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Price Analysis on Commercial Items Purchases Within the Department of Defense

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14. ABSTRACT Recent reviews by the Department of Defense, Office of the Inspector General (DoDIG 2001???2011) concluded that new pricing skill sets have not always been present in the purchase of commercial items. The current research focuses on (1) collecting and interpreting price analysis data and (2) using that data to determine the appropriateness of current pricing memorandums and the proper use of price analysis and the use of pricing memorandums to improve acquisition pricing payoffs. This research presents an analysis of contract files from U.S. DoD installations to determine whether the price reasonableness determination was completed and documented in accordance with procedures outlined in the Federal Acquisition Regulation (FAR). The research also includes the results of a survey, with the same purpose, of contract specialists contracting officers, and other personnel, such as price analysts. The data collected from the personnel survey was used to make comparisons with the data from the analysis of the contract files. This will then contrast contracting personnel perception of their ability to complete price reasonableness determinations and the actual documentation contained within the contract files. The authors also identified key areas of weakness in the price reasonableness determination documents and offer recommendations which could potentially reduce the price of commercial goods and services.								
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Panel 15. Advances in Contract Management

Thursday, May 15, 2014	
11:15 a.m. – 12:45 p.m.	<p>Chair: BG Stephen B. Leisenring, USA, Deputy Director of Contracting, U.S. Army Corps of Engineers</p> <p><i>The Efficacy of the Government’s Use of Past Performance Information: An Exploratory Study</i> Tim Hawkins, Western Kentucky University</p> <p><i>Contracting for Reform: The Challenges of Procuring Security Training and Advisory Services in Fragile Environments</i> Nicholas Armstrong, Syracuse University David Van Slyke, Syracuse University</p> <p><i>Price Analysis on Commercial Items Purchases Within the Department of Defense</i> Ralucca Gera, Naval Postgraduate School Janie Maddox, Naval Postgraduate School</p>



Price Analysis on Commercial Items Purchases Within the Department of Defense

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Janie Maddox—has 30 years of experience working in the government contract management and educational fields. In 1994, she won the National Contract Management Association's (NCMA) prestigious Blanche Witte Award for her leadership in the development of the Contract Pricing Reference Guides referenced in the FAR as the guidance for government contract pricing. Maddox is currently a professor at the prestigious Naval Postgraduate School. She lectures on federal government contract subjects, such as source selection and cost/price analysis. Her government teaching and educational management experience is mixed between both the private and government sectors. [jmaddox@nps.edu]

Abstract

Recent reviews by the Department of Defense, Office of the Inspector General (DoDIG, 2001–2011) concluded that new pricing skill sets have not always been present in the purchase of commercial items. The current research focuses on (1) collecting and interpreting price analysis data and (2) using that data to determine the appropriateness of current pricing memorandums and the proper use of price analysis and the use of pricing memorandums to improve acquisition pricing payoffs.

This research presents an analysis of contract files from U.S. DoD installations to determine whether the price reasonableness determination was completed and documented in accordance with procedures outlined in the Federal Acquisition Regulation (FAR). The research also includes the results of a survey, with the same purpose, of contract specialists, contracting officers, and other personnel, such as price analysts. The data collected from the personnel survey was used to make comparisons with the data from the analysis of the contract files. This will then contrast contracting personnel perception of their ability to complete price reasonableness determinations and the actual documentation contained within the contract files. The authors also identified key areas of weakness in the price reasonableness determination documents and offer recommendations which could potentially reduce the price of commercial goods and services.

Introduction

This research builds upon the work conducted in collaboration with the authors' thesis students Andrew Redfern, Erick Nelson, and Matthew White. Parts of this document are extracted from their thesis. The authors would like to acknowledge their contribution and their efforts in this project (see Redfern, A., Nelson, E., and White, M.)

Over the last decade, the federal acquisition workforce has had to adapt to the need for new skill sets. Procurement reforms in the late 1990s have required contracting specialists to have a greater knowledge of market conditions, industry trends, and market prices for commercial items (as defined in Federal Acquisition Regulation [FAR], 2012, 2.101). Because commercial items are an exception to the statutory requirement for cost or pricing data, price analysis shall be done on all commercial purchases whether they are single- or multiple-sourced, as there should be little need for cost data and the performance of cost analysis. This new movement toward identifying items as commercial and therefore using market forces to determine reasonable prices has required the increase of both



market research and price analysis methods.

Most contract pricing of acquisitions were conducted using cost analysis before these reforms were added to the contracting regulations. This new pricing of commercial requirements required a skill set for conducting price analysis that was not emphasized in both the work place and in Defense Acquisition University (DAU) content. Between 2001 and 2011, the Government Accountability Office (GAO) and the Department of Defense Inspector General (DoDIG) together issued 27 reports discussing concerns about commercial and noncommercial prices of weapons systems and spare parts. On May 30, 2001, the DoDIG issued Report No. D2001-129, which identified situations in which contracting officers did not obtain adequate pricing information (data other than certified cost or pricing data) for justifying price reasonableness.

In fiscal year 2001, the purchase of commercial items utilizing FAR Part 12, Acquisition of Commercial Items, accounted for 19% of the spending for goods and services by federal agencies (up from 9% from five years earlier). In fiscal year 2007 (the most current federal data published), the purchase of commercial items using FAR Part 12 (Commercial Procedures) accounted for 16% of the spending for goods and services by federal agencies. Within the DoD, the purchase of commercial items using FAR Part 12 (Commercial Procedures) accounted for 19% (\$62,780,121,344) of the spending for goods and services.

As the level of commercial transactions and dollars spent on commercial items continues to represent a significant amount of dollars, it would give one the impression that the importance of performing appropriate price reasonableness determinations on commercial item purchases is essential.

In this research, the authors use a general term for contracting officer/contract specialist/price analysts and call them *analysts*.

Purpose of Research

This research encompasses U.S. federal government contracting. This project will focus on price reasonableness determination within the DoD. We seek to identify areas of concern or trends in regards to the proper documentation of price reasonableness and to propose solutions.

We will review contract files at various DoD locations to verify if the price reasonableness determinations have been performed and documented properly in accordance with FAR regulations. The contract file assessment will include a review of end-user documentation, including the Independent Government Cost Estimate (IGCE) and market research, and whether or not the documentation is substantiated and reflecting the applicable source(s) of data. The file assessment will also include a review of contracting officer/contract specialist/price analyst's documentation, including identification of the procurement type (e.g., supply, service, or construction), the FAR contracting procedures utilized, and the justification used for the price reasonableness determination.

In addition, a personnel survey will be designed and distributed to contracting personnel. The collection of responses should enable the researchers to ascertain the contracting personnel's perceived level of ability as it relates to completing price reasonableness determinations. The data collected from the personnel surveys will also be used to make comparisons with the data collected during the contract file reviews, as explained above.

The findings and analysis behind each research question are followed by the authors' recommendations.



Research Questions, Analysis, and Recommendations

During their investigation, the authors came to the following conclusions about this research after collecting and then analyzing the research findings from the contract files and the contracting personnel survey results. Following are the research finding and analysis for each question, and the authors' recommendations, as applicable.

1. To what extent do pricing memos state the method of price analysis used in documenting price reasonableness? What price analysis methods are being used?

Findings: The researchers found that all of the pricing memos documented some type of price analysis used in determining whether the price was reasonable. FAR 13.106-3(a)(2)(ii), "Comparison of the proposed price with prices found reasonable on previous purchases," was the most highly utilized method of determining price reasonableness in the contract files reviewed (see Figure 1). The research findings show that, namely, 49 of the 119 files used comparing previous prices as a price analysis method (which is 41% of the total files). Competition documentation was present in 34 of the 119 files, namely 28% of the files.

