companies in Colombia. While there is no exact information regarding the share of cars that are leased by the State, the UNP publicly recognized having 2400 leased cars in 2019 (Held, 2019). Using the same example of the Toyota Prado TX, which corresponds to 396.000 USD for three three-year contracts under the same inflation assumption, a conservative estimate of total savings, if cars were purchased and not leased, totals 379 million USD for a period of 9 years. Why then, does the State prefer to lease vehicles and not buy them?

In the "purchase scenario", public officials would have to use the same car for 9 years, whereas in the second, the "leasing scenario", they would be able to enjoy new cars every three years. This leads to another ingredient of the explanation about the preference for car-leases, which is not openly considered in the media but connects to the security narrative. Recall φ, the preference for high-end goods. The usual product life cycle that is considered for armored cars is 10 years. Purchasing a car and using it during those years entails the use of a financially and aesthetically depreciated object, which reduces the utility of the political agent.

Using a second unique dataset built through different responses from the Colombian Congress, the rhythm of armored car renewal through leases was mapped, finding that cars are renewed every three years, on average. Using further data from the UNP, one

notes that recent lease contracts for other public bodies are set for three years, suggesting that the update of models is a standard practice. However, one recent exception appear, which helped create a comparison between purchasing and leasing cars. The judiciary body of Colombia purchased 51 armored cars (Toyota Prado)[9] in 2020, which amounted to a contract value of 3.7 Million USD[10].

One can now characterize the lease vs. purchase problem using the example of Congress as follows. Assume that η_{m+n}^{model} represents the number of cars of a certain year model leased in a month m with n possible months that follow. The expense of the agency is written as follows

$$x_i = \sum_{j=1}^{J} [\eta_{m+n}^{j} \, p_p] + \phi \tag{9}$$

where agency i spends the first component of the equation on cars and ϕ on further goods and services. Using a sample of five model years (2015-2019) we have that

$$\sum_{model=t}^{T} \eta_{m+n}^{model} = \eta_{m+n}^{2015} + \eta_{m+n}^{2016} + \eta_{m+n}^{2017} + \eta_{m+n}^{2018} + \eta_{m+n}^{2019} - [v_{m+n}^{2015,2019}] \tag{10}$$

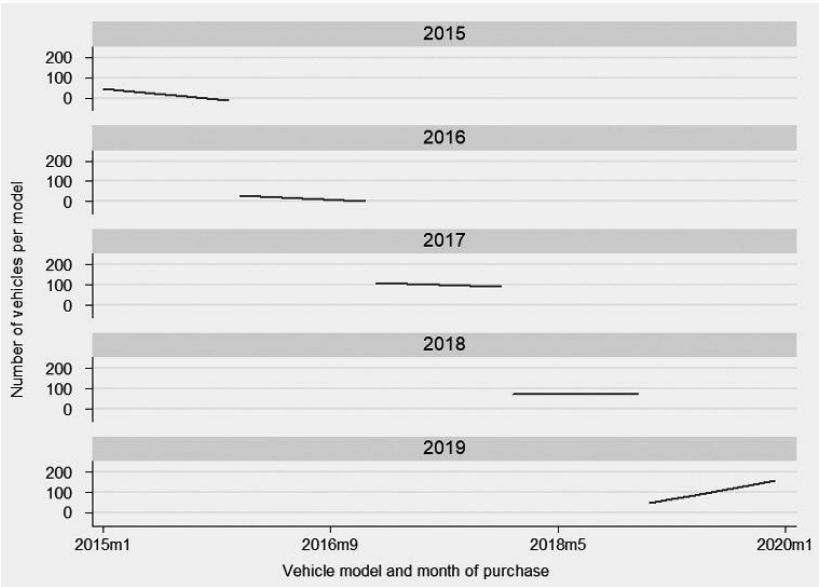
where v stands for the number of cars that the agency ceases to use in a period of $m + n$ months, as they are substituted by newer models. These cars correspond to the same year models that I consider in η. Evidence gathered from procurement practices for Congress shows that η is held constant at approximately $m + n = 36$, meaning that cars are renewed in a dynamic monthly model that is difficult to detect, let alone to question (cf. the security narrative). In other words, public officials enjoy new cars every three years, yet the

[9] The operation follows transaction nr. 45977 of the Virtual Store of the Colombian State. Following the answer to our petition, the total of vehicles purchased have the following specifications: TOYOTA, PRADO Line [LC 150], Reference TX-L [FL] [2] TP 4000CC 5P TC CT, MODEL 2020.

