



**The Effects of Exporting on Defense Acquisition Outcomes:
A Quantitative Look at FMS Contracting**

Panel #26: Acquisition Reform: IT Systems, Foreign Military Sales and Set-based Design
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Gregory Sanders, Samantha Cohen, Nicholas Halterman
Contributing Authors: Maggie Wang, and Andrew Howe
Project Director: Andrew Hunter

Defense-Industrial Initiatives Group, Center for Strategic and International Studies

CSIS

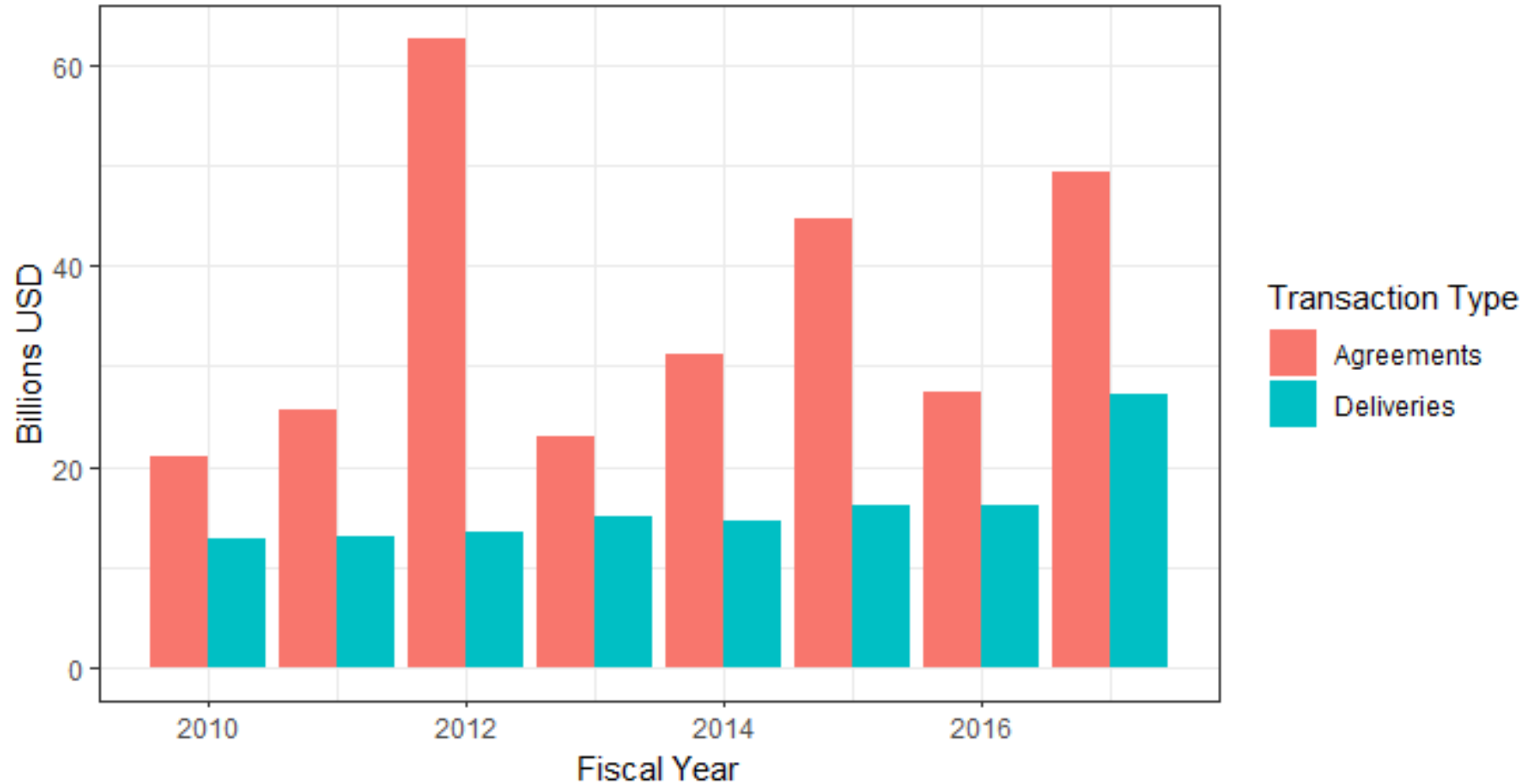
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The Growth of Foreign Military Sales

Foreign Military Sales Are Growing Significantly

FMS Agreements and Deliveries by Fiscal Year



Source: DSCA Historical Factbook

Research Questions and Falsifiable Premises

- 1) *How can FMS be better identified in FPDS using information from other fields?*
- 2) *How does FPDS foreign funding data align with DSCA FMS data?*
- 3) *Do FMS contracts perform better than non-FMS contracts?*
- 4) *What variables contribute to the performance of FMS contracts and in what direction and magnitude?*

