


QUANTIFYING THE FUTURE



Which Escalation Rate Should I Use?

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Outline

Escalation Basics

Does Escalation Rate Matter?

Various Escalation Factors

- How they are generated
- How they should be used

Common Mistakes

Escalation Basics

Escalation ≠ Inflation

- Inflation is a general term for price adjustments driven primarily by changes in the money supply.
- Escalation includes price adjustments due to any factor, including technology and supply-demand imbalances.

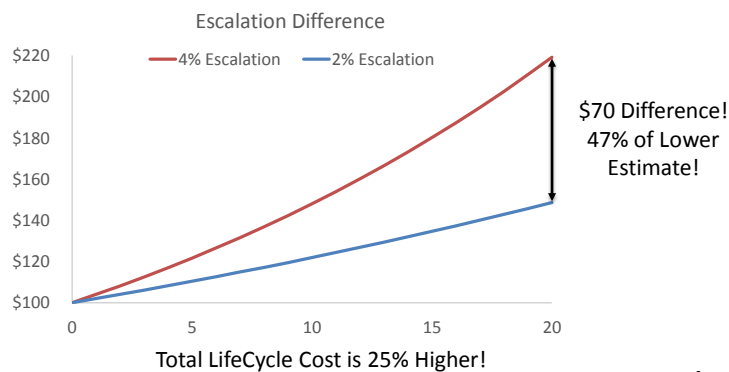
Equation used to calculate future cost

$$PV \cdot (1 + r)^t = FV$$

Does Escalation Rate Matter?

Example

- \$100 annual cost with 20 year lifecycle
- Compare 2% escalation vs 4% escalation



Escalation Factor: OMB

Aka GDP Price Deflator, White House Inflation

Often used as default escalation factor

Price inflation index based on real GDP change – measure of how much GDP change relies upon changes in price levels.

NOT based on fixed basket of goods and services but changes based on changes in consumption patterns or introduction of new goods and services.

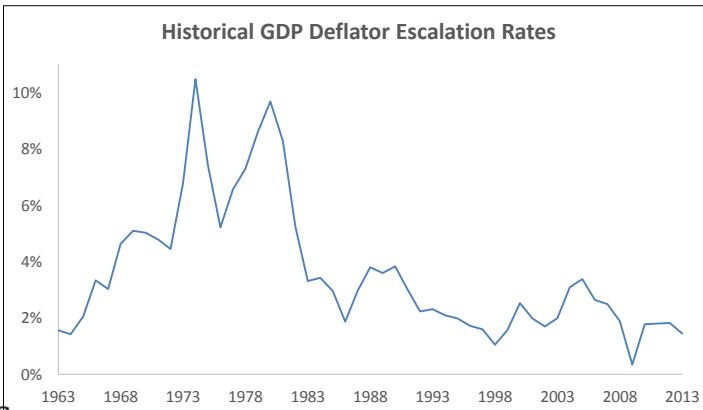
How will the Federal Reserve's monetary policy affect future escalation factors?

Escalation Factor: OMB

Current OMB Projections

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024+
1.6%	1.8%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

Historical GDP Deflator Escalation Rates



Weighted Inflation Indices

Specific Appropriations have their own indices

- e.g. Army MILPERS, Air Force Missile Procurement, RDT&E
- This combines escalation with appropriation law with raw escalation
- Different “colors of money” have different outlay patterns

Can only be used to go from base year to current-year dollars

Other Escalation Sources

Consumer Price Index (CPI)

- Available for many different goods

Composite Indices

- Weighted “baskets” of goods

Global Insight

Billion Price Index

Existing Contract Escalation

Government purchasing does not occur in “market”

- CPI, Billion Price Index, based on basket of goods

But what about existing contracts

- Can't existing vehicles provide insight into future escalation?

Existing contract data

- Builds in inflation effects
- Reflects actual purchasing power of customer
- Specific rates for specific work

FAA E-FAST

FAA's preferred small business procurement vehicle

Divided into multiple functional areas and labor categories

Five year period (Base + 4 Option)

727 firms over all functional areas

Ceiling prices published at

- https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/acquisition/efast/ref_docs/

Ceiling Prices per Contract Year

Average across all offerors in category

Program Manager I	Base	Option1	Option2	Option3	Option4
Air Transportation Services	\$ 151.41	\$ 156.06	\$ 160.83	\$ 165.80	\$ 170.78
% Change		3.07%	3.06%	3.09%	3.00%
Business Administration Mgt	\$ 154.26	\$ 158.94	\$ 163.48	\$ 168.71	\$ 173.82
% Change		3.03%	2.86%	3.20%	3.03%
Research and Dev	\$ 162.09	\$ 167.19	\$ 172.46	\$ 177.92	\$ 183.55
% Change		3.15%	3.15%	3.17%	3.16%
Engineering Services	\$ 153.89	\$ 158.46	\$ 162.95	\$ 168.23	\$ 173.41
% Change		2.97%	2.83%	3.24%	3.08%
Comp Sys Dev	\$ 154.08	\$ 158.67	\$ 163.21	\$ 168.33	\$ 173.38
% Change		2.98%	2.86%	3.14%	3.00%
Comp Sys Support	\$ 153.47	\$ 158.06	\$ 162.59	\$ 167.71	\$ 172.78
% Change		2.99%	2.87%	3.15%	3.02%
Documentation and Training	\$ 150.84	\$ 155.43	\$ 160.13	\$ 165.04	\$ 169.99
% Change		3.04%	3.02%	3.07%	3.00%
Maintenance and Repair	\$ 149.24	\$ 153.70	\$ 158.31	\$ 163.05	\$ 167.91
% Change		2.99%	3.00%	2.99%	2.98%
AVERAGE	\$ 153.66	\$ 158.31	\$ 163.00	\$ 168.10	\$ 173.20
% Change		3.03%	2.96%	3.13%	3.04%

Escalation Factor: FAA Salaries

Current guidance: 3.2% (1.2% above “general inflation”)

Recent years have seen numerous salary freezes due to Congressional inaction.

- Government salaries dependent on Congressional budgets.
- Any expectation of increased cooperation?

Reasonable assumptions must be made, distinguishing near-term expectations with long-term guidance.

Escalation Factor Special Cases

Cement

- Highly dependent on supply-demand
- China produces and consumes half of all cement

Energy

- US Energy Information Administration (EIA) provides historical rates for different sectors and regions.
- Region specific depending on regional energy generation methods.
- Long-term assumptions assumes current mix of energy generation methods continues.

Common Mistakes

Applying incorrect escalation rate

Applying real and nominal rates interchangeably

- Convert using the following equation

$$(1 + r_{real}) \cdot (1 + r_{inflation}) = (1 + r_{nominal})$$

Common Mistakes

Using standard escalation rate (e.g. OMB) for everything without further investigation

Not obtaining proper backup data for chosen escalation rate.

- Differentiate short-term expectations with long-term trends?

Applying risk improperly to escalation.

Questions or Comments

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