[10] The local currency equivalent is 13,276,161,951.00 COP.

problem this entails seems difficult to capture, given the narratives that cloud a discussion on foregone welfare. Wasteful spending thus materializes in the leasing practices that the State accepts as a standard. The following figure portrays the dynamic renewal model and the evidence for year models 2015-2019 of Colombia's Parliament.

FIGURE 5. PURCHASING RHYTHM OF THE HOUSE OF REPRESENTATIVES



Source: author's calculations based on available procurement data.

As standard practice, leasing may be very difficult to question for a procurement manager that may be subject to political pressures or even the loss of his or her job in case the person does not use the inertia of requirements. Further, as argued earlier, the existing information asymmetry intensifies when it comes to technical detail dominance on the side of suppliers and, on the other hand, purchasing managers who can be easily replaced and lack a profound expertise in car industry materials and needs.

5. **Discussion and Concluding Remarks**

Public procurement is an example of a policy issue that can be analyzed through the lens of the Austrian tradition, integrating methodological individualism with a pluralistic discipline-related approach in economics that paints a broad picture of the problem of social opportunity cost. If public procurement results in wasteful spending, then what Mises called interventionism can materialize in welfare losses, which are indeed quantifiable. However, the problem is more complex if narratives drive wasteful spending, materializing in a tradition where bounded rationality and bureaucratic inertia dominate, while officials decide, unknowingly or not, based on heuristics and not necessarily on clear technical criteria. Quite the opposite, this paper has shown that the result of procurement decisions is a suboptimal result for society, as technical narratives replace fully rational, objective and cost-effective criteria.

Both the issue of procuring high end, suboptimal armored cars as well as leasing them instead of purchasing is a symptom of modern-day interventionism, albeit clad under narratives that seem impossible to question. Austrian economics can play a fundamental role by showcasing these concrete issues on a case-based approach that unravels how suboptimal policies affect welfare. Opening the door to further cases can enrich the Austrian tradition and foster the view of a new generation that is open to contributions from other branches of the discipline, as the example of narrative economics (Shiller, 2019) shows. This also calls for creating a thicker understanding around unintended consequences of policy. Regarding the issue of armored cars, the question, not for the official in charge of the agency's technical aspects, but for the political actor involved, is whether the consequences (wasteful spending cultures) are indeed unintended. In this context, technical narratives may be a device for interventionism to foster welfare losses while making it very hard to identify its details.

While this paper has sought to exemplify how Austrian economics and public policy issues find common grounds to improve welfare by understanding the intricacies of interventionism, it has several limitations. On the one end, it uses a particular case study in

a developing country that cannot be generalized to all procurement practices, let alone to public spending. On the other, and this is a key point for further work, it quantifies the market distortion based on price premiums, but it cannot offer insights into what the market price without distortion would have been initially, had it not been for the current artificiality that interventionism fosters. This means that the available market price is not necessarily the efficient one either, if the procurement tradition has already boosted an artificial setting where companies set their price given a State driven demand. Tackling this limitation may be the object of future studies that understand this market as a monopsony or as an oligopoly.

Also, adding experimental evidence to the crossroads of policy and the Austrian tradition may enrich the discussion even further. While narratives have been awarded some importance in economics, they remain very complex to assess and understand in causal relationships. One cannot fully ascertain that a narrative alone leads to a particular behavior in a public official, yet conceptualizing narratives and studying them opens a world of further developments for the Austrian tradition, especially given that interventionism and narratives closely intertwine. The same complexity that pertains to meta-narratives appears with technical narratives, which have been addressed in this paper and identified as possible drivers of boundedly rational behavior. However, this identification requires more empirical work in which more evidence is collected about their role in decision making. Whether the next generation of Austrian economics (Horwitz, 2019) will be open to exploring narratives and their role in the interaction between market actors and the State, remains to be seen. What seems clear at this point is that interventionism, as imagined by Mises and reconstructed by Rothbard, has a modern face whose effects and intricacies require further studies.

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Conflicts of Interest

The author declares no conflict of interest.

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