

# Relative Pricing of Catalog Item Purchases by Federal, State, and Local Governments and Higher Education (SLED) Institutions...Or

# Who Buys Best?



## BACKGROUND

The purchase of commercial catalog items (e.g., IT equipment, office supplies, janitorial and sanitation, maintenance, repair and operations (MRO), lab, and medical-surgical supplies, etc.) by the Federal government, State and Local governments, and higher education institutions is a hot topic. **Why?**



### SUBSTANTIAL SPEND IS AT STAKE.

Grainger estimates that the US Market for MRO items is approximately \$127 billion.<sup>1</sup> The US market for B2B office supplies is approximately \$90 billion.<sup>2</sup> Add in IT equipment and medical supplies, and these categories of catalog spend likely represent **half a trillion dollars**. The General Accounting Office (GAO) estimates that the Federal government spends at least \$5 billion on such goods annually.<sup>3</sup> XSB estimates that by including medical-surgical items purchased by the VA, as well as Federal p-card purchases, the total spent by the Federal government on catalog items exceeds **\$10 billion annually**. With state and local procurement outpacing Federal spend, catalog item purchases made by the public sector and higher education may be as much as **\$20 billion annually**.



### THE ADVENT OF E-MARKETPLACES.

Federal and SLED institutions are considering, or are already using, commercial e-commerce marketplaces (e.g., AmazonBusiness) to purchase many commercial catalog items. In the case of the Federal government, FY 2018's National Defense Authorization Act mandated that GSA and OMB explore establishing an e-commerce portal to allow Federal buyers to purchase goods from the commercial marketplace.<sup>4</sup> GSA is trying to determine how to allow Federal buyers the freedom to buy catalog items (at or below the micro-purchase threshold) from commercial marketplaces, while respecting the policies and practices Federal agencies typically use to acquire goods and services. In the SLED market, AmazonBusiness's recent contract with US Communities has also received extensive publicity.<sup>5</sup>



## ADVANCES IN BIG DATA AND AI.

While catalog items are, in theory, comparable across e-marketplaces and distributors, in practice the volume of items offered for sale coupled with the different item identifiers and descriptions used by each vendor makes it difficult to compare the same item described differently (see “horizontal price analysis” box). Advances in big data and the use of artificial intelligence techniques now make such horizontal price analysis highly automated for tens-of-millions of items, without tedious, expensive and error-prone manual effort.

XSB provides software to DLA and GSA that facilitates “horizontal price analysis” for commonly purchased parts.<sup>6</sup> Contracting Officers have effectively used XSB Price Point<sup>®</sup> benchmarking data to re-negotiate contracted prices for millions of catalog items. We estimate that this resulted in on average, a 12% reduction in pricing for high volume items. Such a reduction could easily translate into millions of dollars in avoided costs for government buyers.

XSB Price Point<sup>®</sup> includes more than 90M Federal contracted/awarded prices, transactional data on \$1.5B in Federal spend and ~25M prices from web based commercial e-marketplaces. XSB has extended this dataset to include a growing number of SLED institutions. We can now compare the prices paid by these institutions to one another and to prices paid by the Federal government **for the identical items.**

**Horizontal Price Analysis** is the process of comparing the price of identical items across various distributors, resellers and manufacturers, even when the item is described differently. Horizontal price analysis is a critical need in public sector procurement where numerous contracts are issued for the same item from multiple vendors. It is also critical to the truly effective use of an e-marketplace.



<sup>1</sup> Grainger\_2018\_FactBook

<sup>2</sup> <https://www.businesswire.com/news/home/20171117005020/en/Top-5-Vendors-Office-Stationery-Supplies-B2B>

<sup>3</sup> See <https://www.gao.gov/assets/680/671309.pdf>.

<sup>4</sup> See <https://www.congress.gov/bill/115th-congress/house-bill/2810/text#toc-H6166FFFC316E4B49BAC0A40658CEC684>

<sup>5</sup> [https://www.washingtonpost.com/business/2018/07/10/amazon-now-sells-office-supplies-books-thousands-cities-other-local-organizations/?utm\\_term=.3a9f9c1fee12](https://www.washingtonpost.com/business/2018/07/10/amazon-now-sells-office-supplies-books-thousands-cities-other-local-organizations/?utm_term=.3a9f9c1fee12)

<sup>6</sup> See [https://www.gsaig.gov/sites/default/files/audit-reports/A120026\\_1\\_0.pdf](https://www.gsaig.gov/sites/default/files/audit-reports/A120026_1_0.pdf)

## KEY FINDINGS

XSB collected transactional procurement files from 20 states and 31 public school systems ranging from local school districts to major public universities. In total, we were able to identify more than \$100 million in spend across more than 500,000 items that are also under contract with the Federal government's GSA Multiple Awards Schedules (MAS) program. We used data for products only (not services) and only for those products we could accurately identify.

**Here is what we found:**

1

There was tremendous variation in the prices paid by State, Local and Higher Education (SLED) buyers vs. the prices available to the Federal government for the identical item (often from the same vendors/sources).

**Some states paid significantly higher prices than the Federal government's negotiated contract prices and some paid much less, again for the identical item.**

There does not seem to be any correlation to the size of the SLED organization and the competitiveness of the prices that organization has negotiated. In other words, this variation does not appear to be a matter of spend leverage. (Note: most of these contracts at the Federal or SLED level do not guarantee volumes.) **On average in 2017, SLED buyers paid 17% more than the lowest federal contract price** (see box entitled "No One is Average").

