

A Dataset of Public Procurement Auction Results from Brazil’s Compras.gov.br Platform (2003–2023)

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Abstract

This paper introduces an open dataset of public procurement auctions from Brazil’s Compras.gov.br platform (which has been gradually transitioning from ComprasNet), covering the period from 2003 to 2023. The dataset includes 170,096 auction records, 1,365,244 auctioned item records, 9,304,097 participant records, and 740,581 commitment records. To enhance accessibility, it is accompanied by unofficial English documentation and basic usage examples. Hosted on GitHub, the dataset is intended to facilitate access to procurement data. The paper aims to lower the entry barrier for research across various domains related to public procurement auctions.

Introduction

Procurement is an important economic activity that drives demand for goods and services across both the public and private sectors worldwide. According to World Bank estimates, public procurement accounts for approximately 12% of global GDP¹². Despite its economic significance, access to procurement data remains limited. However, in recent years, digitalization has increased transparency through the adoption of electronic procurement systems, particularly in public procurement. Countries such as Brazil (via **Compras.gov.br**), Ukraine (via **ProZorro**), Chile (via **ChileCompra**), and India (via **Government e Marketplace (GeM)**) exemplify this shift toward more transparent procurement processes.

This paper highlights one such initiative, **Compras.gov.br**, the official electronic procurement platform of the Brazilian federal government, developed and maintained by the Ministry of Management and Innovation in Public Services. It functions as a centralized system for conducting public procurement through various modalities—most notably, electronic procurement auctions (so called “*Pregão Eletrônico*” in Portuguese), which are the predominant procurement method in Brazil. The platform provides end-to-end support for procurement processes, including tender publication, supplier registration, bid submission, auction conduction, and contract award. By making procurement opportunities and outcomes publicly accessible, the system promotes transparency, efficiency, and competition. Through the Compras.gov.br interface, users can access detailed information on procurement notices, auction outcomes, supplier participation, and paid prices.

The goal of this paper is to facilitate access to and highlight the availability of procurement data from Brazilian platforms such as the **Portal de Compras do Governo Federal**³ and **Compras.gov.br**.⁴ Table 1 summarizes the dataset made available by this paper: four CSV files covering procurement auctions, participating bidders, auctioned items, and related financial commitments, totaling approximately 2.5 GB in size.

CSV File	Number of Records	Number of Features	File Size
<i>Licitações</i> (Procurement Auctions)	170,096	17	74MB
<i>Itens</i> (Auctioned Goods and Services)	1,365,244	14	297MB
<i>Participantes</i> (Auction Participants)	9,304,097	13	1.9GB
<i>Empenhos</i> (Related Commitments)	740,581	10	180MB

Table 1: Summary of Datasets

¹OECD panel data [Accessed 5 May 2025]

²World Bank study [Accessed 5 May 2025]

³URL to Portal de Compras do Governo Federal [Accessed 5 May 2025]

⁴URL to Compras.gov.br [Accessed 5 May 2025]

Data Collection

To the best of our knowledge, there are two primary methods for interacting with the Brazilian government’s public procurement infrastructure. The first is through its official Application Programming Interface (API),⁵ which, while promising, appears to be under active development and may experience occasional instability. The second method involves either manually downloading procurement records from the **Portal da Transparência**⁶ or using its associated API.⁷ For this study, the dataset was collected via web scraping using the manual download interface of the Portal da Transparência website.

Data Overview

The dataset shared in this paper is presented in its original form, with minimal preprocessing. We excluded government purchases conducted under procurement modalities other than electronic procurement auctions. No entries were removed due to missing values, as doing so would require assumptions and justifications beyond the scope of this paper. Moreover, to support users who may be unfamiliar with Portuguese (PT), we translated the column names into English (EN) and provided unofficial descriptions based on the official data dictionary.⁸ These are summarized in Tables 2, 3, 4, and 5 in the Appendix.

Data Availability & Examples

The complete dataset is publicly available in the GitHub repository: *A Dataset of Public Procurement Auction Results from Brazil’s ComprasNet Platform (2003–2023)*. The repository also includes an **examples** directory with use cases to help users explore and analyze the data. Note that these examples are intended for guidance and have not been optimized for analytics purposes.

Licenses

The dataset is released under the same licenses as the source—namely, the **Open Database License** and the **Database Contents License**.

