



ICF 4:

Scoring Federal

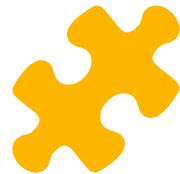
Contracts

Research Question



**Which federal contracts
are most important?**

Method



We build a scoring system using 3 factors:

$$\text{Contract Score} = 1) + 2) + 3)$$

- 1) **Dollar Amount** ... the bigger contract size,
the higher score
- 1) **Competitiveness** ... the less competitive,
the higher score
- 1) **Category Match** ... the more matches, the higher score



Dollar Amount (Contract size)

Case A:

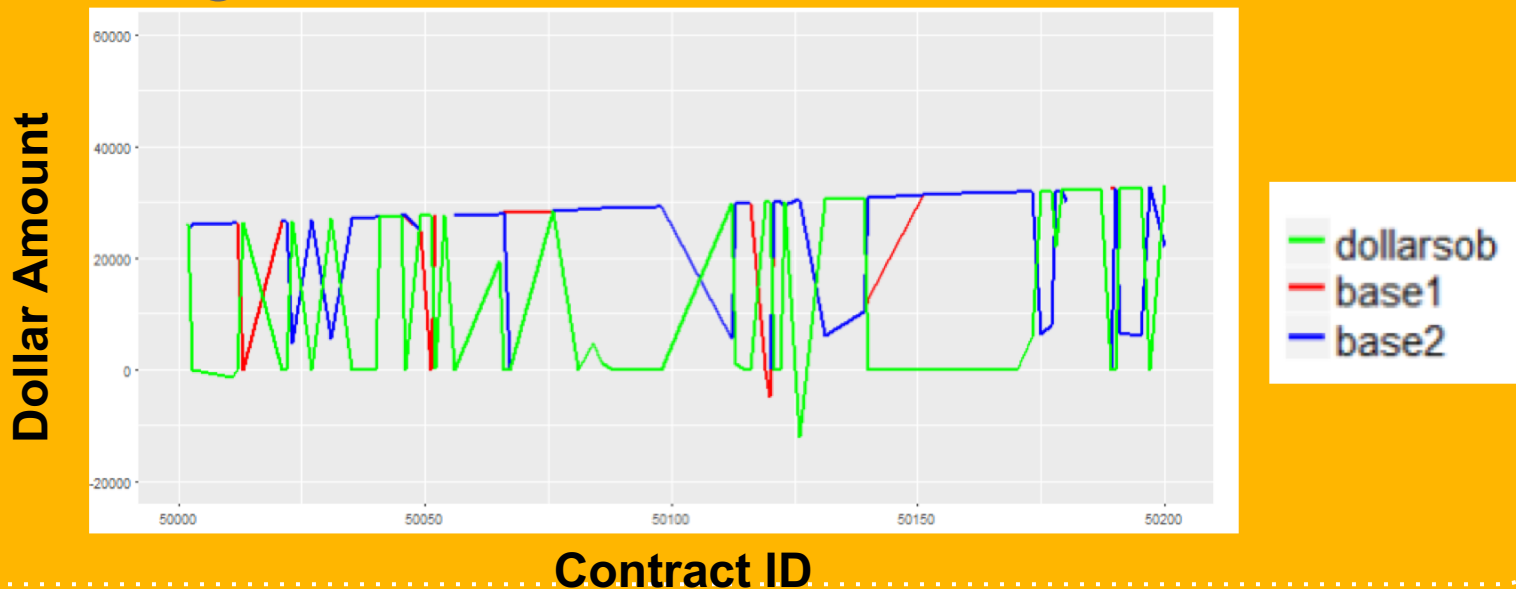
dollarsobligated	baseandexercisedoptionsvalue	baseandalloptionsvalue
0.00	0.00	0.00
22100.00	1200.00	0.00
0.00	0.00	0.00
5595.60	5595.60	5595.60
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
5446.76	5446.76	5446.76
0.00	NA	0.00
0.00	NA	93822955.00

Case B:

Dollar Amount (Contract size)



We use **max value** of potential contract sizes (dollarsobligated, base1, base2).