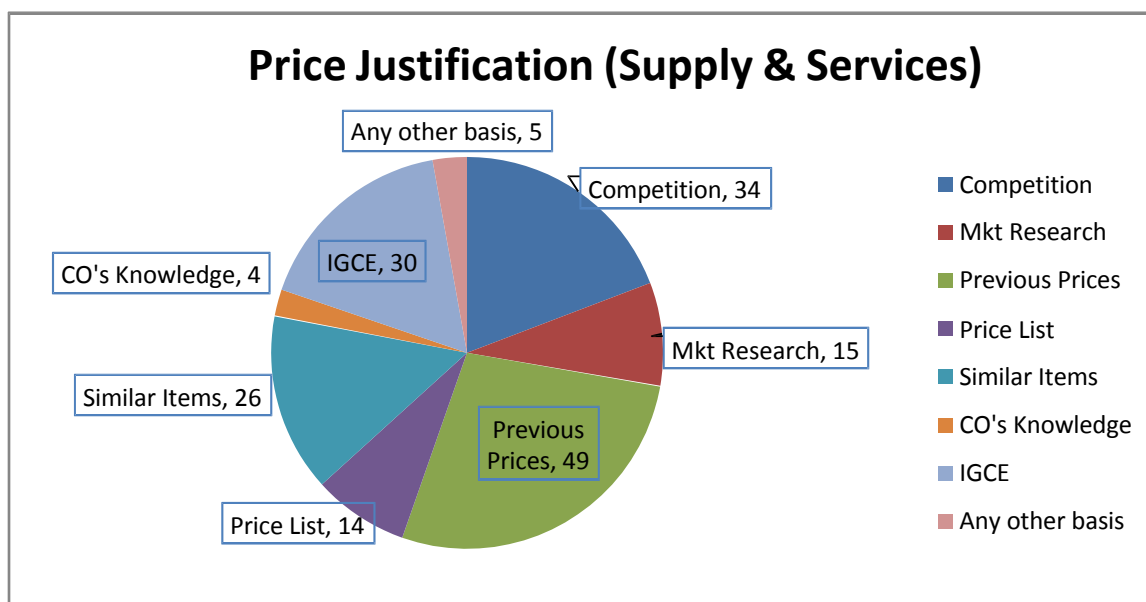


Figure 1. What Was the Justification for Price Reasonableness Based On?

Analysis: Comparing pricing to prices already found reasonable on previous contracts is likely preferred over the other price analysis methods, due to time savings on the part of the analyst. There are several risks involved in comparing previous prices paid. One is the determination that the original price was reasonable. Second, and more importantly, is that the previous price needs to be adjusted to make an apple-to-apple comparison to the offered price (e.g., time, quantities, and urgency of action).

Unfortunately, the research checklist for reviewing the files did not ask whether there was any documentation discussing what adjustments were made to the prior price to make it comparable. This question will be added for future research. The personnel survey had a majority of personnel citing a lack of time as a reason that adequate price analysis was not conducted. The use of the time-saving method of comparing to previous paid-prices price



analysis supports the assertion from contracting personnel that they do not have adequate time to do proper price analysis.

Recommendation: Previous prices is one of the two preferred methods of price analysis (see FAR 15.404-1(b)(3)). However, using a previous price as a price comparison is only one part of the analysis. Further analysis to determine whether the original price was reasonable is necessary, plus any adjustment for quantity/escalation to make the prices comparable. FAR Part 15 states that adequate price competition normally establishes price reasonableness for a previous price. FAR Part 13 gives the analyst freedom in determining whether the previous price was reasonable based on any reason. PGI 215.403-3(4) states,

Reliance on prior prices paid by the Government. Before relying on a prior price paid by the Government, the contracting officer must verify and document that sufficient analysis was performed to determine that the prior price was fair and reasonable. Sometimes, due to exigent situations, supplies or services are purchased even though an adequate price or cost analysis could not be performed. The problem is exacerbated when other contracting officers assume these prices were adequately analyzed and determined to be fair and reasonable. The contracting officer also must verify that the prices previously paid were for quantities consistent with the current solicitation. **Not verifying that a previous analysis was performed, or the consistencies in quantities, has been a recurring issue on sole source commercial items reported by oversight organizations.** Sole source commercial items require extra attention to verify that previous prices paid on Government contracts were sufficiently analyzed and determined to be fair and reasonable. At a minimum, a contracting officer reviewing price history shall discuss the basis of previous prices paid with the contracting organization that previously bought the item. These discussions shall be documented in the contract file. [emphasis added]

Currently, very little if any oversight is done for purchases under \$3 million according to contracting directors who the authors spoke with. As stated above in the PGI reference, using previous prices is more than just documenting a former contract price. When done poorly, it could cost us thousands, if not millions, in higher prices. Similar to the recommendation on Question 3, the authors suggest that the DoD implement oversight procedures to ensure that price analysis is documented and reviewed for completeness and adequacy, even for purchases less than the simplified acquisition threshold (SAT). The authors recommend some internal control to make sure that pricing documentation is being done. An example would be that each office could conduct a random sampling to see how well the files are complying with appropriate pricing documentation. Ensuring that pricing memoranda are accurate is essential for keeping costs down and confirming that contract awards are valid.

In addition, the data showed that price competition is not occurring as much as one would imagine for commercial items. Why is there less competition? The authors weren't looking at that issue in the current research, but it is something to consider for future research.

2. Do market research reports refer to market information that improves the buyers' understanding of pricing in the marketplace?

One of Two Findings: Market research reports (MRRs), when done, can provide critical information relevant to the contracting environment, the technical details of the pricing, and more. Market research reports are not required for actions under the SAT except when



adequate information is not available and the circumstances justify the cost. Surprisingly, there were a considerable number of market research reports in the actions under the SAT (see Table 1). Sixty of the 104 under \$150,000, representing 54% of the files reviewed, included MRRs.

Analysis: The authors did not look at the extensiveness of these reports; however, the fact that this many were done when it was not required certainly says that the analysts determined that the circumstances justified the time and cost.

Table 1. Answers to the Question “Is There a Market Research Report in the File?”

Files	MRR	No MRR	Totals
<150k	60	44	104
>150k	4	11	15

However, not so with files where MRRs are required. It is interesting that only four of the 15 files over \$150,000, representing 26% of the files, had an MRR in the file. Considering that this is a requirement for actions over \$150,000, it shows that analysts do not complete market research reports on a regular basis. Unfortunately, the workload and manpower shortages make the performance of market research unlikely.

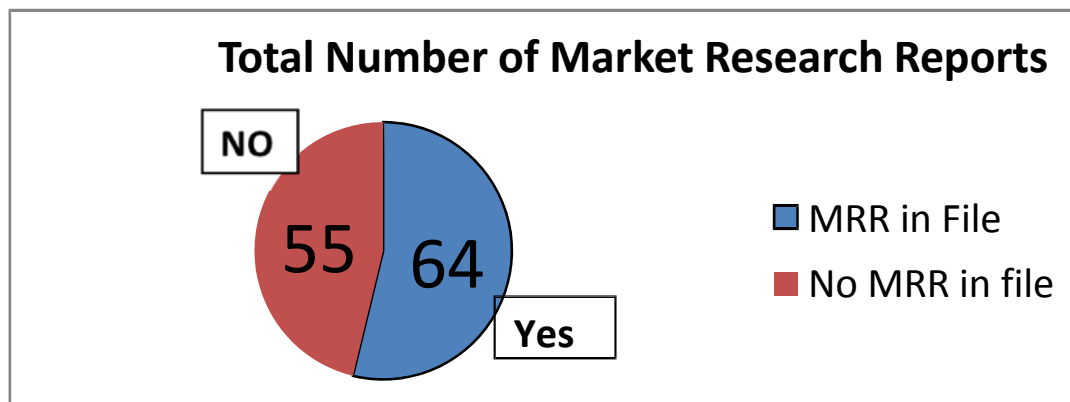


Figure 2. Answers to the Question “Is There a Market Research Report (MRR) in the File?”

Two of Two Findings: Although a majority of survey respondents indicated that they identify current market pricing in their market research reports (see Figure 2), this was not true in the contract files the authors reviewed.

Analysis: Out of 119 files, the authors had 64 market research reports (54%), of which 26 (41% of the 64 above) addressed any type of pricing data collected. What is more interesting than the fact that 41% did include pricing information in their market research report, is that *none* of the seven actions over \$700,000 did.

