

## **Data Overview**

Russia boasts a surprisingly accessible array of public datasets for researchers to collect and interpret. My submission consists of 170 rows of data for public procurement contracts awarded to Russian distributors of foreign-manufactured machine tools based on official Russian government public procurement records.

## **Data Sources and Methodology**

I employ data from the **Unified State Procurement Information System** (Единая информационная система в сфере закупок, hereafter **Goszakupki**), an online register of public procurement activity undertaken by various organs of the Russian federal government. As noted above, the data comes prepackaged with variables that, while conveniently pre-structured and cleaned, are nonetheless obscure (if not impenetrable) to the man or woman on the street.

Among the more obscure of these variables at a nine-digit goods and service identification classifier (PRODUCT\_OKPD), which I convert into a less cumbersome format (PRODUCT\_TYPE) using R's mutate and recode functions. Another variable of concern is the tax identification number for public procurement customers (CUSTOMER\_INN). I used same mutate and recode function to create a new variable (CUST\_DEF\_IND) with "YES" and "NO" categories to distinguish defense industry customers from other Russian government customers, respectively. The dataset's columns come prearranged in a disordered fashion, which I remedy by reordering the variables into a more intuitive fashion using the `df <- df[, #,#,#,#]` coding schema:

## **Missing Values**

The base dataset has an inconsistent null identification scheme, which I remedy by use of a consistent null identifier ("[NULL]") per the following code:

- `lathe[is.na(lathe)] <- "["]`
- `lathe[lathe == "["] <- "[NULL]"`
- `write_csv(lathe, "lathes.csv")`

## **Variables**

- *CONTRACT\_NUMBER*: a unique numeric variable denoting the identification number assigned to a given contract in Goszakupki.
- *SIGN\_DATE*: a date variable denoting the date on which a contract was signed.

Min	2013-07-29
Max	2022-02-04

- *PRICE*: a numeric variable denoting the financial value of a signed contract.

Min	79345.00
Median	24900000.00
Mean	57329235.00
Max	292000000.00

- *CURRENCY*: a character variable denoting the currency in which the price of a given contract was settled.

Value	Label	Freq
AUD	Australian Dollar	2
EUR	Euro	2
RUB	Russian Ruble	156
USD	US Dollar	10

- *CUSTOMER\_INN*: a character variable denoting the unique Russian government-assigned numeric tax identification of the customer for a given procurement contract.

Value	Label	Freq
545001919	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "ZAVOD "DAGDIZEL"	1
1831032740	FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE VYSSHEGO PROFESSIONALNOGO OBRAZOVANIYA "IZHEVSKIY GOSUDARSTVENNYY TEKHNICHESKIY UNIVERSITET IMENI M.T. KALASHNIKOVA"	2
2128054356	MINISTERSTVO OBRAZOVANIYA I MOLODEZHNOY POLITIKI CHUVASHSKOY RESPUBLIKI	1
3232000278	FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA "BRYANSKIY GOSUDARSTVENNYY TEKHNICHESKIY UNIVERSITET"	2