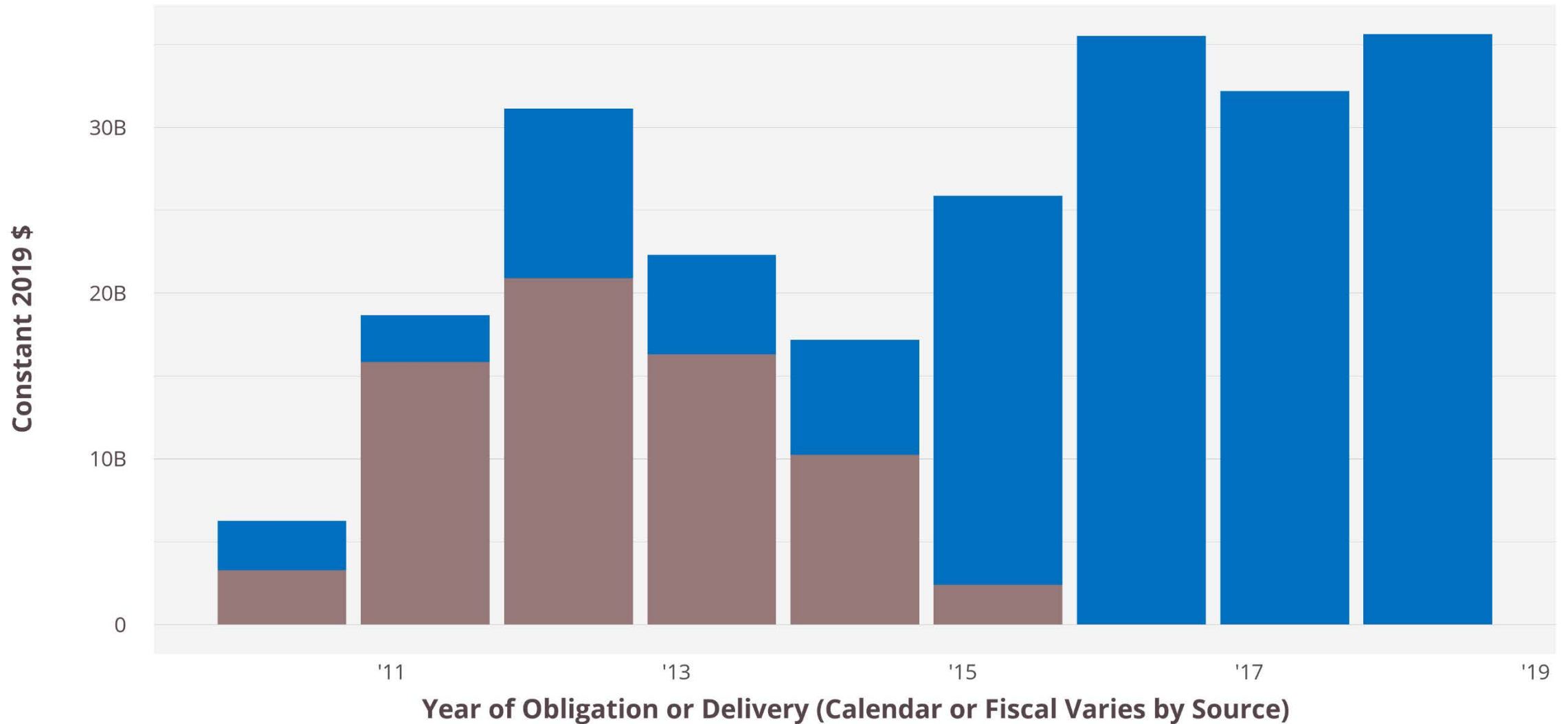
Falsifiable Premise 1: Foreign Military Sale data identifiable in the Federal Procurement System correlates with and captures a majority of the spending reporting from other sources.

This determines our level of confidence in the completeness of our data.

Falsifiable Premise 2: The pricing mechanism selected for FMS contracts will vary should differ significantly from comparable domestic contracts.

This is drawn from the transaction cost literature and is another test to see whether we are effectively distinguishing FMS transactions from their USG buyer counterparts.