Recommendation: FAR Part 10 requires the determination of a commercial item when the dollar value is over the SAT. The FAR states that this market research should provide pricing information about purchases; however, a reference to pricing information is not required. Market research to include pricing information that is accomplished in the pre-solicitation stage will give the analyst a picture of the market place and a range of acceptable prices. Without that kind of information, the analyst most likely does not have a clear idea of what the price should be before the proposals/offers are submitted. The



authors understand that market research is required to identify items as commercial and it also can assist in finding sources. The authors conclude that if the time were taken to do market research by the customer and/or the analyst, it would only take a little more time to document price ranges for the item being researched. This is one way for the analyst to gain knowledge about the “should-pay price.” The authors recommend that FAR Part 10 require that pricing be discussed in the market research reports and that market research be required, or at least an abbreviated form of market research be done, on commercial purchases under the SAT.



Figure 3. Answers to the Question “Does the Market Research Report Address Any Type of Pricing Data Collected?”

3. **To what extent do pricing memos deviate from FAR/DFARS requirements? What type of reviews are being done to validate the quality of pricing memos and appropriate documentation?**

Findings: A number of contract files that the authors reviewed were unable to demonstrate that prices paid were reasonable due to the inadequate price analysis methods depicted in Table 2. From this data, the authors determined that the personnel involved in performing these contract actions did not include sufficient documentation to support the price analysis method used.



Table 2. Summary of Inadequate Price Analysis Methods (Including Contract Actions That Used Either Simplified Acquisition or Negotiation Procedures)

	Under 150k	Over 150K
Inadequate price competition	0 of 31	0 of 3
Incomplete statements based on references to market research	1 of 14	1 of 1
Acceptance of prior prices without establishing their reasonableness	6 of 49	1 of 1
Incomplete references to current price list, catalog, or advertisement	0 of 15	0 of 0
Incomplete comparison with prices of similar items	6 of 26	0 of 0
Incomplete statement of price reasonableness by contract officer	3 of 4	0 of 0
Incomplete comparison with IGCE or use of unreliable IGCEs	24 of 27	4 of 5
Incomplete statement for price reasonableness for any other reasonable basis	0 of 4	0 of 1
Totals of inadequate documentation	40	6

Analysis: There are several reasons why price reasonableness memoranda may lack sufficient justification/supporting information. The reasons include the following: improper training/knowledge of the contracting workforce, an overloaded workforce without enough time to complete proper documentation, or improper price reasonableness determination method being used. The survey of supervisors indicated that they believe their contracting workforce may not have the necessary knowledge to properly complete fair and reasonable price determinations. However, based on surveys, all but one respondent had taken one or more pricing courses. Responses to the survey also indicated that supervisors believe that their contracting activity has a shortage of manpower. This shortage of manpower has led to the contracting personnel being overworked and possibly forcing them to cut corners. As contract pricing has often been overlooked in the past, it is likely that this trend continues. Contracting personnel have attempted to meet the challenges presented by the warfighter, but documentation of price reasonableness determination has suffered due to manpower shortages.

Findings: In determining what type of reviews are being done to validate the quality of pricing memos and appropriate documentation, the authors asked the respondents whether price memos were being reviewed by someone other than the writer of the pricing memo before and after the contract action is signed and awarded by the contracting officer. Their answers revealed that approximately 50% of the time, memos are reviewed (before, after, or even reviewed outside of the organization). In talking with contracting directors, they gave us the impression that a file less than \$3 million is seldom reviewed, and that reviews for actions over \$3 million but less than \$10 million are spotty. They also indicated that peer reviews are not the best way to improve the contract files, due to the pressure that it creates



at work. These statements contradict what the respondents said in the surveys. However, in analyzing the contract file research findings, the authors saw that no reviews were being done on the 119 files.

Analysis: The contract actions that the authors looked at are small-dollar actions compared to other government purchases, and it is understandable that there is not enough time for the kind of oversight reviews that might assist leaders to diagnose pricing problems. However, one must consider that when no penalties are to be invoked, it opens up the opportunity for analysts to forgo pricing. If possible, the authors would like to document what type of reviews will be found in the files we examine in the future.

Recommendation: Pricing memo inaccuracies have affected contracting and the DoD in several ways. Consequences include improper price reasonableness determinations and overpaying for procurements. To begin with, if the pricing memoranda are inaccurate, then it is possible that the price reasonableness determination has not been completed correctly. Contracting personnel need to ensure that the memoranda are accurate and properly identify how fair and reasonable price was determined. Inaccurate pricing memoranda can often lead to the DoD overpaying for supplies, services, and construction acquisitions.

Similar to the recommendation to answer Question 1, the authors suggest that the DoD implement oversight procedures to ensure that price analysis is documented and reviewed for completeness and adequacy even for purchases less than the SAT. The authors recommend some internal controls to make sure that pricing documentation is being done. An example would be that each office could conduct a random sampling to see how well the files are complying with appropriate pricing documentation. Ensuring that pricing memoranda are accurate is essential for keeping costs down and confirming that contract awards based on FAR rules are valid. Another recommendation is that electronic file documentation include records of reviews.

4. What was the justification for price reasonableness used in the acquisition of a supply versus a service? Are the justifications similar? If not similar, what are the differences?

Findings: Table 3 addresses the type of FAR 13.106 or 15.4 justifications used in determining price reasonableness for all actions. The table provides some insight into the type of justifications most used for supplies versus service acquisitions.



Table 3. Summary of Inadequate Price Analysis Methods (Including Contract Actions That Used Either Simplified Acquisition or Negotiation Procedures)

What was the justification for price reasonableness?		
	Supply	Service
Competitive Quotes	26	8
Market Research	11	4
Comparison With Prices Found Reasonable on Previous Purchase	31	18
Current Price List, Catalog, or Advertisement	8	6
Comparison With Similar Items	17	9
Contracting Officer's Personal Knowledge	4	0
Comparison to an Independent Government Cost Estimate	13	17
Any Other Reasonable Basis?	4	1
Cost Analysis of Offeror's Data	0	0

Analysis: In Question 1, the authors discussed which one of these price analysis methods is used the most. In this question, the authors are taking these findings a step further and concluding what differences, if any, can be found in the price reasonableness determinations between supplies and services. The authors believe that the findings practically speak for themselves. Yes, it is apparent that the types of price determinations made are different. The *why*, we do not know, but we can infer that it is much easier to find prices in the market place for supplies than for services. For services, there appears to be less competition, so there is more dependence on previous prices and IGCEs to make price comparisons. When it comes to supplies, there appears to be more competition, more ability to find similar items of a type and previous prices as data for comparison of price purposes.

When acquisition regulations were originally written, the focus was on buying supplies. These regulations of course have evolved over time, but they are still heavily based on supply purchases. It has been apparent for some time that the federal government has difficulties in acquiring services; that is not part of this research, but there is plenty of literature available to read about the issues surrounding the purchase of services. One of the many results from the Services Acquisition Reform Act of 2003 is that the DoD *Services Acquisition Guide* was published in 2011 and republished in 2012. The guide states that

the acquisition of services plays a vital role in advancing and maintaining the mission capability of the Department of Defense (DoD). Services acquisition covers a broad spectrum of requirements from research and development, advisor services, information technology support, medical, to maintaining equipment and facilities. For over ten years the DoD has spent more on



service requirements than it has on equipment acquisitions. While the acquisition of major systems follows a much defined process, the acquisition of services tends to be more ad hoc. Services acquisition is not about awarding a contract; it's about acquiring performance results that meet performance requirements needed to successfully execute an organization's mission.

This guidebook provides acquisition teams with a disciplined, seven-step process for the acquisition of services.

The guidebook is used throughout the DoD in workshops and courses on developing performance-based statements of work for acquiring services along with a successful software tool called ARRT—Automated Requirements Roadmap Tool. However, the guidebook includes very little discussion about pricing.