Competitiveness



Contract Score = Dollar Amount + Competitiveness + Category Match

Number of Bids a
contract receives

Company Revenue,
how much revenue a
company receives
annually

**Number of
Employees** within
a company

Competitiveness



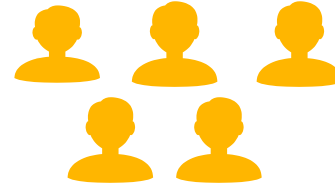
Contract Score = Dollar Amount + Competitiveness + Category Match

1) Number of Bids is small

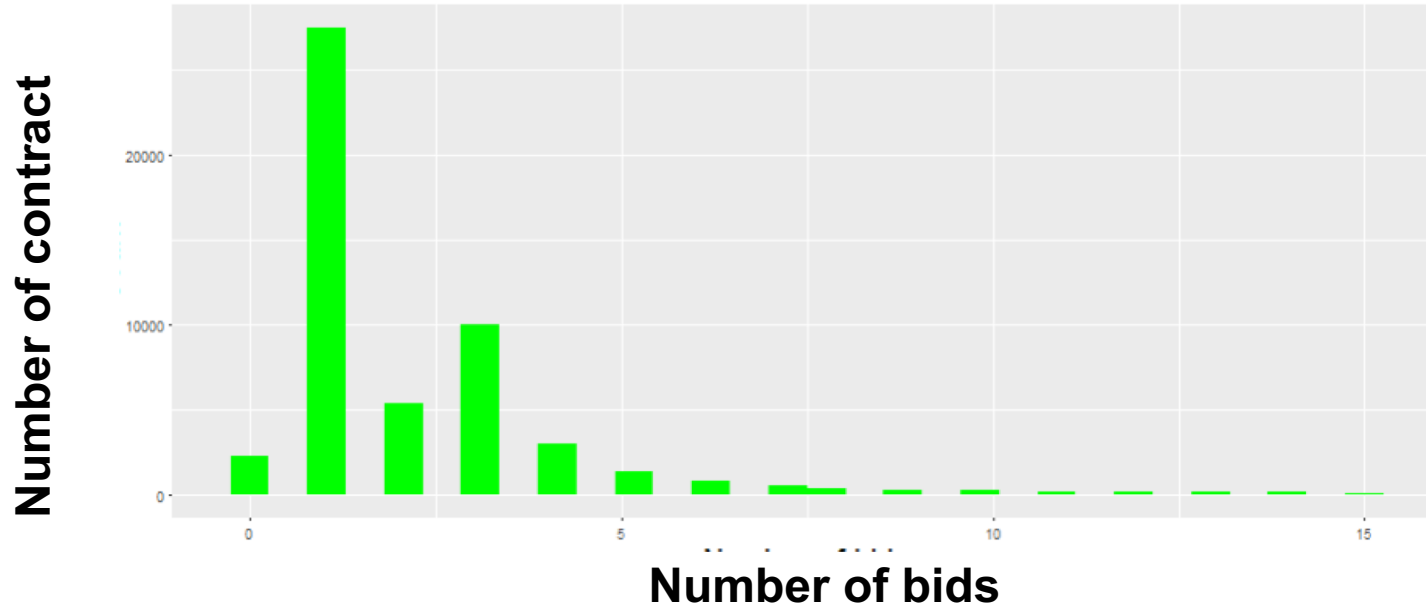
1) Company Annual Revenue is small

1) Number of Employees is small

Competitiveness



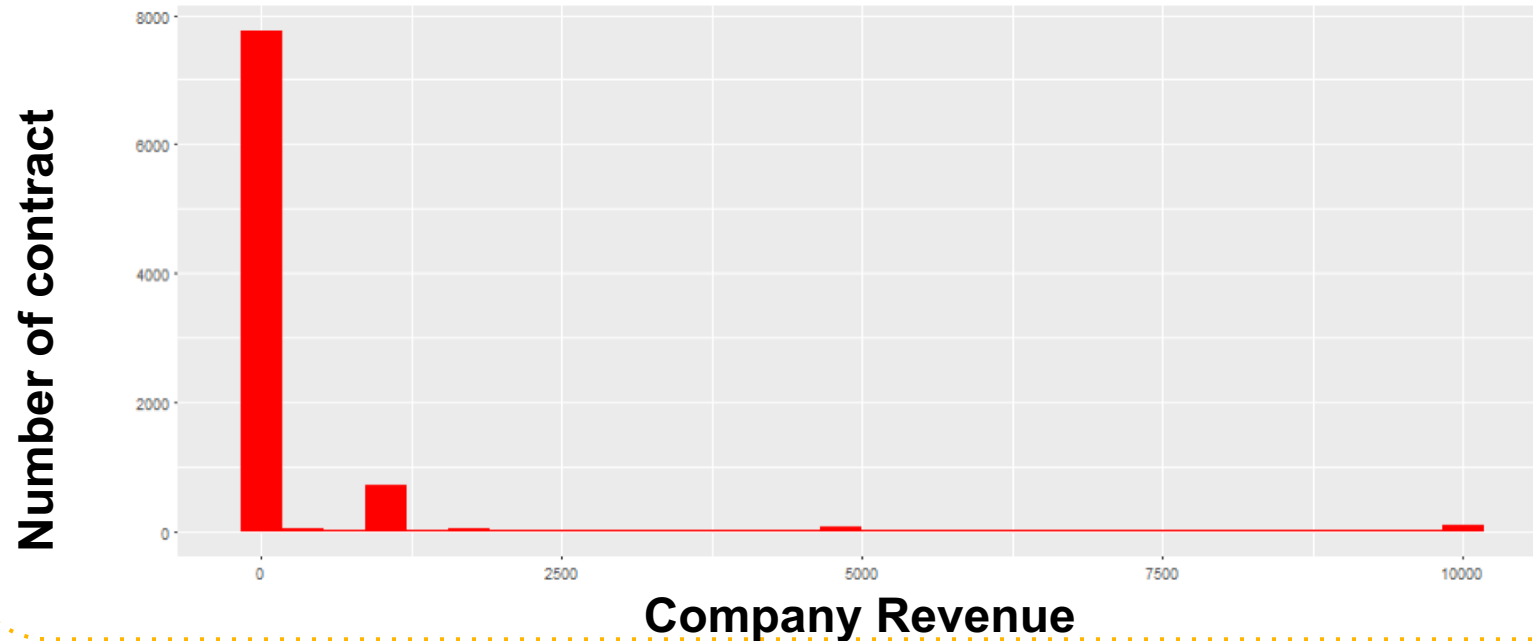