Quality of Foreign Funding Label is low before '15

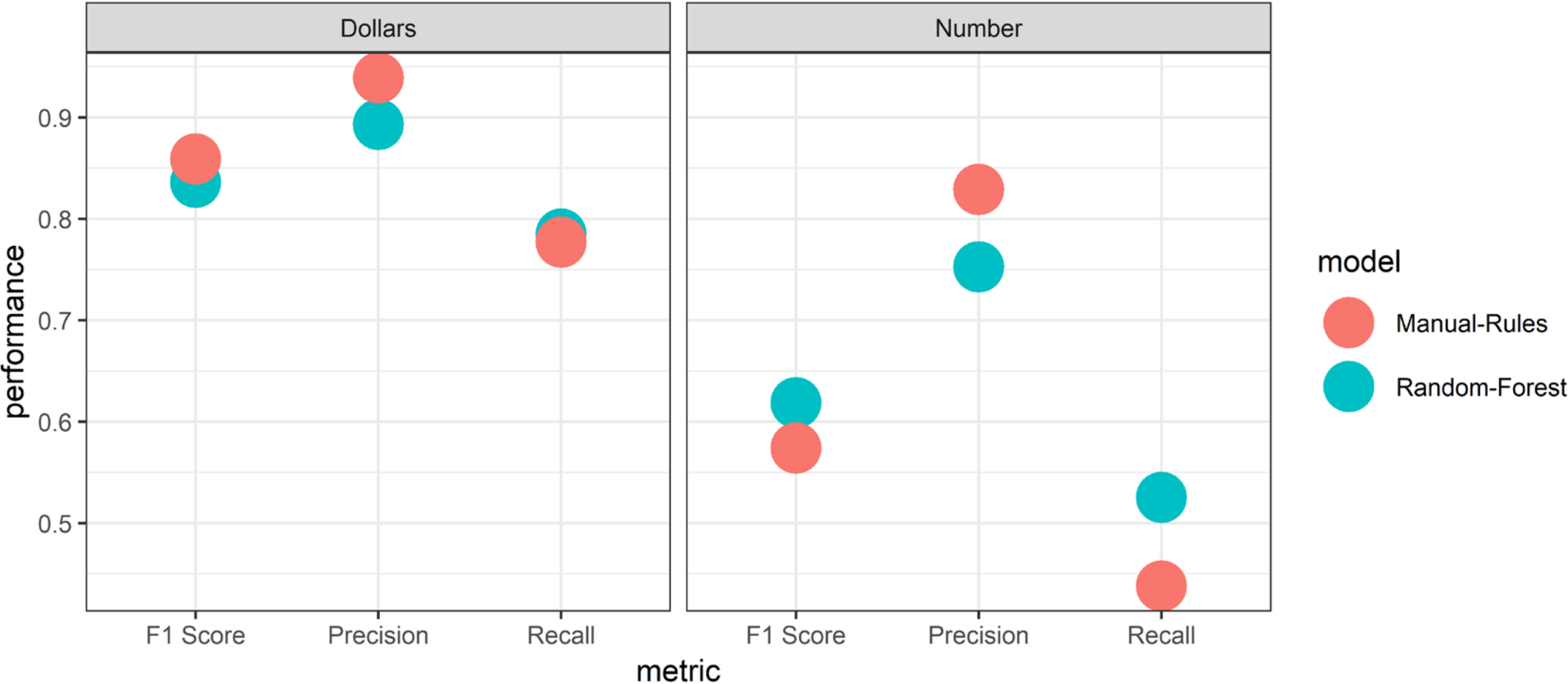


FPDS; CSIS Analysis

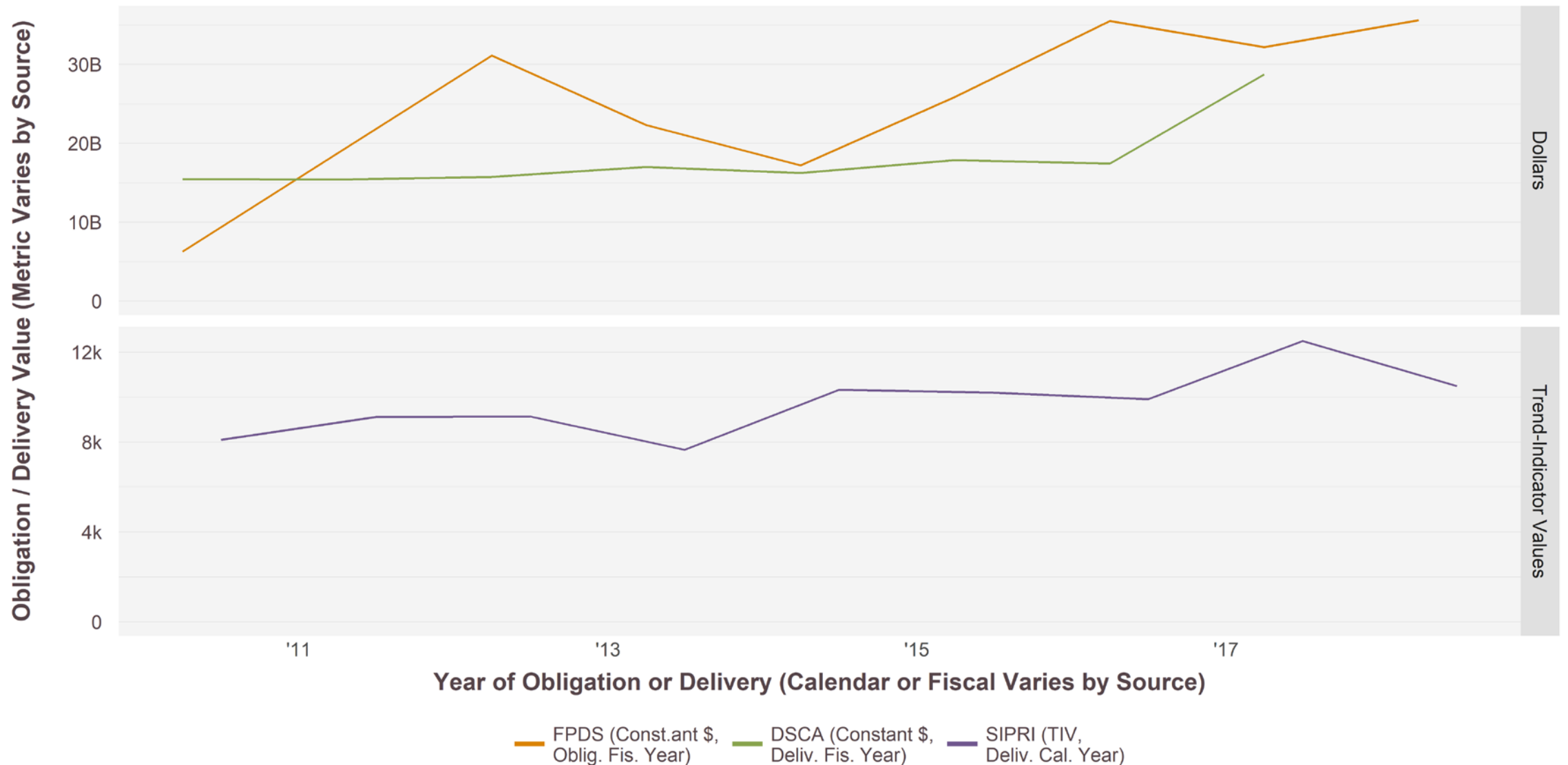
Machine learning may help improve on hand coding