Recommendation: Buying services is different than buying supplies, which means that there are also differences when it comes to pricing. A step should be added to this acquisition guide that focuses just on the pricing of services. Possibly the FAR, DFARS, and PGI need to reframe price analysis methods that are more useful in purchasing services, as opposed to their current references to supplies only.

5. Do pricing memos use independent government cost estimates for price comparison? Do the IGCEs include sufficient justification/supporting information behind the cost estimates?

Findings: Next to previous prices per FAR 13.106-3(a)(2)(vi), IGCEs were the next most heavily used as the basis for price reasonableness, essentially 25% of the contract actions reviewed. However, the authors found that the majority of the IGCEs were not substantiated (unreliable).

We further broke down the number of reliable IGCEs by under and over \$150,000 of the SAT (see Figure 4).

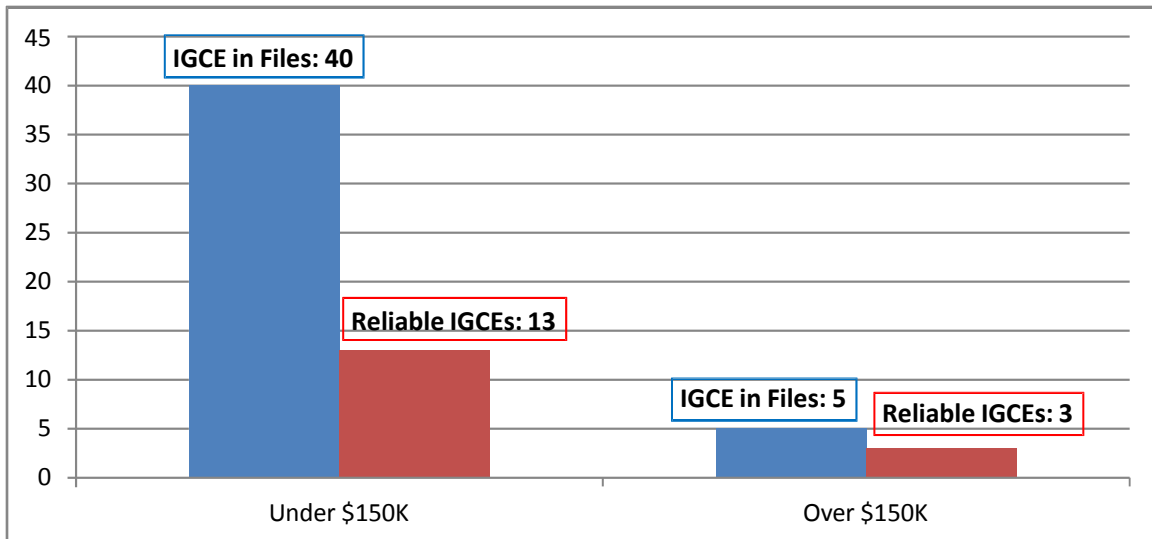


Figure 4. Number of Reliable Independent Government Cost Estimates

To provide a bigger picture of how poor IGCEs played a part in price reasonableness determinations, see Table 4.



Table 4. Dollar Value of Actions With Unsubstantiated IGCEs Used in Determining Price Reasonableness

	Value of the contract action in dollars	Under \$150K	Over \$150K	Negotiated procedures
		<i>Commercial</i>		
	24,990	X		
	14,250	x		
	6,605	x		
	6,590	x		
	3,730	x		
	411,310		x	
		<i>Non Commercial</i>		
	1,078,723		x	x
Totals	1,546,198	5	2	1

Analysis: IGCEs, when reliable, are a very useful tool for the analyst in determining the reasonableness of prices pre-solicitation and during the evaluation and negotiation phase. The authors found that IGCEs were being used substantially to justify prices in the contract file actions reviewed for this project. In particular, their use for justifying the price of services was critical. IGCEs appeared to be needed to determine the price reasonableness, in particular where there were no competitive quotes or reasonable-based previous prices to consider. The authors noted earlier in our findings that IGCEs were used to determine reasonable prices for services more often than for supplies. Therefore, these estimates need to be accurate and substantiated because they affect prices in two different ways: (1) They give the analysts a clue as to what the price should be, and (2) they provide a basis for the offer and/or proposed prices.

In reviewing regulations, there is no requirement for IGCEs. IGCEs are only mentioned one time in the FAR/DFARs as a price analysis comparison method. See FAR 15.404-1(b) (b), Price analysis for commercial and non-commercial items:

(2) The Government may use various price analysis techniques and procedures to ensure a fair and reasonable price. Examples of such techniques include, but are not limited to the following:

(v) Comparison of proposed prices with independent Government cost estimates.

The *Contract Pricing Reference Guides* (2012) are the only other place to find more about IGCEs:

General Guidelines on Using Independent Government Estimates. The IGE is a useful tool used for comparison to the proposed price. The IGE is developed based on the most recent data determined to fulfill the Government's requirement and should accompany the procurement request. The submitted cost estimate shall include a basis for the Government's estimate using current validated data whether at the price level or at the cost element level. If an industry standard is used for validation then state why the selected industry standard is the most appropriate authority. The dollar value, type procurement, and the complexity of the procurement will determine how



detailed the IGE is to be. Cost element or price values alone are not adequate without a basis to support the estimated values. The cost estimate does not have to be an exact match to the offeror's proposal to be used as a comparison, but should have adequate information to determine how the Government's approach to the estimate compares to the offerors understanding of the requirement. Differences in the comparison shall be analyzed and documented. The IGE should not be adjusted to the offeror's price as the offeror's approach may have differences the Government did not account for and may warrant additional pricing inquiry. The analyst must provide an adequate narrative validating the source or the basis of the information comprising the estimate. The details of the IGE are significantly more critical in a sole source environment where no competition exists and or where an exemption may exist from obtaining cost or pricing data from the offeror. The IGE may also be used as a comparison where two or more offers are received but only one offer is considered technically acceptable. Ask the following questions of any Independent Government Estimate before using it as a basis for comparison with offered prices.

- How was the estimate developed made?
- What assumptions were made?
- Were any differences in the comparison work statement accounted for?
- What information and tools were used?
- Where was the information obtained?
- How did previous estimates compare with prices paid?
- Were unique conditions applied to the prior procurements and do not apply now?

This guidance is certainly helpful in analyzing IGCEs, but what is being done to train the estimators of the IGCEs and to require that IGCEs be substantiated?

Recommendation: The authors propose that government activities increase the importance of IGCEs and consider the following steps to make IGCEs more reliable for use in conducting price analysis: (1) the analysts should be presented good training on what good IGCEs are and what to document, (2) the individuals that develop IGCEs need to know how to do it (there should be more specific training in this area), (3) an online check system should be put in place where government IGCEs are accepted if and only if the substantiation is provided, and (4) consideration should be given to acknowledge IGCEs in the FAR/DFARS/PGI with more importance than it currently is given. The policy-makers need to appreciate how much IGCEs are being used and that more guidance will assist analysts in determining what the analyst "should pay" and will hopefully give the analysts the ammo to negotiate better prices.

6. Why do contract/purchase order files lack price reasonableness determinations?

Findings: Out of 119 files, the authors found that 18 had no price reasonableness determination in the electronic files (see Table 5). However, other documents that support pricing memos were either missing or could not be found.

Analysis: The authors infer that the pricing was done in many cases, but the documentation was lost. When the authors were conducting the contract file review, the authors found it difficult to find pricing documents. Most of the files reviewed are stored electronically.



Though there was a proposed table of contents for analysts to use in storing information electronically, it was not always being used and/or documents were titled with various names that didn't appear to be appropriate pricing titles. As a result, the authors concluded that several documents were either missing or just could not be found in the electronic file, such as market reports, IGCEs, or price reasonableness determinations. In many cases, there was documentation in the file that even referred to a specific document, but it was not found in the file.