3301002920	FEDERALNOE GOSUDARSTVENNOE UNITARNOE PREDPRIYATIE EKSPERIMENTALNYY ZAVOD "ALEKSANDROVSKIY"	1
3442110950	AKTSIONERNOE OBSHCHESTVO "FEDERALNYY NAUCHNO-PROIZVODSTVENNYY TSENTR "TITAN- BARRIKADY"	12
4027106964	AKTSIONERNOE OBSHCHESTVO "KALUZHSKIY ELEKTROMEKHANICHESKIY ZAVOD"	2
4502003242	GOSUDARSTVENNOE BYUDZHETNOE PROFESSIONALNOE OBRAZOVATELNOE UCHREZHDENIE "SHADRINSKIY POLITEKHNICHESKIY KOLLEDZH"	2
5012009279	FEDERALNOE GOSUDARSTVENNOE KAZENNOE UCHREZHDENIE "VOYSKOVAYA CHAST 35533"	1
5027030450	FEDERALNOE GOSUDARSTVENNOE UNITARNOE PREDPRIYATIE "FEDERALNYY TSENTR DVOYNYKH TEKHNOLGIY "SOYUZ"	1
5047196566	AKTSIONERNOE OBSHCHESTVO "NAUCHNO- PROIZVODSTVENNOE OBEDINENIE IM. S.A.LAVOCHKINA"	4
5099000013	AKTSIONERNOE OBSHCHESTVO "KORPORATSIYA "TAKTICHESKOE RAKETNOE VOORUZHENIE"	2
5259077666	AKTSIONERNOE OBSHCHESTVO "OPYTNOE KONSTRUKTORSKOE BYURO MASHINOSTROENIYA IMENI I. I. AFRIKANTOVA"	4
5259077666	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "OPYTNOE KONSTRUKTORSKOE BYURO MASHINOSTROENIYA IMENI I.I. AFRIKANTOVA"	2
5504000055	BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE OMSKOY OBLASTI SREDNEGO PROFESSIONALNOGO OBRAZOVANIYA "OMSKIY AVIATSIONNYY KOLLEDZH IMENI N.E. ZHUKOVSKOGO"	1
5506202219	AKTSIONERNOE OBSHCHESTVO "TSENTRALNOE KONSTRUKTORSKOE BYURO AVTOMATIKI"	1
5835049799	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "RADIOZAVOD"	1
5835094992	AKTSIONERNOE OBSHCHESTVO "PENZENSKOE PROIZVODSTVENNOE OBEDINENIE "ELEKTROPRIBOR"	11

5836636246	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "NAUCHNO-ISSLEDOVATELSKIY INSTITUT FIZICHESKIKH IZMERENIY"	1
5918214069	GOSUDARSTVENNOE BYUDZHETNOE PROFESSIONALNOE OBRAZOVATELNOE UCHREZHDENIE "LYSVENSKIY POLITEKHNICHESKIY KOLLEDZH"	2
6140022069	AKTSIONERNOE OBSHCHESTVO "AZOVSKIY OPTIKO- MEKHANICHESKIY ZAVOD"	3
6140022069	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "AZOVSKIY OPTIKO-MEKHANICHESKIY ZAVOD"	1
6319031396	AKTSIONERNOE OBSHCHESTVO "AVIAAGREGAT"	4
6453104288	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "SARATOVSKIY RADIOPRIBORNIY ZAVOD"	3
6606004237	GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE SREDNEGO PROFESSIONALNOGO OBRAZOVANIYA SVERDLOVSKOY OBLASTI "VERKHNEPYSHMINSKIY MEKHANIKO- TEKHNOLOGICHESKIY TEKHNIKUM "YUNOST"	1
6612011546	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "URALSKOE PROEKTNO-KONSTRUKTORSKOE BYURO "DETAL"	1
6623029538	AKTSIONERNOE OBSHCHESTVO "NAUCHNO- PROIZVODSTVENNAYA KORPORATSIYA "URALVAGONZAVOD" IMENI F.E. DZERZHINSKOGO"	6
6662079370	GOSUDARSTVENNOE BYUDZHETNOE OBSHCHEOBRAZOVATELNOE UCHREZHDENIE SVERDLOVSKOY OBLASTI, REALIZUYUSHCHEE ADAPTIROVANNYE OSNOVNYE OBSHCHEOBRAZOVATELNYE PROGRAMMY, "TSENTR PSIKHOLOGO-MEDIKO-SOTSIALNOGO SOPROVOZHDENIYA" EKHO"	3
6666000100	AKTSIONERNOE OBSHCHESTVO "KAMENSK-URALSKIY LITEYNIY ZAVOD"	2
6666000100	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "KAMENSK-URALSKIY LITEYNIY ZAVOD"	1