Classifier Performance

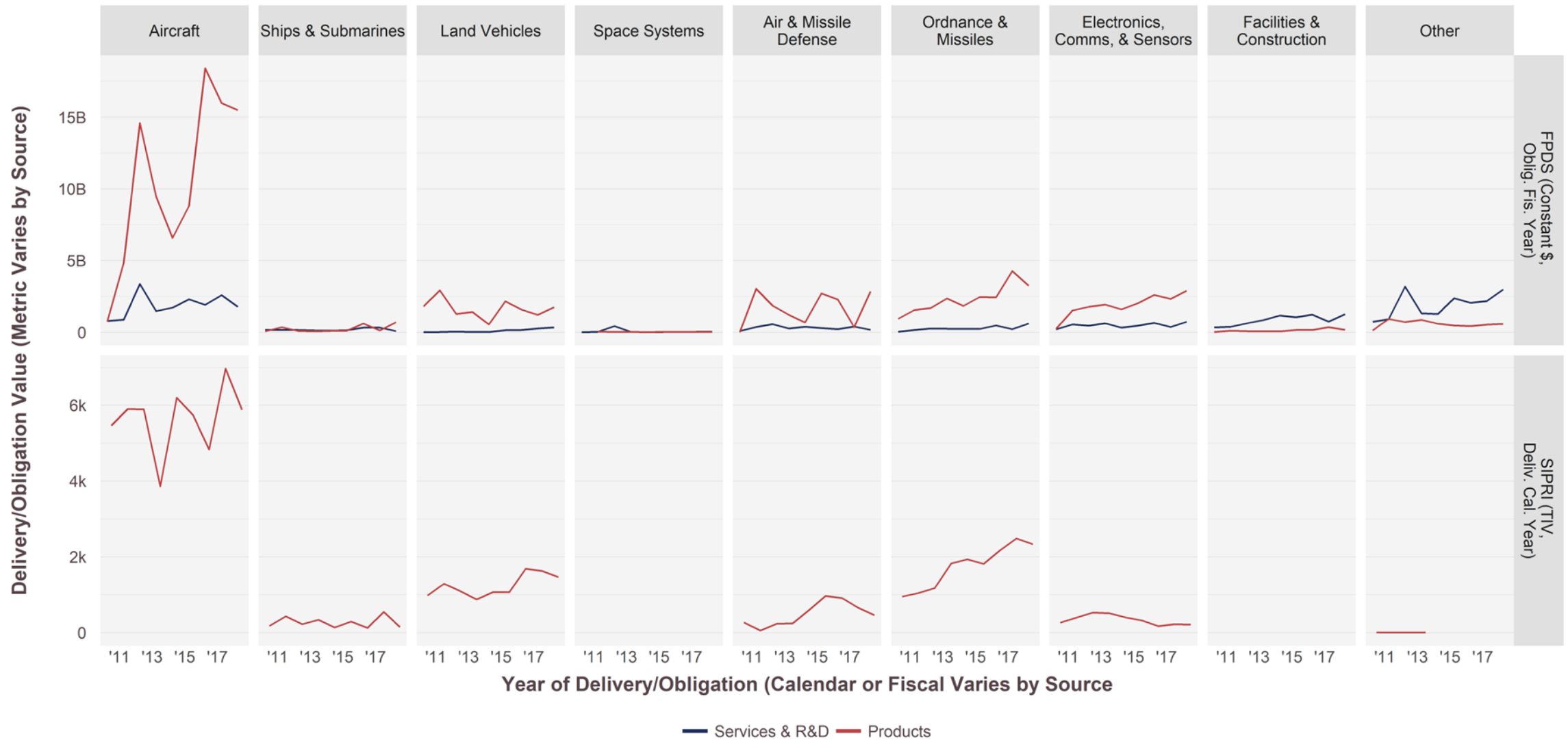
Performance Metrics for Number of Transactions and Dollar Amount by Model on 2015 Data



Surprisingly Obligations are Exceeding Deliveries



FPDS Obligations Broadly Align with SIPRI Deliveries



Source: SIPRI; FPDS; CSIS analysis. Unlabeled date had no net value and is excluded.

Hypotheses

H₁ Lower Specificity: As the number of export agreements for a project increase (decrease), the likelihood of ceiling breaches and terminations decrease (increase).

H₂: Past Deliveries: As the number of past bilateral deliveries increase (decrease), the likelihood of ceiling breaches and terminations decrease (increases).

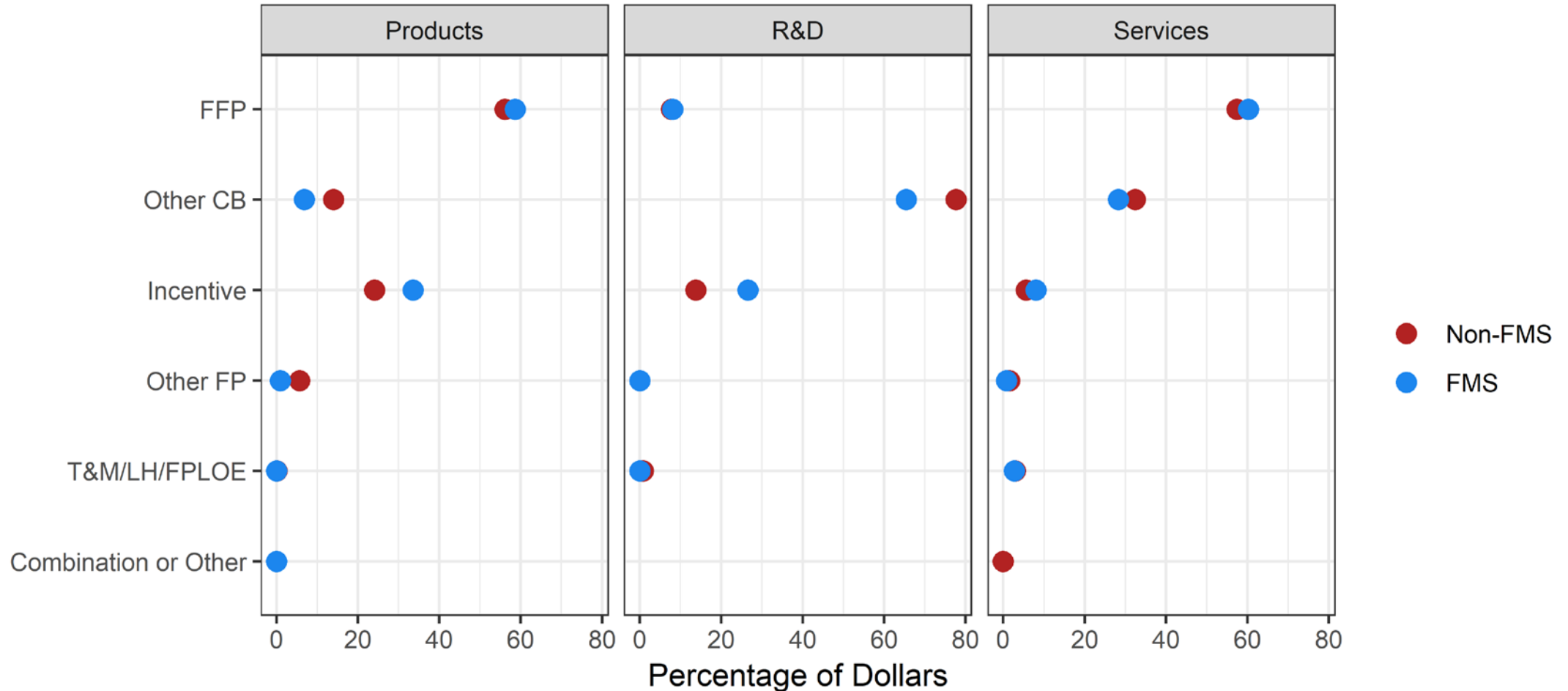
H₃ Alliance Status: As the recipient's integration into the alliances with the seller increases (decreases), the likelihood of ceiling breaches and terminations decrease (increases).

