

LEAD/LAG FEATURES & USE

ACEIT Users Workshop
National – Public Audience
31 January – 2 February 2010
Daniel J. Garcia, SMC/GPP (Tecolote)
Mariam M. Uzunyan, SMC/FMC





AGENDA

- What is it?
- **■** Reasons for use
- How to specify in ACE
- Examples



WHAT IS IT?

Lead/Lag feature

- Allows values (costs or quantities) to be "pushed", "pulled" or spread across a year or years based on userspecified years & percentages
 - No special "ACE coding" or functions required
- Built-in function in column in Yearly Phasing workscreen
 - > Flexibility to insert column into any workscreen
- Arguments are "Year(s), Percentage(s)"
 - > Years can be +/- and non-consecutive
 - Percentages must be in decimal format
 - Arguments can contain equations & variables



WHAT IS IT? (cont.)

- Lead/Lag (continued)
 - Can be applied to any row with a methodology
 - > Input values
 - Calculated values
 - Beta phased rows
 - Even where there's cost improvement or Learning

Can be specified for either inputs or calculated values as:

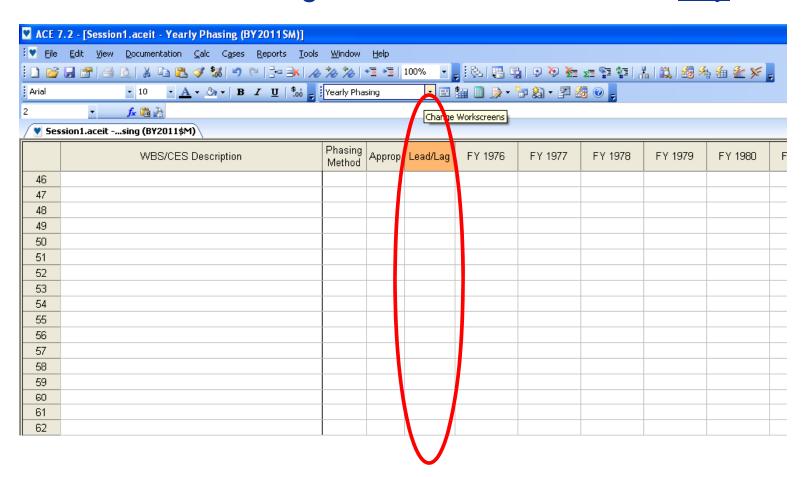
"year(s), percentage(s)"



WHAT IS IT? (cont.)

Yearly Phasing Workscreen

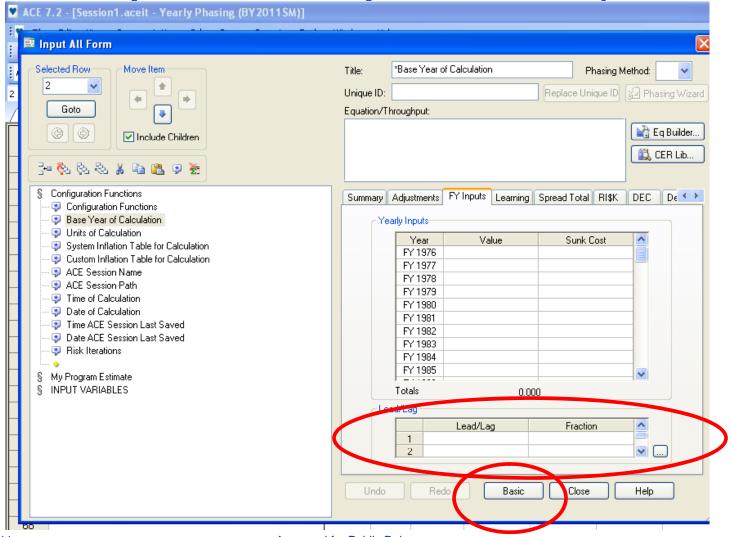
Recall – Lead/Leag column can be added to <u>any</u> workscreen





WHAT IS IT? (cont.)

On FY Inputs tab of Input All Form (Advanced)





REASONS FOR USE

Long lead

Pay/fund X% of unit's cost Y year(s) before unit buy

"Shifting" of values as a result of

- Unit buy schedule movement, fielding lags
- Headcounts moving
- Apply and/or shift percentages
- Many others...
- Values can be costs, quantities or results of a calculation



HOW TO SPECIFY IN ACE

- Easy!
- **Filtered Workscreen views or Input All Form**
- Think "year(s) shifted, percentage(s) shifted"
 - Years can be whole years, fractional years or equations
 - %s can be whole years, fractional years or equations
 - → "3.1415926535 / 3.1415926535, 1 / 5" = "1, 0.20"
 - \rightarrow "3/2, 1/2" = "1.5, 0.50"
 - "Lead_Yr, Lead_%"
 - Where Lead_Yr = 1, Lead_% = 20% (or 0.20)



EXAMPLES



EXAMPLE 1

■ So we're...