### No One is Average

While SLED buyers on average paid 17% more than the lowest Federal contractual price, there is no average buyer. Please contact Daria Mathew at XSB ([d.mathew@xsb.com](mailto:d.mathew@xsb.com)) to review your organization's data individually. If we do not already have your data, let's talk about how we collect it and analyze it



**SLED buyers could save as much as 50% on available items simply by buying through GSA Schedules 70 and 84**

2

Through cooperative purchasing, SLED buyers may purchase from the GSA MAS Program Schedule 70 for a wide variety of IT items and from Schedule 84 for Security, Fire, and Law Enforcement Products. As a result, we also analyzed the prices paid by SLED buyers just for the subset of items listed on these two schedules.

**We were surprised to find that SLED buyers could save as much as 50% on items available to them simply by buying through GSA Schedules 70 and 84. Interestingly, for some items, we found SLED buyers who bought at substantially lower prices than those available on the GSA schedule; proving again, price variability is huge for the identical part!**

3

Focusing on educational institutions, we found the same variability as with state and local governments; some educational organizations pay much more than the GSA contracted prices, while some pay less. **On average in 2017, educational institutions paid 18% more than the lowest GSA contracted price.** As with their state and local counterparts, there does not appear to be a correlation between the size of the educational organization and the negotiated prices.

4

While price variability is widespread, there are commonalities between Federal and SLED purchasing. For example, spend is highly concentrated in the same product categories: IT, Office Supplies, JanSan and Security, Fire, and Law Enforcement. Additionally, there is substantial overlap in vendors serving both buyer groups, including major suppliers like WW Grainger, B&H Photo Electronics Corp., Fisher Scientific, Dell and CDW. Finally, high-volume products tend to come from many of the same manufacturers in both data sets, including 3M, ACCO brands, APC by Schneider Electric, Brother International, GE, Hewlett-Packard, Kimberly Clark, Trippe Lite, Verbatim and Xerox to name a few (see “Most Frequently Purchased Items” list) for the items with the highest sales volume, measured by number of units sold.



### Most Frequently Purchased Items

1

Energizer – L91BP8 - Ultimate AA Lithium Batteries, 8/Pk

2

JBC Safety – RS 70045SR3M64 – 28” Plastic Traffic Cones

3

Air Handler – 6B924 – 24x24x2 High Capacity Pleated Air Filter

4

GE – F32T8/SPP41/ECO- Linear Fluorescent Lamp 4100k

5

GE – F32T8/XL/SPX50/HL/ECO - Linear Fluorescent Lamp 5000k

6

Kimberly Clark – 31455 – Kimtech Delicate Task Wipes

7

Boise Paper – 054901CTN - Multi-Use Recycled Copy Paper

8

Sanford – 30001- Sharpie Fine Point Permanent Markers, Black

9

SC Johnson – 710213 – Deep Woods Off Insect Repellent

10

Universal Office Products – UNV96920 - AHI Steno Book

## IMPLICATIONS

1

### **BENCHMARKING.**

We recommend your public sector organization benchmark its pricing relative to your counterparts and to GSA Schedule prices for the identical items. You may identify areas where you can use this fact-based analysis to negotiate better prices with your vendors or simply gather data to demonstrate to your taxpayers and management the competitiveness of your contracts! Either way, you will know the facts. Please contact us for a detailed discussion of your data. If we do not have your data, we can discuss how to structure a pilot to evaluate it.

2

### **STRATEGIC SOURCING.**

With the use of automated analysis of this sort, there is no longer a reason to source catalog-based categories using "market baskets" which represent a limited percentage of overall spend in a given category. Now, you can establish target prices and analyze offers received for millions of commonly purchased items automatically. You can now optimize pricing for virtually all your catalog spend.

## NEXT STEPS

We are continually working to increase the depth and breadth of our dataset both in terms of the type of organizations included and the spend coverage.

One of our next steps is to compare prices paid by Federal and SLED buyers with those paid by commercial organizations.

Please contact us if you have any interest in working with, or contributing to, our dataset.

## ADDITIONAL NOTES XSB AND PRICE POINT®

XSB is a data science company that uses **Artificial Intelligence (AI)** and **semantic reasoning** to help US government agencies and large corporations solve problems they have relating to purchasing, managing, and designing complex goods and the parts they are made of. The core XSB technology is based on research funded by the DoD and developed at SUNY Stony Brook, XSB has developed “**systems of intelligence**” to:



Analyze product pricing and markets  
**(Pricing Cluster)**



Develop and share specifications, work instructions,  
and standards **(SWISS®)**



Identify physical/logistics attributes for improved  
Parts Management **(Pin Point®)**

The **XSB Master Data File** supports these systems, providing clean, standardized and enriched data on tens-of-millions of commercial off the shelf parts and NSNs available on government contract and in the wider supply web.

**Price Point®** is an automated price evaluation tool that joins proprietary, commercial and open data to provide users with the ability to rapidly evaluate prices for commercial parts and flag those items that require further review and negotiation. Price Point® leverages XSB's powerful Master Data File technology to interpret and standardize a wide variety of manufacturer names, brand affiliations, part number representations, and packaging inconsistencies common to the supply chain. Once standardized, Price Point® compares the proposed item price to all known prices for the **same item** across the XSB global item master, a database of more than **90 Million** parts and their associated prices.