Table 5. Number of Files Without Price Reasonableness Memos

	Value of contract action in dollars	Under 150K	Over 150K	Not SAP procedures
		<i>Commercial</i>		
	131,292	x		
	44,559	x		
	32,858	x		x
	30,008	x		
	24,750	x		
	8,749	x		
	7,500	x		
	7,210	x		
	6,316	x		
	12,986	x		
	999,879		x	x
	1,288,918		x	x
	808,401		x	
	344,469		x	
	162,293		x	
	255,776		x	x
	153,480		x	
		<i>Non Commercial</i>		
	296,122		x	x
Totals	\$4,615,566	10	8	

Recommendation: Though DoD contracting offices are moving to storing the data electronically for good reasons, it did not appear to be working well for the pricing documentation that the authors were looking for. The authors recommend that there be more emphasis on the proper storage of documents, standardized electronic filing of contract pricing documents throughout the DoD, and standardization of the titling of pricing documents. FAR 4.801 requires that the documentation in the contract files be sufficient to provide a complete background for informed decisions at each step in the acquisition process, provide support for the actions taken, and provide information for reviews and



investigations. Contract files that lack the proper documentation in supporting the price reasonableness determinations are not sufficient or complete.

7. Is the current training specific to commercial items and price analysis sufficient for our contracting personnel?

Contracting Personnel Comments About Current Contract Pricing Training:

—One supervisor stated, “I do not believe that the DAU class does a good job of teaching the requirement. DAU focuses on major weapons/production/trend analysis, etc. It doesn’t really teach the basics for the everyday buyer.”

—A non-supervisor response was that “DAU contract pricing training was good ‘theory’ learning, does not always transfer to actual buys being made in the office environment.”

Findings: DAU Course Content/FAR Part 13, Pricing Procedures: At the present time, DAU has significant cost analysis content in two required DAWIA/FAWIA courses, CON 170 and 270; however, price analysis content is very limited. The required contracting career courses do not fully address the application and documentation of fair and reasonable prices by using price analysis methods, particularly where contracting action involves pricing for commercial items that use Simplified Acquisition Procedures (SAP) for up to \$6.5 million. However, maybe it’s not the training but the regulations that drive the training. SAP procedures provide little guidance on how to document pricing. Considering that commercial buys run up into the millions of dollars, the requirements for pricing under SAP or under Commercial must be beefed up. Thus agencies may have missed opportunities to benefit from the utilization of price analysis methods and the potential of price reduction because of inadequate guidance and training.

Thus, pricing courses like CON 170, 270, and 235 (an optional advanced course) have come a long way since 2008 when pricing was only offered through an online course. These courses are desperately needed for contracting personnel in formal source selections, sole/single source commercial and non-commercial buys over \$6.5 million. These courses are also expected to cover price analysis, which they do, but briefly. They do not cover pricing using SAP in commercial item acquisitions. The DAU continuous learning module on SAP does not cover pricing. The current *Commercial Item Handbook* only discusses FAR 15.4. Why does that matter? Because most of the contract files we looked at were performing pricing under FAR 13.106-2/3.

Utilizing the price analysis methods described in FAR Part 15 requires that contracting personnel be diligent in verifying information and providing clear documentation. FAR Part 13 states that documentation be kept to a minimum. For acquisitions not exceeding the simplified acquisition threshold, written records of solicitations or offers should be limited to notes or abstracts to show prices, delivery, references to printed price lists used, the supplier or suppliers contacted, and other pertinent data. Nothing is said about documentation for commercial item purchases over the SAT. However, there are hundreds of transactions for commercial items that use these FAR Part 13 procedures for purchasing and pricing up to \$6.5 million. This is allowed per FAR 13.5. This subpart authorizes, as a test program, the use of simplified procedures for the acquisition of supplies and services in amounts greater than the simplified acquisition threshold but not exceeding \$6.5 million. FAR 13.500 states, “For the period of this test, contracting activities must employ the simplified procedures authorized by the test to the maximum extent practicable.”



Upon further observation, the authors reviewed FAR Part 12, Acquisition of Commercial Items, and it states that one should “establish price reasonableness in accordance with 13.106-3, 14.408-2, or Subpart 15.4, as applicable.” So, the authors concluded there is little reason for analysts to use FAR subpart 15.4 for commercial acquisitions under \$6.5 million.

Analysis: In lieu of all the reasons why analysts are not documenting files properly—too much workload, not enough time, and so forth—it is the authors’ opinion that the lack of appropriate training contributes significantly. It is difficult for managers or anyone to see this trend because purchases below \$3 million are not looked at very much, if at all. An anonymous contracting director said that “there is a sampling of files looked at over 3 million. 100% over 10 million but seldom if at all under 3 million.”

It appears that analysts may believe that “Commercial” means cheaper and that there is no need for data or negotiation, or maybe they don’t feel comfortable with price analysis. In addition, as described in the findings, analysts are following the limited requirements of pricing documentation per FAR 13.106.2 and 13.106.3 for Commercial buys up to \$2.6 million. Even then, the documentation isn’t thorough enough because FAR 13.106.1–13.106.2 provide little detail for the analyst to follow in comparison to FAR 15.4.

Recommendations: Recent reviews by DoDIG/GAO (2001, 2006, 2009, 2010, 2011) concluded that new pricing skill sets have not always been present in the purchase of commercial items. The DoD needs to take another look at how analysts are trained for commercial items purchases, particularly when using simplified acquisition procedures. Based on the thousands of actions that are done, FAR Part 13 does not provide enough details or guidance on how to appropriately conduct price analysis. FAR Part 13 says that there are minimal requirements for documentation support. As a result, people are buying very expensive items and using FAR Part 13 as a basis, and they get away with it without proper pricing research.

Skills need to be built upon tied to SAP buys of commercial items and all purchases under the SAT. Price analysis is not emphasized enough in these types of buys. Current DAU courses emphasize cost analysis. The DoD needs to find a way to put more emphasis on price analysis, quantitative techniques that can be used in this area effectively like indexing and regression, how to actually find and apply parametrics and real case studies/exercises tied to real simplified acquisition purchases to include commercial items buys that can use simplified acquisition procedures up to \$6.5 million. In addition, the authors suggest more attention to the pricing of services, specifically, and to delivery orders and task orders.

Also, FAR Part 12 does add an interesting note about commercial item pricing that might be placed in FAR 13.5. The analyst

should be aware of customary commercial terms and conditions when pricing commercial items. Commercial item prices are affected by factors that include, but are not limited to, speed of delivery, length and extent of warranty, limitations of seller’s liability, quantities ordered, length of the performance period, and specific performance requirements. (FAR Part 12)

The authors also recommend that anyone who took only CON 217 should also take CON 170 if he or she works on commercial purchases. The new CON 170 provides much more coverage in pricing than what was available when personnel were only required to take CoN 217.



8. Can the authors conclude that the DoD is doing a better job in pricing commercial items? Can the DoD do a better job in pricing commercial purchases?

Based on our findings discussed in this report and those highlighted in the answers to our research questions, the authors have concluded that the DoD is not doing a better job in pricing commercial items. Yes, we believe that the DoD can do a better job. We have provided some suggestions/recommendations for DoD governing officials to consider for improving pricing in our commercial purchases.

Conclusion and Significance of Recommendations

From a macro view of purchasing, one can appreciate that it appears that only a few dollars can be saved in buys under the SAT or even for commercial items up to \$6.5 million per contract action. Any serious focus on driving price/cost savings within the DoD is not considering lower-dollar contract actions. However, there are an enormous number of lower-dollar contract actions that occur every year. A small dollar of savings multiplied by this vast quantity could equal significant savings.

It is much easier to see a benefit in price reductions for commercial items and non-commercial items over \$10 million actions. However, if the DoD continues to overlook the lack of appropriate pricing documentation and the obvious lack of effort to determine if prices could be lower at the lower-dollar values, what makes it different when the analyst works on higher dollar amounts? Most analysts learn from the small purchases and work their way up into higher buys. The learning is critical at this smaller buy stage as it impacts the future larger dollar experience. “Price ... should always be important,” Shay Assad said at a DAU sponsored conference on the Better Buying Power initiative. Assad continued, “There may be times when it’s difficult to place price as the most important thing, but it ought to be important every single time.” Pricing is important. It’s time that the DoD takes a stronger look at doing a better job at the pricing table than it is doing today. Assad went on to say, “The reality is, across the board, we’ve got to do much better.” It is easy to say what Assad said about better pricing, but cultural change will make it difficult. A quote from a contract director during our research provides a glimpse of how unimportant price is today. The director said, “Our contracting personnel are not motivated to save money or get better prices and especially at year end.”