⁵Overview of API and documentation [Accessed 5 May 2025]

⁶Portal da Transparência Downloads [Accessed 5 May 2025]

⁷Portal da Transparência API Documentation [Accessed 5 May 2025]

⁸Translations are based on the official data dictionary available at Data Dictionary in original language [Accessed 5 May 2025]

Appendix

This section provides detailed descriptions of the dataset’s features, including translated column names (unofficial), data types, and completeness levels. The information is intended to help users understand the structure of the data extracted from the Brazilian government’s procurement systems.

Feature (PT)	Description (EN)	Completeness	Data Type
Número Licitação	Number that identifies the bidding in SIASG	100%	int64
Código UG	Code of the management unit responsible for the bidding	100%	int64
Nome UG	Name of the management unit	100%	object
Código Modalidade Compra	Code of the purchase modality	100%	int64
Modalidade Compra	Type of purchase modality	100%	object
Número Processo	Number of the bidding process	99.9%	object
Código Empenho	Code of the bidding commitment	100%	object
Data Emissão Empenho	Date of issuance of the commitment	88.11%	object
Observação Empenho	Observation/note of the commitment	100%	object
Valor Empenho (R\$)	Value of the commitment in Brazilian Reais	100%	object

Table 2: Detailed Info: Empenhos (Related Commitments)

Feature (PT)	Description (EN)	Completeness	Data Type
Número Licitação	Number that identifies the bidding in SIASG	100%	int64
Código UG	Code of the management unit responsible for the bidding	100%	int64
Nome UG	Name of the management unit	100%	object
Código Modalidade Compra	Code of the purchase modality	100%	int64
Modalidade Compra	Type of purchase modality	100%	object
Número Processo	Number of the bidding process	100%	object
Código Órgão	Code of the agency responsible for the bidding	100%	int64
Nome Órgão	Name of the agency	100%	object
Código Item Compra	Code of the item in SIASG (6 digits code + 5 digits mode + 5 digits number + year + 5 digits sequential)	98.95%	object
Descrição	Description of the item in SIASG	100%	object
Quantidade Item	Quantity of the item	100%	int64
Valor Item	Total value of the item	100%	object
Código Vencedor	CNPJ of the winning bidder	100%	object
Nome Vencedor	Name of the winning CNPJ	100%	object

Table 3: Detailed Info: Items (Auctioned Goods and Services)

Feature (PT)	Description (EN)	Completeness	Data Type
Número Licitação	Number that identifies the bidding in SIASG	100%	int64
Código UG	Code of the management unit responsible for the bidding	100%	int64
Nome UG	Name of the management unit	100%	object
Código Modalidade Compra	Code of the purchase modality	100%	int64
Modalidade Compra	Type of purchase modality	100%	object
Número Processo	Number of the bidding process	100%	object
Objeto	What is being purchased, sold, or leased	100%	object
Situação Licitação	Current status of the bidding process	100%	object
Código Órgão Superior	Code of the superior agency responsible for the bidding	100%	int64
Nome Órgão Superior	Name of the superior agency	100%	object
Código Órgão	Code of the agency responsible for the bidding	100%	int64
Nome Órgão	Name of the agency	100%	object
UF	Brazilian state abbreviation	100%	object
Município	City where the bidding takes place	100%	object
Data Resultado Compra	Date of publication of the Homologation in the Official Gazette	100%	object
Data Abertura	Date for submitting proposals	99.98%	object
Valor Licitação	Total bid value	100%	object

Table 4: Detailed Info: Licitações (Procurement Auctions)

Feature (PT)	Description (EN)	Completeness	Data Type
Número Licitação	Number that identifies the bidding in SIASG	100%	int64
Código UG	Code of the management unit responsible for the bidding	100%	int64
Nome UG	Name of the management unit	100%	object
Código Modalidade Compra	Code of the purchase modality	100%	int64
Modalidade Compra	Type of purchase modality	100%	object
Número Processo	Number of the bidding process	100%	object
Código Órgão	Code of the agency responsible for the bidding	100%	int64
Nome Órgão	Name of the agency	100%	object
Código Item Compra	Code of the item in SIASG	100%	object
Descrição Item Compra	Description of the item in SIASG	100%	object
Código Participante	CNPJ of the bidding participant	100%	object
Nome Participante	Name of the participant's CNPJ	100%	object
Flag Vencedor	Indicates if the participant is the winner ("SIM" or "NÃO")	100%	object

Table 5: Detailed Info: Participantes (Auction Participants)