6669012431	FEDERALNOE KAZENNOE UCHREZHDENIE "ISPRAVITELNAYA KOLONIYA, No. 13 GLAVNOGO UPRAVLENIYA FEDERALNOY SLUZHBY ISPOLNENIYA NAKAZANIY PO SVERDLOVSKOY OBLASTI"	2
6673189640	AKTSIONERNOE OBSHCHESTVO "ZAVOD No. 9"	30
6829024766	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "TAMBOVSKIY ZAVOD "REVOLYUTSIONNNY TRUD"	1
7017171342	AKTSIONERNOE OBSHCHESTVO "NAUCHNO- PROIZVODSTVENNNY TSENTR "POLYUS"	6
7111003056	FEDERALNOE KAZENNOE PREDPRIYATIE "ALEKSINSKIY KHIMICHESKIY KOMBINAT"	1
7402006277	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "VERKHNEUFALEYSKIY ZAVOD "URALELEMENT"	1
7404011096	GOSUDARSTVENNOE BYUDZHETNOE PROFESSIONALNOE OBRAZOVATELNOE UCHREZHDENIE "ZLATOUSTOVSKIY INDUSTRIALNNY KOLLEDZH IM. P.P. ANOSOVA"	1
7422000957	GOSUDARSTVENNOE BYUDZHETNOE PROFESSIONALNOE OBRAZOVATELNOE UCHREZHDENIE "OZERSKIY TEKHNICHESKIY KOLLEDZH"	1
7449044990	AKTSIONERNOE OBSHCHESTVO "NAUCHNO- PROIZVODSTVENNOE OBEDINENIE "ELEKTROMASHINA"	7
7449044990	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "NAUCHNO-PROIZVODSTVENNOE OBEDINENIE "ELEKTROMASHINA"	1
7452001468	GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE SREDNEGO PROFESSIONALNOGO OBRAZOVANIYA (SREDNEE SPETSIALNOE UCHEBNOE ZAVEDENIE) "YUZHNO- URALSKIY GOSUDARSTVENNNY TEKHNICHESKIY KOLLEDZH"	2

7452001468	GOSUDARSTVENNOE BYUDZHETNOE PROFESSIONALNOE OBRAZOVATELNOE UCHREZHDENIE "YUZHNO-URALSKIY GOSUDARSTVENNNYY TEKHNICHESKIY KOLLEDZH"	2
7452033815	AKTSIONERNOE OBSHCHESTVO "SPETSIALNOE KONSTRUKTORSKOE BYURO "TURBINA"	2
7701350013	FEDERALNAYA SLUZHBA PO TEKHNICHESKOMU I EKSPORTNOMU KONTROLYU	2
7705002602	GOSUDARSTVENNOE UNITARNOE PREDPRIYATIE GORODA MOSKVY "MOSGORTTRANS"	1
7705596339	MINISTERSTVO PROMYSHLENNOSTI I TORGOVLI ROSSIYSKOY FEDERATSII	4
7717022177	PUBLICHNOE AKTSIONERNOE OBSHCHESTVO "IMPULS"	3
7719014460	FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE VYSSHEGO PROFESSIONALNOGO OBRAZOVANIYA "MOSKOVSKIY GOSUDARSTVENNNYY MASHINOSTROITELNYY UNIVERSITET (MAMI)"	1
7721022959	FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE NAUCHNOE UCHREZHDENIE "FEDERALNYY NAUCHNYY AGROINZHENERNYY TSENTR VIM"	1
7728795443	AKTSIONERNOE OBSHCHESTVO "ORDENA TRUDOVOGO KRASNOGO ZNAMENI NAUCHNO- ISSLEDOVATELSKIY INSTITUT AVTOMATICHESKOY APPARATURY IM. AKADEMIKA V.S. SEMENIKHINA"	2

7730087409	FEDERALNOE KAZENNOE UCHREZHDENIE "GOSUDARSTVENNOE UCHREZHDENIE PO FORMIROVANIYU GOSUDARSTVENNOGO FONDA DRAGOTSENNYKH METALLOV I DRAGOTSENNYKH KAMNEY ROSSIYSKOY FEDERATSII, KHRANENIYU, OTPUSKU I ISPOLZOVANIYU DRAGOTSENNYKH METALLOV I DRAGOTSENNYKH KAMNEY (GOKHRAN ROSSII) PRI MINISTERSTVE FINANSOV ROSSIYSKOY FEDERATSII"	1
7731084175	AKTSIONERNOE OBSHCHESTVO "KONTSE VOZDUSHNO-KOSMICHESKOY OBORONY "ALMAZ - ANTEY"	4
7802375889	AKTSIONERNOE OBSHCHESTVO "KONTSE "MORSKOE PODVODNOE ORUZHIE - GIDROPRIBOR"	1
7802375889	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "KONTSE "MORSKOE PODVODNOE ORUZHIE - GIDROPRIBOR"	2
7804478424	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "NAUCHNO-PROIZVODSTVENNOE OBEDINENIE "IMPULS"	1
7839395419	AKTSIONERNOE OBSHCHESTVO "ADMIRALTEYSKIE VERFI"	4
7839395419	OTKRYTOE AKTSIONERNOE OBSHCHESTVO "ADMIRALTEYSKIE VERFI"	5
9102059433	GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA RESPUBLIKI KRYM "KRYMSKIY INZHENERNO-PEDAGOGICHESKIY UNIVERSITET"	2

- *CUSTOMER\_NAME\_transliterated*: a character value denoting the full legal entity name of the procurement customer.