H₄: Institutional Health: As the health of the recipient's institutions increase (decrease), the likelihood of ceiling breaches and terminations increases (decreases).

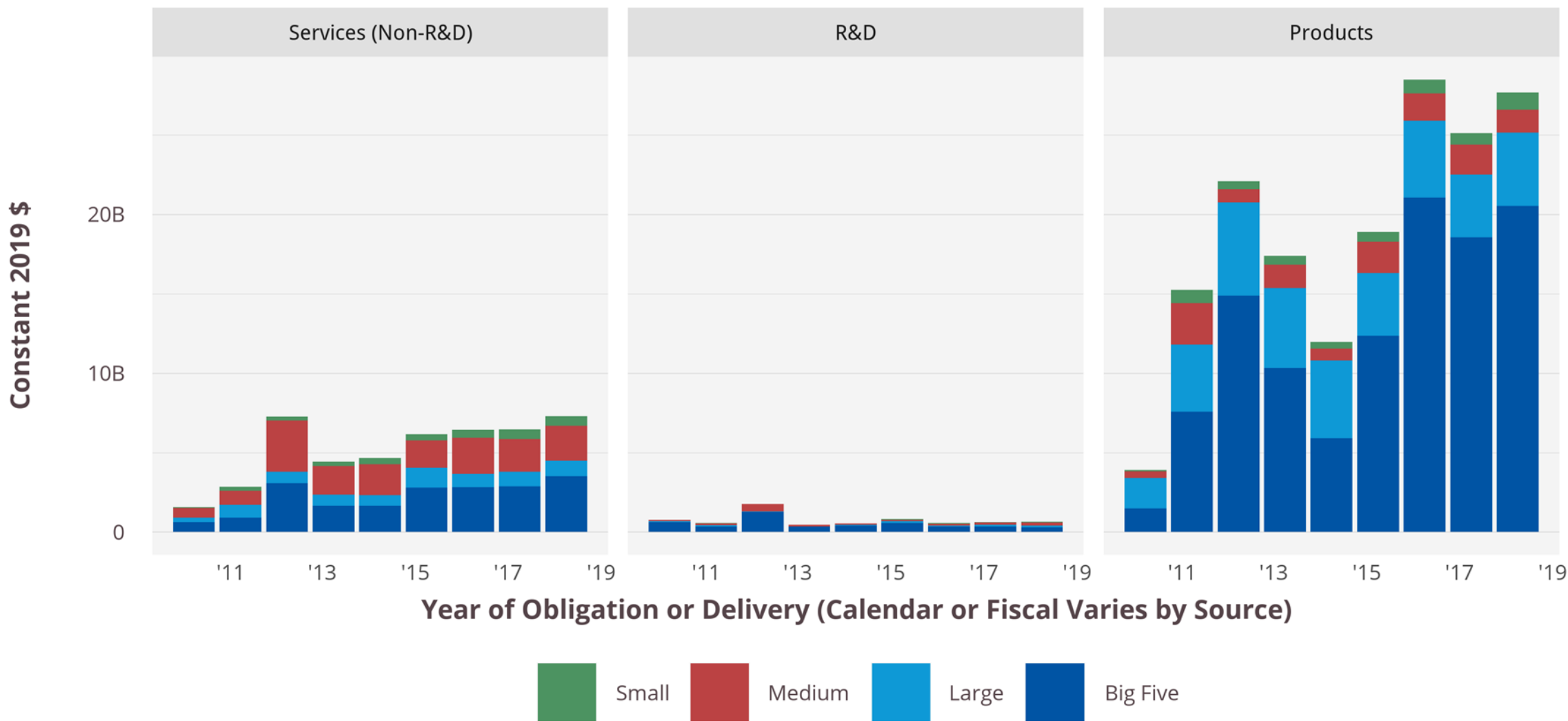
Pricing Mechanism Leans Towards Incentive Fee