It might be difficult to gauge cost savings because there is little to no information about the relative cost of a good or service, but there is a market price, a range of acceptable prices, and competition that should yield savings for taxpayers that will grow as “pricing” becomes a more prevalent activity. If nothing else, more efforts to understand the marketplace by buyers can indeed assist in finding more sources, leading to more competition and better prices. To do this, the DoD has to better train and assist our purchasers in becoming buyer experts. Like best practices of commercial buyers in the private sector, the government buyers need to know the market place they are working in.

The authors would like to report that they found a magic pill that will make it easy for DoD analysts to pay cheaper prices for goods and services, commercial and non-commercial, but that is not the case. However, if some of the recommendations that the authors offered are put into effect, the expectation is that there will be better prices.

Last of all, the Defense Department is currently drafting a proposed DFARS rule that implements the requirements in section 831(a) of the NDAA for FY2013. Section 831 is titled “Evaluating Price Reasonableness for Commercial Items.” Congress appreciates the pricing problems and is asking for change. The time to make these changes is NOW!!



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Price Analysis on Commercial Item Purchases Within the Department of Defense

By: **Janie Maddox**

Graduate School of Business & Public Policy, NPS

And

**Raluca Gera,
Applied Math Department, NPS**

In collaboration with our thesis students
Andrew Redfern, Erick Nelson, and Matthew White





- Problem statement
- Data overview
 - Contracting file checklist and
 - Contracting personnel survey
- The findings and analysis:
 - Discussion of findings and analysis
 - Discussion of recommendations
- Future Research



Take away from current talk

- We did not find a magic pill to help Contracting personnel to pay cheaper prices and to document “Price Analysis” appropriately in contract files
 - In conclusion to our research we have proposed recommendations that could help secure better prices and improve pricing documentation
- FYI, DoD is currently drafting a proposed DFARS rule that implements a requirements of the FY2013 titled “Evaluating Price Reasonableness for Commercial Items.”
 - Congress appreciates the pricing problems and is asking for change
 - The time to make these changes is *now!*



Problem Statement for the Research

- Before the procurement reforms in the late 1990s, most contract pricing of acquisitions was conducted using “cost analysis” by Contract Specialists
- Then came FAR Part 12 and identifying items as “commercial” (FAR 2.101)
- As a result, the federal acquisition workforce has had to adapt to the need for new skill sets
 - contracting specialists needed to have a greater knowledge of market conditions, industry trends, and market prices
 - So, instead of analyzing cost proposals, Contract Specialists are now using market forces to determine reasonable prices
- Thus, the increase of both market research and extensive use of price analysis methods
- However, 2001 – 2011 reviews by DOD-IG concluded that new pricing skill sets have not always been present in the purchase of commercial items
- Several initiatives have been introduced to improve pricing skill sets such as regulations, handbooks, DAU courses
- Our research focused on collecting and interpreting price analysis data from contract files since 2012 and data from personnel surveys to determine if pricing skill sets appear to be improving

The overall goals of the project:

Can the researchers conclude that DoD is doing a better job in pricing commercial items?

Can DoD do a better job in pricing our commercial purchases?



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Description of Data and Methodology



Contract File Review Data Collection

- We visited 4 DoD sites
- Looked at three years of contract files at each site
- Randomly sampled 30 contract files from each site
- Two checklists were created to look at:
 - Procurements that utilized Simplified Acquisition Procedures (SAP) under FAR Part 13, and
 - Procurements that utilized FAR Part 15 Negotiation Procedures (> \$150K)



To review

- whether the end user **provided pre-solicitation documentation** (IGCE and market research),
- whether the documentation provided could be **substantiated**, and
- what procurement **procedures and price analysis method(s)** were used by the contracting specialist to determine fair and reasonable pricing.



Contracting Personnel Survey Design and Subjects

- **Survey Design**

- It had 22 questions (last questions were just for supervisors)
- Went to 3 different DoD sites
- Went to about 200 people

- **Survey Responses**

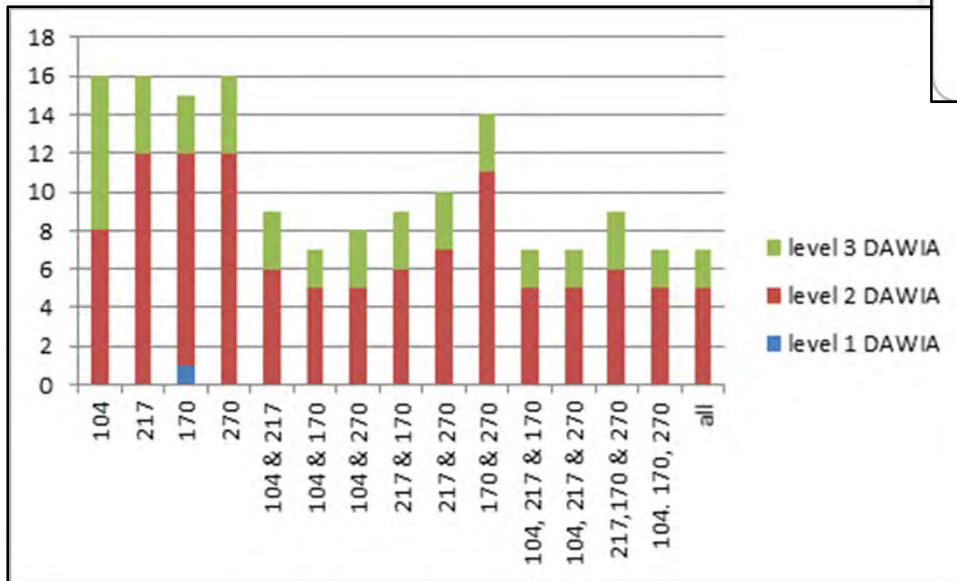
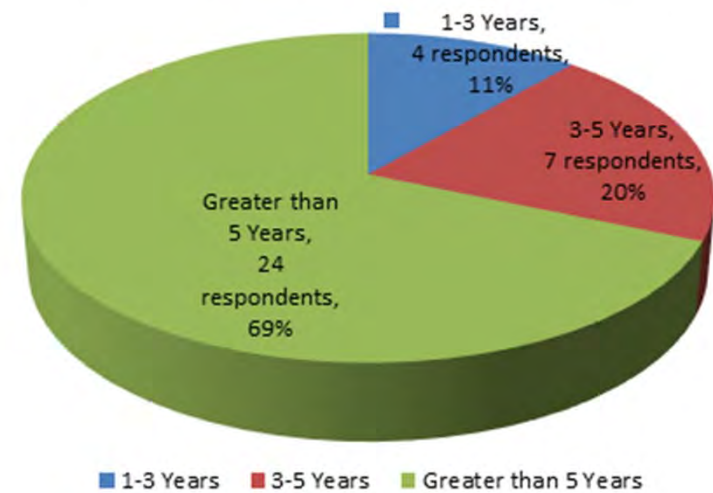
- 36 of the 46 respondents consented to the use of data (used 36)
- 94% were DoD civilians, and 6% were active duty
- 20% were supervisors
- 92% of them dealt with commercial (36% non-commercial) item procurements daily



Background on the Contracting Personnel survey's subjects

Survey had four distinct parts:
(1) demographic information,
(2) acquisition information,
(3) pricing information, and
(4) supervisory information.

