Analysis of Nontraditional Contractors as a Proxy for Innovation Through DoD Other Transaction Agreements

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Abstract

The 2018 National Defense Strategy highlights the critical importance of leveraging technological advancements in a world with rapidly growing security concerns. For the Department of Defense (DoD) to integrate advancements into military capabilities, the acquisition community will need to innovate its business practices to support the changing character of war. Other Transactions (OTs) provide a tool that offers the flexibility to incorporate business methods similar to commercial industry best practices, thereby supporting faster design and execution. The recent increased use of OTs in federal contracting for research and prototype projects also incentivizes nontraditional defense contractors (NDCs), who would not otherwise overcome obstacles inherent in traditional Federal Acquisition Regulation contracting, to contract with the DoD and serve as proxies to innovation. Three primary techniques are employed. First, a spend analysis is performed on Federal Procurement Data System-Next Generation data. Second, consortium data is matched with the System for Award Management Application Programming Interface to assess the proposed scale using psychometric techniques. Last, a logit model estimates the predictive power of the proposed scale and the relationships between the variables and the current NDC statutory classification. Understanding the characteristics of OT NDCs will help the DoD leverage acquisition policy decisions to access emerging technology solutions.

Methods

Data and Sample

- FPDS-NG OT data (FY2005-FY2018)
- Consortium Membership Data
- System for Award Management Application Programming Interface
- Bloomberg Government Data

Variables

1. Nontraditional Defense Contractor
2. Compound Annual Growth Rate (CAGR)
3. Sum of Total Obligations
4. Distance to Nearest Tech-Hub
5. Membership in a Consortium

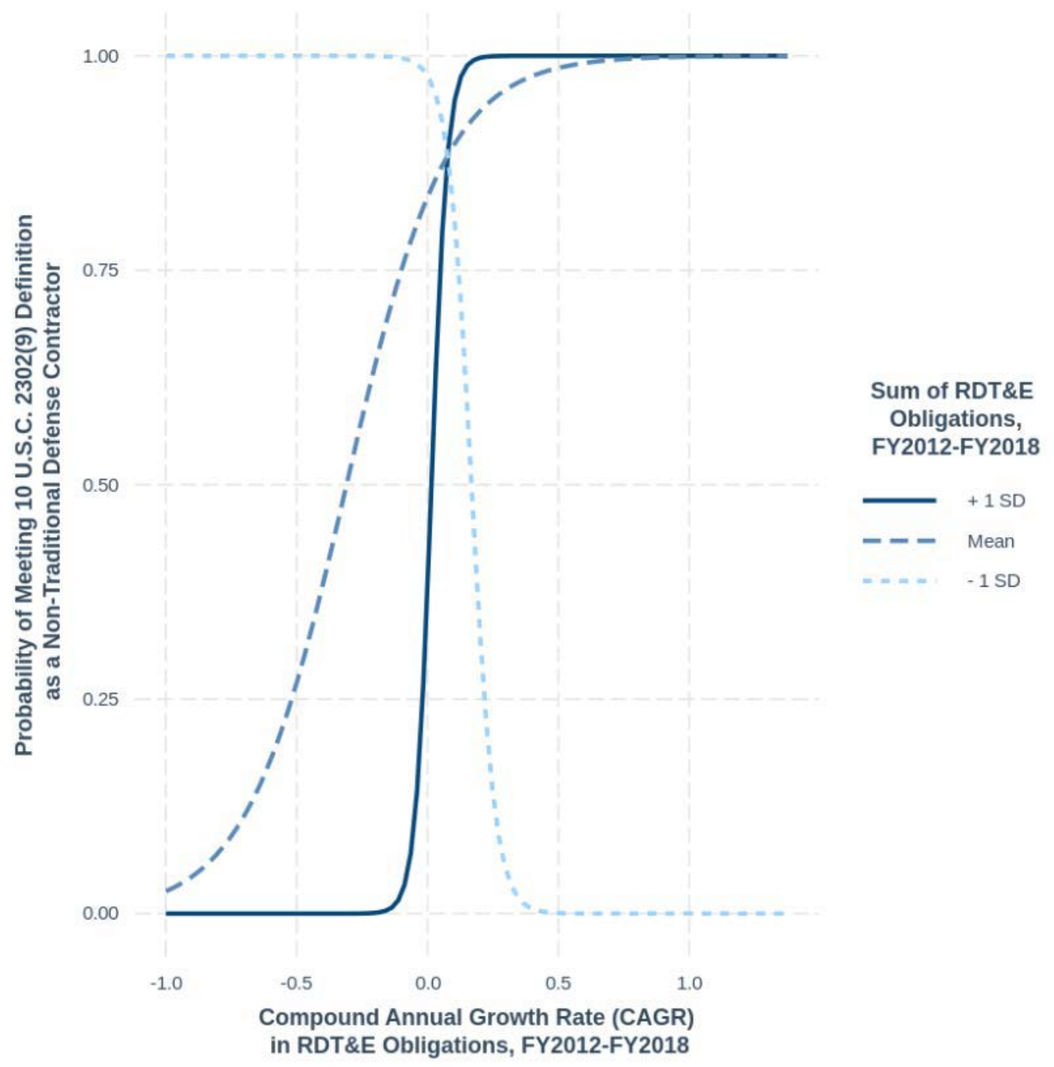
This research used a logit model with an interaction variable and spend analysis on multiple sources of data.

Results

A logistic regression of nontraditional status on four dependent variables (distance to a tech-hub, consortium membership, CAGR, and total obligations) fit significantly better to the data than a null model $\chi 2(4)=32.01, pp< .01$) and correctly predicted nontraditional status for 79.6% of vendors based off pseudo R.

	Model 1		Model 2	
	Estimate (log odds coefficient)	P(>|z|)	Estimate	P(>|z|)
Intercept	1.0170557	0.01545*	0.454834	0.337590
Log Min	0.1469827	0.14769	0.121040	0.246839
Sum centered	-0.0018664	0.00825**	-0.008481	0.000381***
CAGR Centered	0.5771126	0.05739	5.713344	0.001251**
Interaction			0.050195	0.002721**

Note: n = 437; *p < .01, **p < 0.001, ***p< 0.



Being able to measure and quantify the innovative potential of firms will help the DoD to access innovation for research and prototyping by being able to tailor the OT special authority towards those firms that might otherwise not partner with the DoD.

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