Contract Pricing in FMS

Percentage of Dollars by Pricing Type

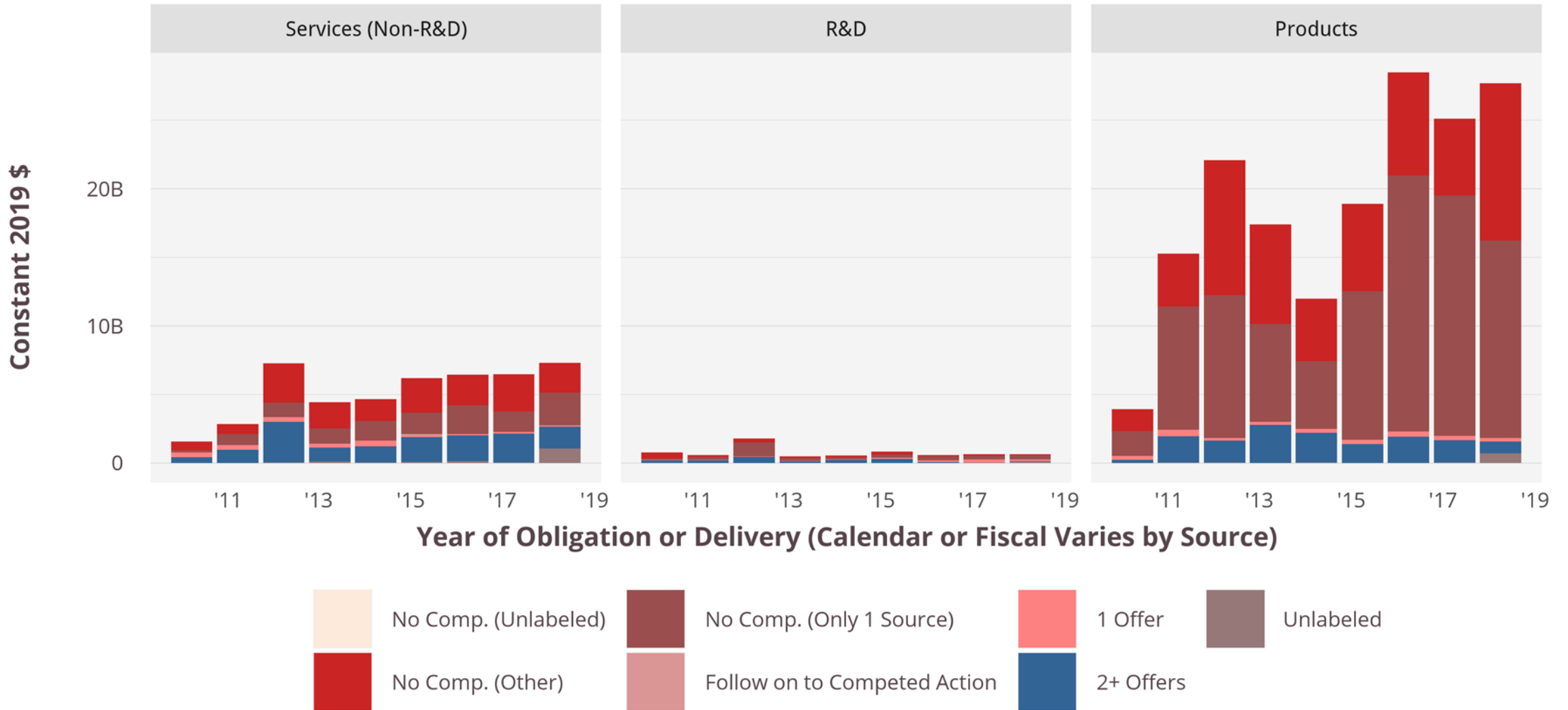


Big 5 dominate, though large vendors have a place in products and medium vendors in services



FPDS; CSIS Analysis

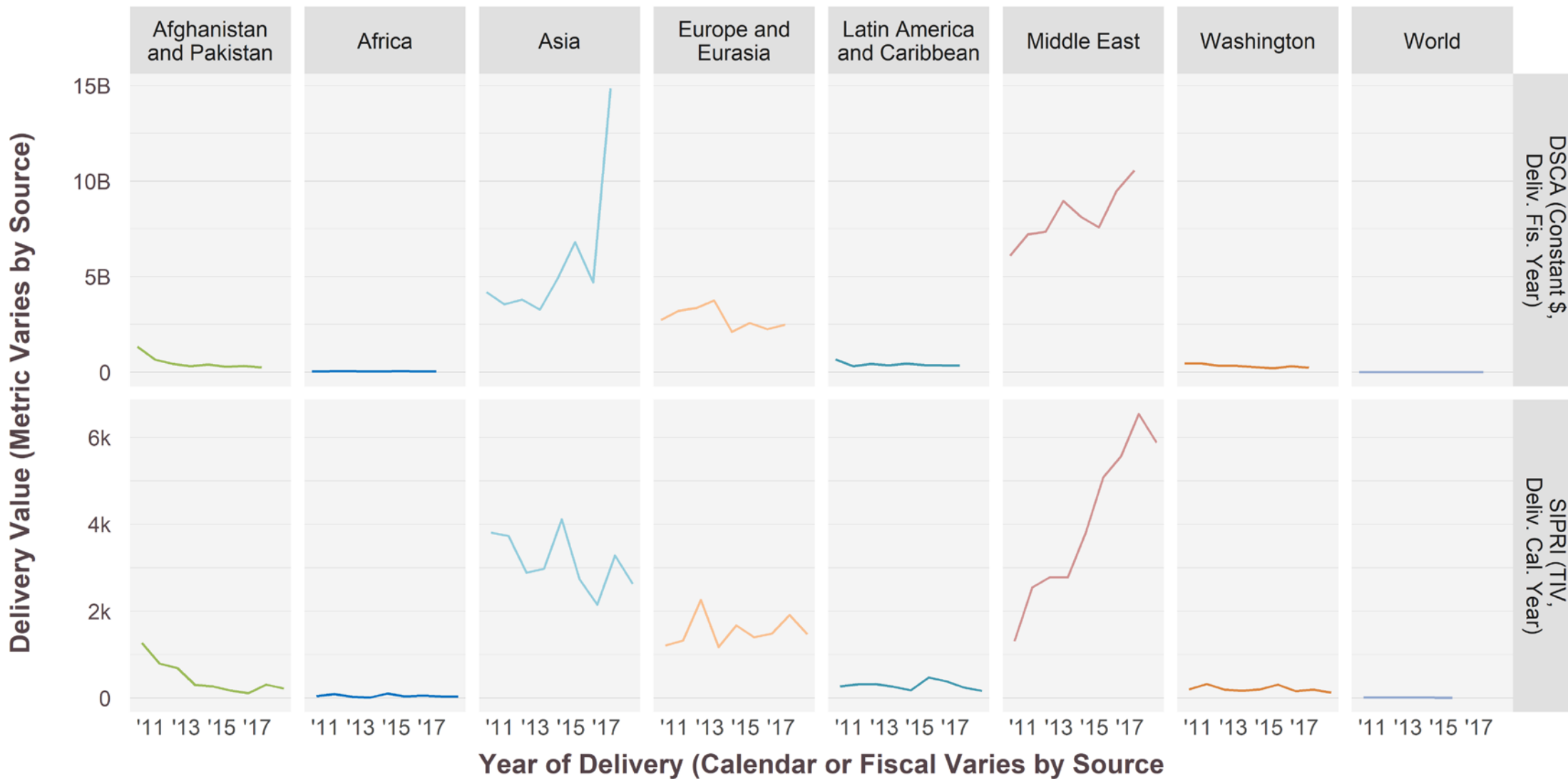
Competition is Scarce, Typically Employing an Only 1 Source Exception