Years of Acquisition Experience



7 of the 36 respondents were supervisors (19.44%):

- 2 were level 2 DAWIA certified
- 5 were level 3 DAWIA certified



- what **types of acquisitions** the contracting personnel were working on a daily basis.
- what **methods of price analysis** the contracting personnel utilized most often
- personnel had received **appropriate training** in the **price analysis techniques**.
- how **senior contracting personnel** viewed their **subordinates' price analysis abilities** and to determine whether they were aware of any shortcomings in contracting personnel's knowledge levels



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Data analysis and Recommendations





Research Questions addressed

1. To what extent do pricing memos state the method of price analysis used in documenting price reasonableness. What price analysis methods are being used?
2. Do market research reports refer to market information that improves the buyers' understanding of pricing in the marketplace?
3. To what extent do pricing memos deviate from FAR/DFARS requirements? What type of reviews are being done to validate the quality of pricing memos and appropriate documentation?
4. What was the justification for price reasonableness used in the acquisition of a supply versus a service? Are the justifications similar? If not similar, what are the differences?
5. Do pricing memos use independent government cost estimates for price comparison? Do the IGCEs include sufficient justification/supporting information behind the cost estimates?
6. Why do contract/purchase order files lack price reasonableness determinations?
7. Is the current training specific to commercial items and price analysis sufficient for our contracting personnel?
8. Can we conclude that the DoD is doing a better job in pricing commercial items? Can the DoD do a better job in pricing commercial purchases?

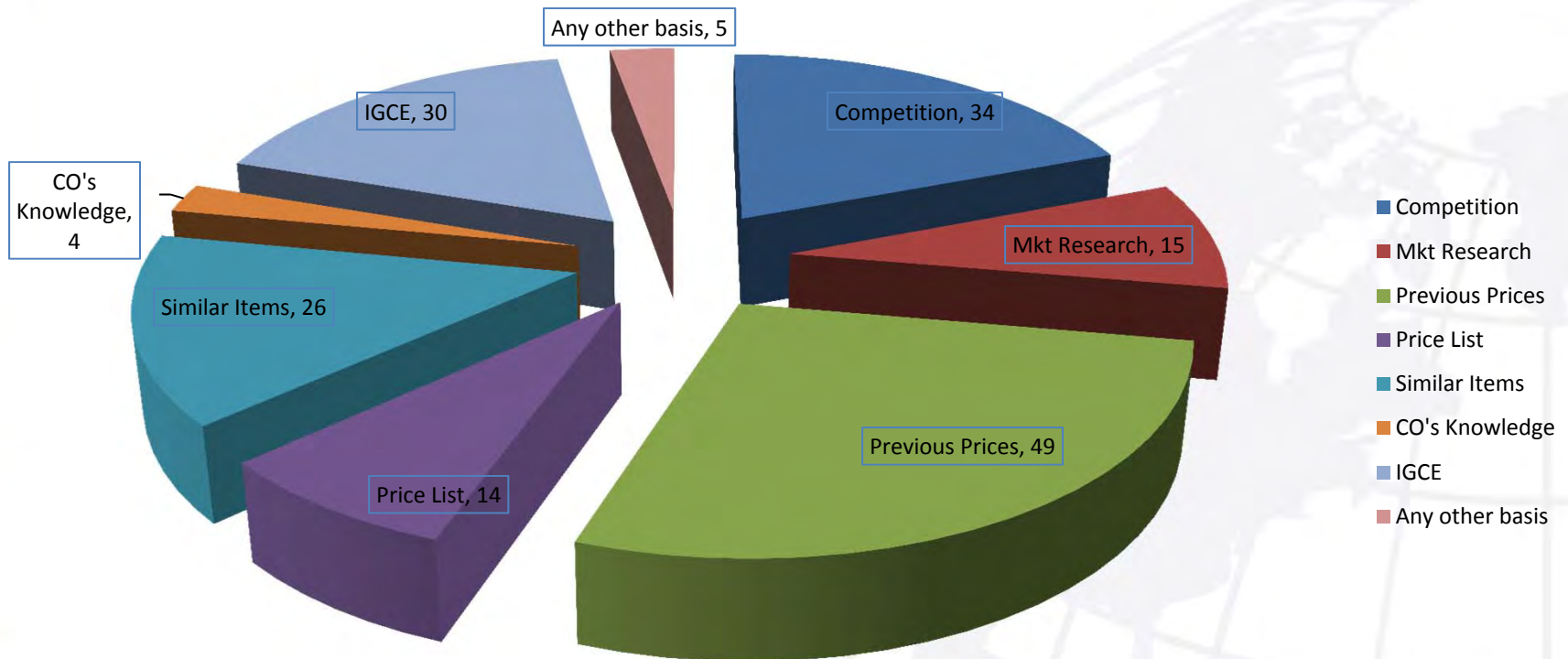


- To what extent do pricing memos state the method of price analysis used in documenting price reasonableness. What price analysis methods are being used?



What price analysis methods are being used?

Price Justification (Supply & Services)





Method: “proposed prices to previous prices paid”

- FAR 15.4 requires a determination and documentation on:
 - whether the original price was reasonable?, and
 - second, is the previous price comparable?*

*(previous price needs to be adjusted to make an apple-to-apple comparison to the offered price)

- FAR 13.1 requires only a statement referring to the price reasonableness determination used for comparison basis
 - No mention of documentation or any further considerations
- So, limited analysis is not occurring for Commercial items purchased under SAP for this method

Note: Not verifying that a previous analysis was performed has been a recurring issue on sole source commercial items as reported by oversight organizations.



Research Question 3

- To what extent do pricing memos deviate from FAR/DFARS requirements?



To what extent do pricing memos deviate from FAR/DFARS requirements?

Summary of Price Analysis Methods Improperly Justified	Under \$150,000	Over \$150,000
Inadequate price competition	0 of 31	0 of 3
Incomplete statements based on references to market research	1 of 14	1 of 1
Acceptance of prior prices without establishing their reasonableness	6 of 49	1 of 1
Incomplete references to current price list, catalog, or advertisement	0 of 15	0 of 0
Incomplete comparison with prices of similar items	6 of 26	0 of 0
Incomplete statement of price reasonableness by contracting officer	3 of 4	0 of 0
Incomplete comparison with IGCE or use of unreliable IGCEs	24 of 27	4 of 5
Incomplete statement for price reasonableness for any other reasonable basis	0 of 4	0 of 1
Totals of inadequate documentation	40	6



To what extent do pricing memos deviate from FAR/DFARS requirements?

- **Findings:** A number of contract files that the authors reviewed were unable to demonstrate that prices paid were reasonable .
- From the data reviewed, the authors determined that the personnel involved in performing these contract actions **did not include sufficient documentation to support the price analysis method used**

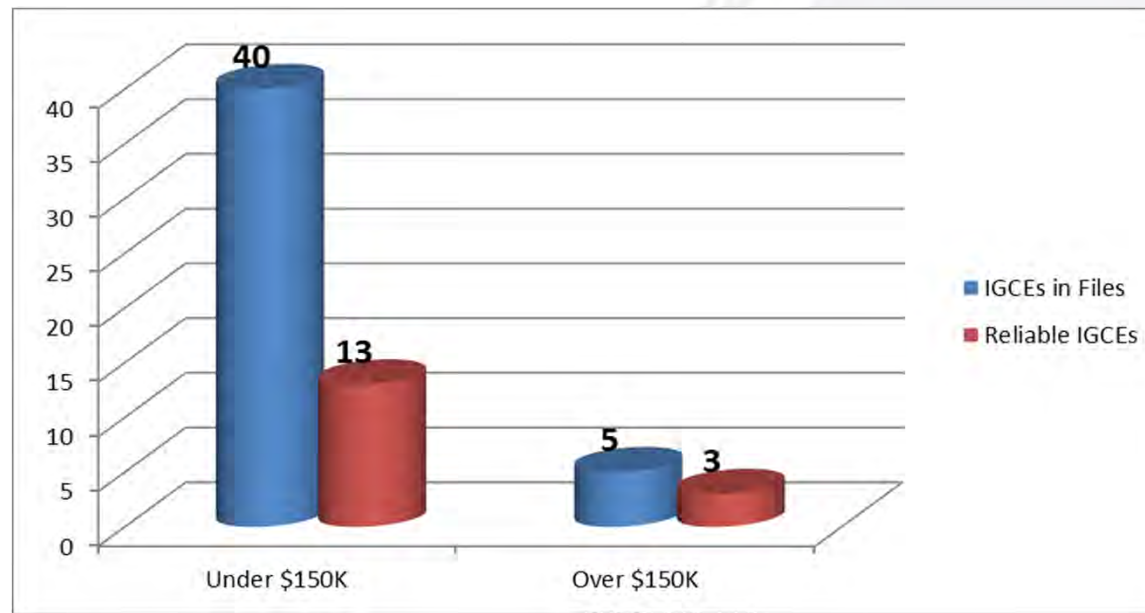


- Do pricing memos use independent government cost estimates for price comparison? Do the IGCEs include sufficient justification/supporting information behind the cost estimates?