1) Number of Bids



Competitiveness



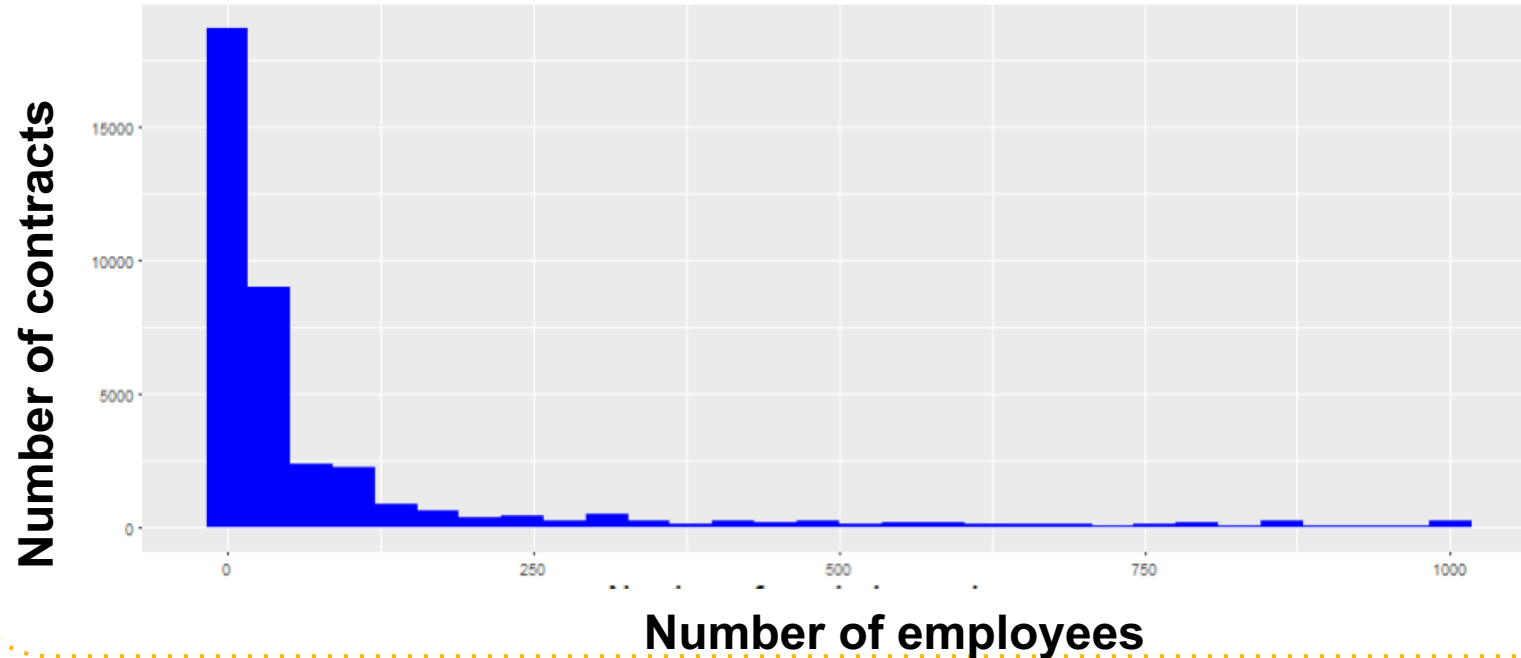
2) Company Annual Revenue



Competitiveness



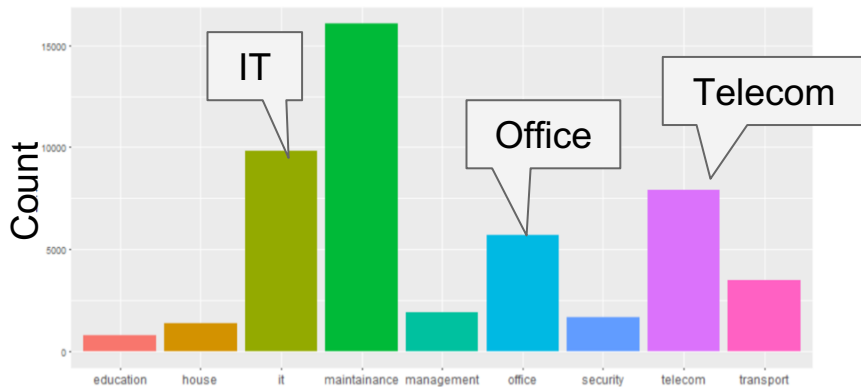
3) Number of Employees





Category Match

Category match is defined by keywords appearing in the contracts description.



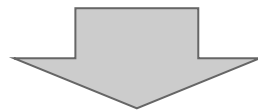
x: Category

ex) Description A:

7520: **OFFICE** DEVICES AND ACCESSORIES

Description B:

D399: **IT** AND **TELECOM**- OTHER IT AND **TELECOMMUNICATIONS**



Category Score:
 $B > A$

Example of calculation process

	Dollar Amount Score			Competitiveness Score			Category Score
	dollarsob	base1	base2	number of bids	company revenue	number of employee	service code
row data:	1358.3	1358.3	1358.3	1	2.60E+07	33	D318: IT AND TELECOM - INTEGRATED HARDWARE/...
sub socre:	50			68			33.3

Weight

50% of Dollar Amount score

30 % of Competitiveness score

20 % of Category score

Contract Score =

50% * 50 (Dollar Amount sore)

+ 30%*68 (Competitiveness score)

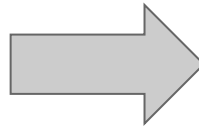
+ 20 % *33.3(Category score)



Which of the three factors should be weighed the most?