FPDS; CSIS Analysis

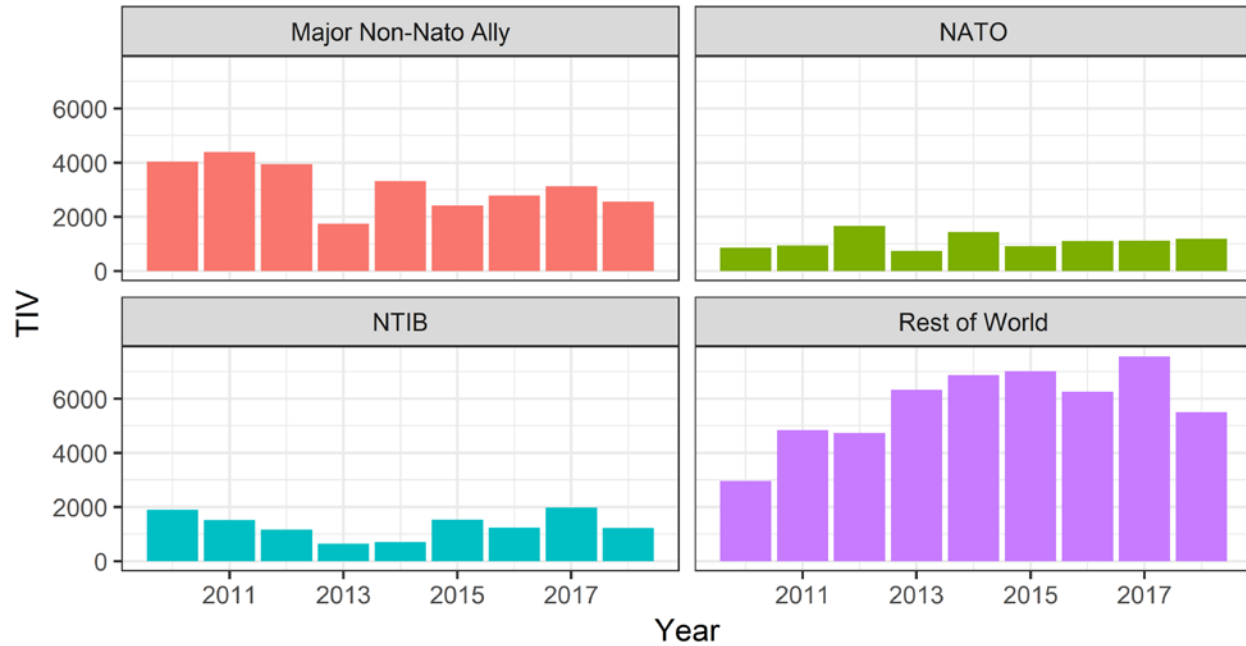
Differences Between DSCA and SIPRI Regional Data

Merits Closer Look



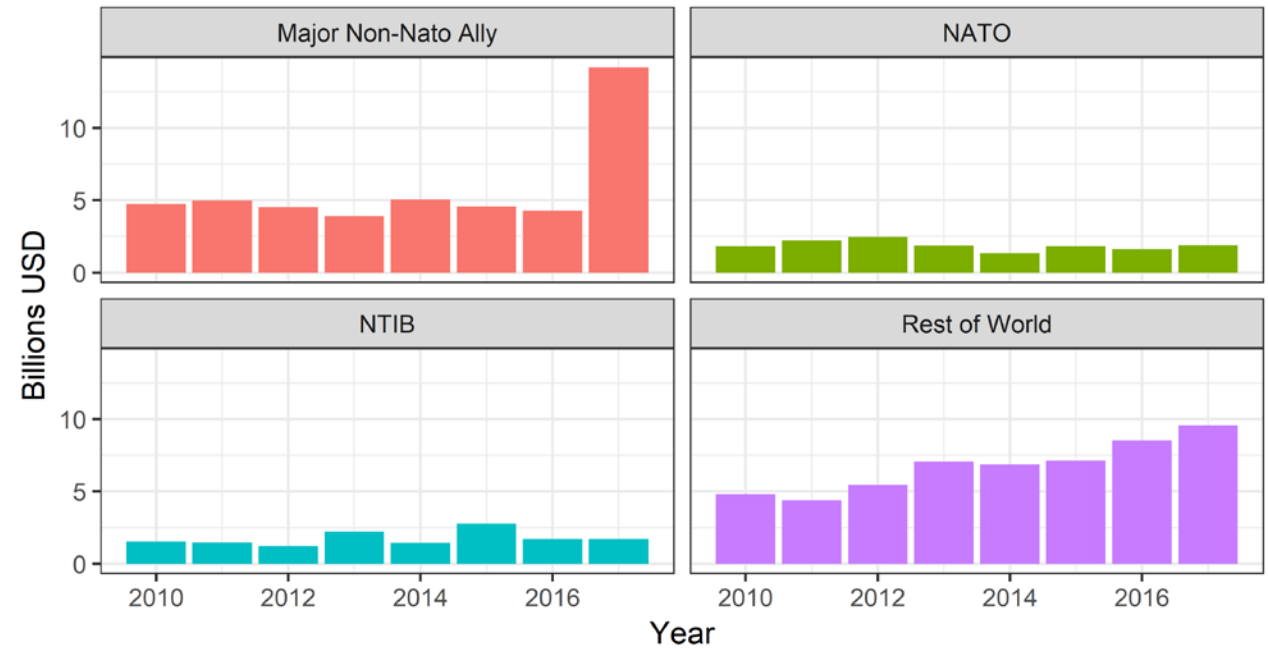
Growth is Predominantly in the Rest of the World, though Major Non-NATO Allies Stand Out