Do the IGCEs include sufficient justification/supporting information?

- **Findings:** Next to previous prices, IGCEs were the next heavily used as the basis for price reasonableness, essentially 25% of the contract actions reviewed.
- However, the authors found that 65% of the IGCEs were not substantiated (unreliable).





- Is the current training specific to commercial items and price analysis sufficient for our contracting personnel?



Is the current training specific to pricing of commercial items sufficient?

Contracting Personnel Comments About Current Contract Pricing Training:

- “I do not believe that the DAU class does a good job of teaching the requirement. DAU focuses on major weapons/production/trend analysis, etc. It doesn't really teach the basics for the everyday buyer.”
- A non-supervisor response was that “DAU contract pricing training was good ‘theory’ learning, does not always transfer to actual buys being made in the office environment.”



Is the current training specific to pricing of commercial items sufficient? (cont.)

DAU Course Content/FAR Part 13 SAP Procedures—

- DAU has significant “**cost analysis**” content in two required DAWIA courses, CON 170 and CON 270;
 - however, price analysis content is very limited.
- **Findings:** Courses do not fully address the application and documentation of fair and reasonable prices by using “**price analysis methods**”, particularly where contracting actions involve pricing for commercial items that use FAR 13 Simplified Acquisition Procedures for up to \$6.5 million.
- **Why is this important?** Nearly all of the commercial item files reviewed used FAR 13 Simplified Acquisition Procedures
- However, maybe it’s the regulations that drive the training so we can’t blame the course content ... For example,



Is the current training specific to pricing of commercial items sufficient? (cont.)

- FAR 13 Simplified Acquisition Procedures provides little guidance on how to document pricing and even states documentation should be kept to a minimum
- Utilizing the price analysis methods described in FAR Part 15 requires diligence in verifying information and providing clear documentation
- FAR Part 12 (Commercial Items) only states,
 - establish price reasonableness in accordance with [13.106-3](#), [14.408-2](#), or [Subpart 15.4](#), as applicable.
- In conclusion, there is little reason for analysts to use FAR 15.4 for commercial acquisitions under \$6.5 million since it requires more documentation and DAU course content is more geared to FAR 15.4



Is the current training specific to pricing of commercial items sufficient? (cont.)

Recommendation:

- DoD needs to relook at analysts' training for commercial item purchases, particularly when using SAP.
- Based on the thousands of actions that are done, FAR Part 13 does not provide enough details or guidance on how to appropriately conduct price analysis.
- As a result, people are buying very expensive commercial items up to \$6.5 million, and they use FAR Part 13 as a basis without proper pricing research.



- Can we conclude that DoD is doing a better job in pricing commercial items? Can DoD do a better job in pricing commercial purchases?



Can we conclude that DoD is doing a better job in pricing commercial items?

- DoD is not doing a better job in pricing commercial items
- We believe DoD can do a better job
- Next, a discussion of our recommendations for DoD governing officials to consider for improving pricing in commercial purchases



Capsule form of Our Recommendations and Suggestions

- DoD needs to relook at how **analysts are trained for commercial item** purchases (simplified acquisition procedures).
- DoD needs **oversight** procedures for **documentation for price analysis** (documented and reviewed for completeness and adequacy, even for purchases less than the SAT).
- The authors recommend that **FAR Part 10** require that **pricing be discussed in the market research** reports



Capsule form of Our Recommendations and Suggestions (cont.)

- Course content/guidebooks/regulations need a focus on **pricing services and reframe price analysis methods to what would be more useful in buying services**
- Propose that government activities increase the importance of IGCEs and consider the following steps:
 - (1) Train contracting personnel on what reliable IGCEs contain and what to document,
 - (2) Train the users on how to reliably develop IGCEs
 - (3) Create an online check system where government IGCEs are accepted if and only if the substantiation is provided, and
 - (4) Acknowledge IGCEs in the FAR/DFAR/PGI with more emphasis than is currently given.
- Standardized electronic filing of contract pricing documents throughout DoD, and standardization of the titling of pricing documents



Capsule form of Our Recommendations and Suggestions (cont.)

- DoD needs to relook at how contracting personnel are trained in pricing commercial item purchases, (particularly for simplified acquisition procedures)
- DAU courses need to make the following steps to help create the pricing skill sets needed today:
 - (1) Find a way to put more depth in price analysis,
 - (2) Emphasize quantitative techniques that can be used in performing price analysis effectively like indexing, regression, and parametrics (CERs)
 - (3) Develop case studies/exercises tied to real simplified acquisition purchases, including commercial item buys up to \$6.5 million



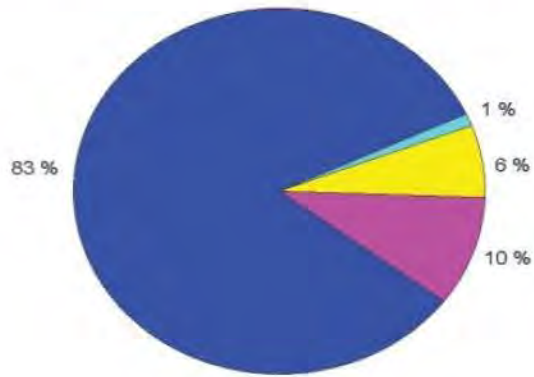
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- Any serious focus on driving price/cost savings within DoD is not considering lower higher dollar contract actions.
- However, there is an enormous number of lower dollar contract actions that occur every year. See next chart.



A small dollar of savings multiplied by this vast quantity could equal significant savings.

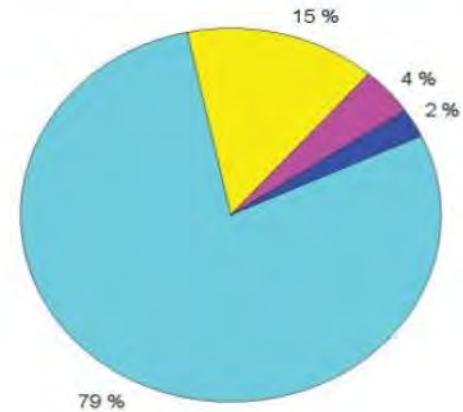
Federal Procurement Data System - Next Generation CONTRACT ACTIONS BY DOLLAR VALUE Actions Reported - Fiscal Year 2007 through Fourth Quarter

Number of actions for action dollar ranges



< \$25,000	3,280,263
Between \$25,000 and \$100,000	394,087
Between \$100,000 and \$1,000,000	244,209
>=\$1,000,000	55,019

Sum of dollars for action dollar ranges



< \$25,000	\$11,054,768,303
Between \$25,000 and \$100,000	\$18,491,543,257
Between \$100,000 and \$1,000,000	\$68,202,986,756
>=\$1,000,000	\$362,248,980,040



Ending Remarks

- Our suggestions mean more time/effort into writing better pricing memos for smaller buys
- Many will believe that we will be tripping over millions of dollars to pick up a few thousand
- Our philosophy: **“Take more care of the dollars, and the millions of dollars will take care of themselves.”**
- Thus, if we are not doing a good job at the dollar level how can we at the millions of dollars level



Future Research Questions to be answered

- Which services are requiring IGCEs?
- Is there a requirement that the IGCE must be substantiated?
- What training is offered to the customer/technical representative on how to develop an IGCE?
- Are the contracting personnel determining if the IGCE is reliable and documenting the same before using it for a price comparison basis?
- Are they effective in determining if the price that the government is paying is reasonable?