We define ...

**the best way to
prioritize the factors**



**the best distribution
of scores**

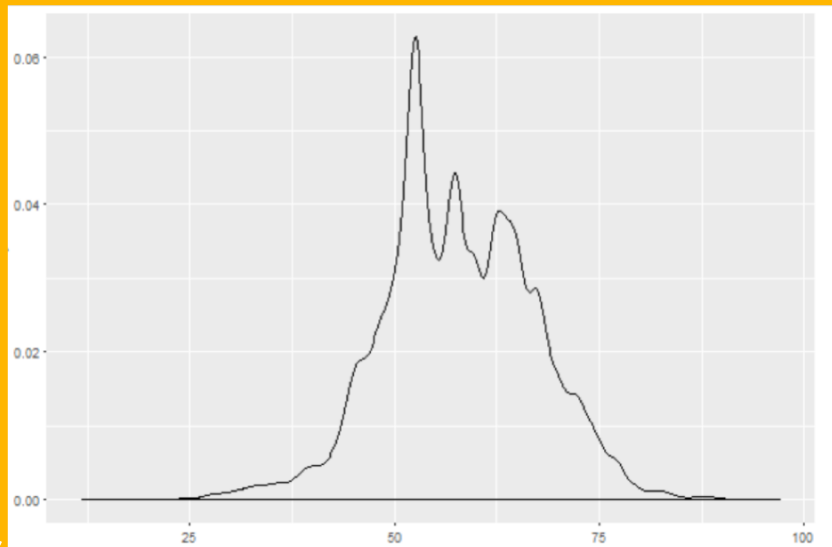


Distribution of the Score

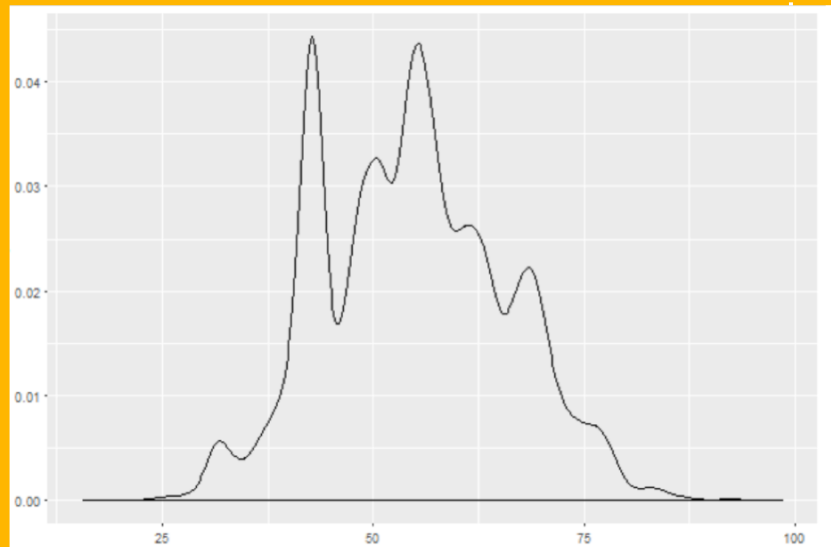
Worst distribution
(Variance: 70.4)

Best distribution
(Variance: 200.7)

Density



score



score



Conclusion

We conclude that contracts of **higher score** based on the following calculation are **more important**.

Contract Score =
20% of Dollar Amount score +
50 % of Competitiveness score +
30 % of Category score