SIPRI Deliveries by Acquisition Cooperation Agreement, 2010-2017



Source: SIPRI, CSIS

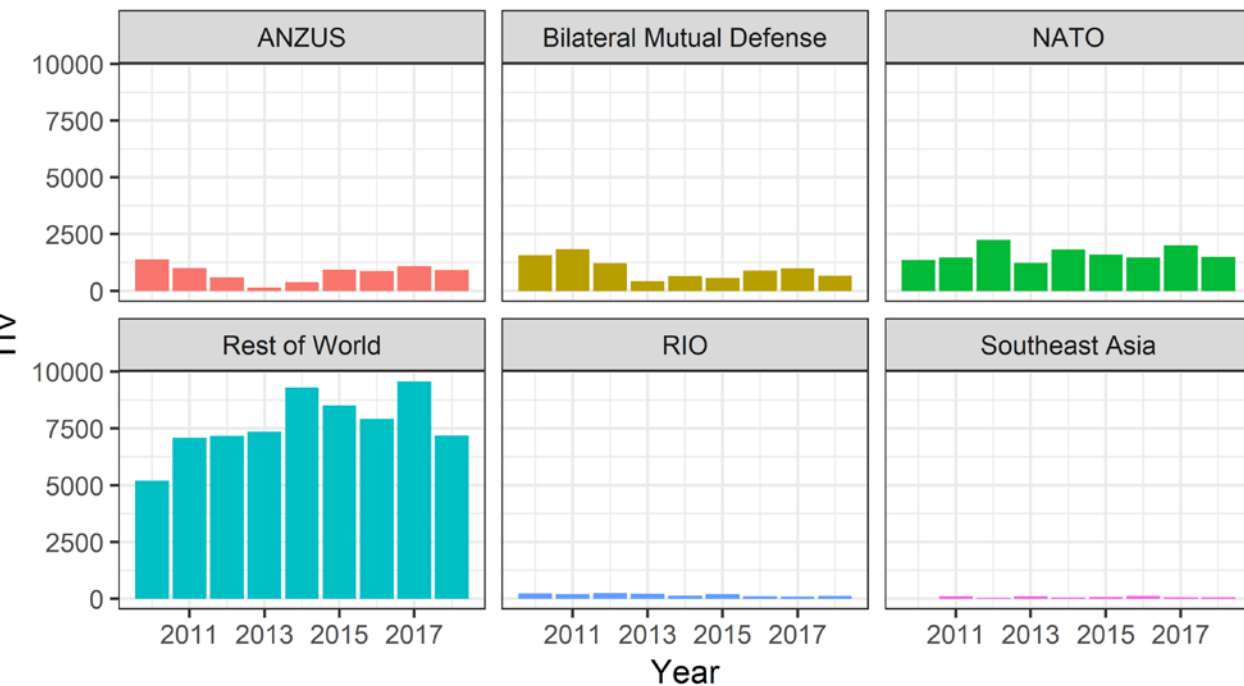
DSCA Deliveries by Acquisition Cooperation Agreement, 2010-2017



Source: DSCA, CSIS

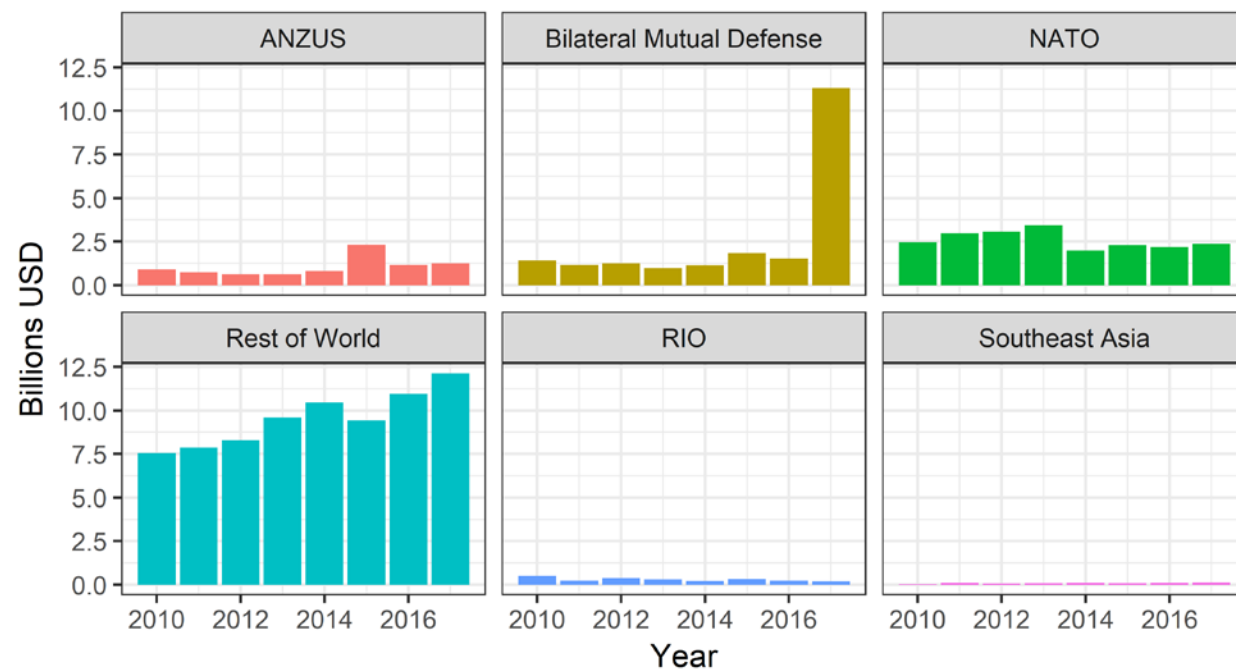
Growth in Rest of Worlds Underlines the Potential Relevance of Security Cooperation Considerations

SIPRI Deliveries by Mutual Defense Agreement, 2010-2017



Source: SIPRI, CSIS

DSCA Deliveries by Mutual Defense Treaty Group, 2010-2017



Source: DSCA, CSIS

Discussion and Next Steps

Findings on Data Quality

- While official labels work best in 2015-2017, funding accounts plus machine learning methods can identify significant numbers of contracts back through 2011.
- The biggest surprise thus far in the results is that both in the years that are best labeled, as well as in those that are likely missing some FMS contracts, FPDS obligation levels exceed the deliveries reported by DSCA.
- Recipient countries are not directly labeled and even with the assistance of text parsing, identifying them has been a challenge.

Next Steps

- Integration of U.S. International Trade Commission Data
- Outreach to DSCA to see if more granular machine-readable data is available.
- Seeking further integration of sources.
- Hypothesis testing, restricting to the MDAPs as units of analysis where necessary.