- *CUST\_DEF\_IND*: a character variable specifying whether the procurement customer is a Russian defense industry entity.

Value	Meaning	Freq
YES	customer is a defense industry entity	135
NO	customer is not a defense industry entity	35

- *SUPPLIER\_INN*: a character variable denoting the unique Russian government-assigned numeric tax identification of the supplier for a given procurement contract.

Value	Label	Freq
5904112229	OOO Promoil	40
6672197493	OOO Unimatik	58
7709307370	OOO Weber Come	39
7722860417	AO IPK "Finval"	33

- *SUPPLIER\_ORGANIZATION\_NAME\_transliterated*: a character value denoting the full legal name of the supplier for a given contract.
- *PRODUCT\_TYPE*: a character variable denoting the category of goods or service provided to customer by a supplier pursuant to a given contract.

Value	Label	Freq
01	Unspecified base metal products	1
02	Electrical machines and equipment for soft and hard soldering and welding	10
03	Equipment and tools for soft and hard soldering and non-electric welding and spare parts not otherwise classified	1
04	Machining centers	13



05	Non-CNC machine tools for metalworking	1
06	CNC-operated machine tools for metalworking	43
07	Boring machines for metalworking	8
08	Milling machines for metalworking	17
09	Sharpening machines for metalworking	1
10	Grinding machines for metalworking	3
11	Machine tools for various types of metal finishing	11
12	Machine tools for various types of metal cutting	2
13	Metal bending machines	1
14	Metal punching and hammer machines	1
15	Uncategorized presses for use in metals processing	1
16	Metalworking tools with sintered carbide or cermet components	3
17	Grinding and polishing machines	2
18	Manipulators for ingots, balls, beams and slabs	1
19	Vertical machining centers	6
20	CNC-operated multipurpose milling machines	3
21	CNC-operated horizontal lathes	3
22	CNC-operated horizontal lathes (not including multipurpose lathes)	1
23	Non-CNC horizontal lathes	2
24	CNC-operated multipurpose vertical lathes	4

25	Vertical copy-milling machines for contouring	2
26	Longitudinal single-column milling machines with vertical and horizontal spindles	1
27	Keyway milling machines	1
28	Specialized drilling and boring machines	2
29	Specialized milling machines	1
30	Other specialized milling machines	1
31	Surface grinding machines with a numerically controlled positioning accuracy on any axis of at least 0.01 mm	3
32	CNC-operated tool-grinding machines for metal processing (for cutting tools)	1
33	Band saw machines	3
34	CNC-operated bending, edge bending, and straightening machines (including presses) for processing sheet metal products	1
35	Spring winding machines	1
36	Woodworking band saws	1
37	Automatic and semi-automatic electric equipment for resistance welding of metal	1
38	Installation, commissioning, and testing of machines and equipment	1
39	Industrial production simulation systems	1
40	Instruments, equipment, and devices for educational demonstrations	2
41	Teaching materials for training in the use of machine tools, locksmith operations, electric and gas welding (not including visual aids)	1
42	Simulators for training workers in the fields of metalworking and mechanical engineering	2
43	Electrical devices for educational training	1
44	Secondary vocational education services	2
45	Other secondary vocational education services	2

- *PRODUCT\_QUANTITY*: a numeric value denoting the quantity of goods and services provided under a given contract.

Max	12600006.7
Min	1
Mean	74119.33

- *SUPPLIER\_CONTACT\_EMAIL*: a character value denoting the contact email for the supplier under a given contract.
- *SUPPLIER\_CONTACT\_PHONE*: a numerically derived character value denoting the contact phone number for the supplier under a given contract.