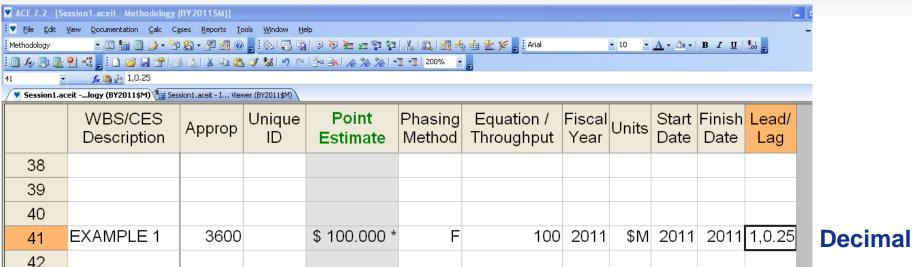
- Purchasing one unit
- One (1) unit costs \$100M, BY2011\$
- Full-fund in the buy year
- Long lead, 1-year prior, 25% of unit cost
- Remaining percentage in purchase year

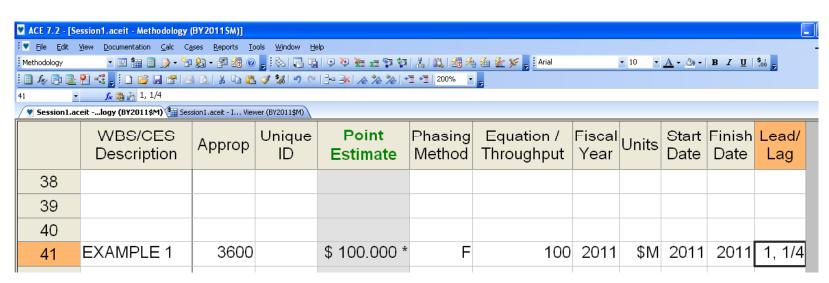
■ How can we do that?

- Fat finger
- %-phase
- BY or TY-phase
- Lead/Lag



EXAMPLE 1 (cont.)

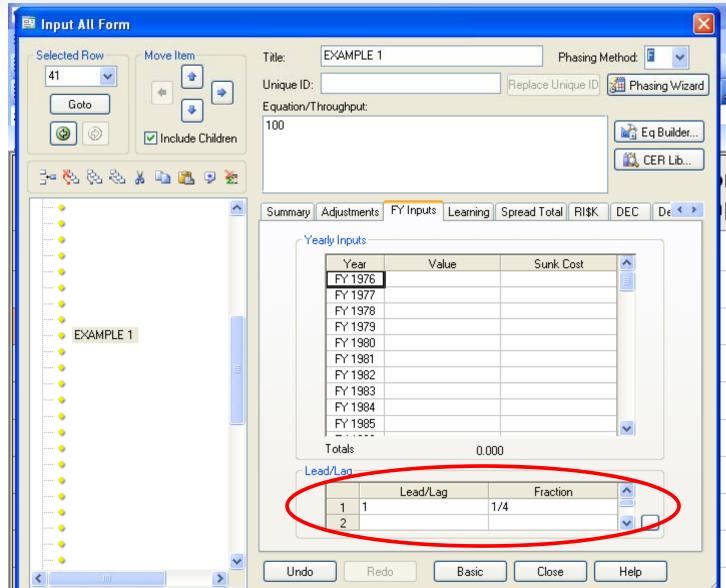




Fraction



EXAMPLE 1 (cont.)



Input All Form

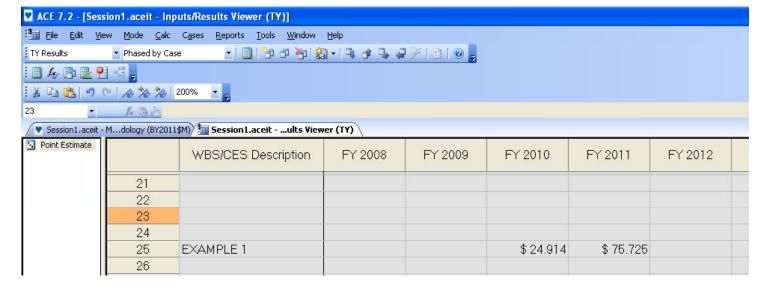


EXAMPLE 1 (cont.)

BY\$ Results



TY\$ Results



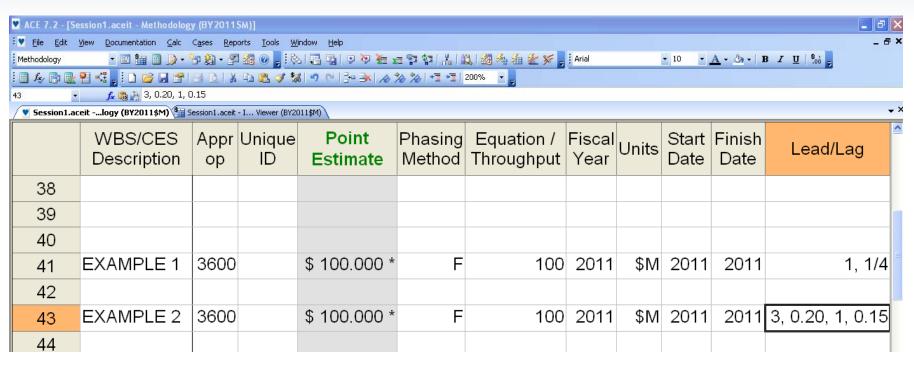


EXAMPLE 2

- So for example 2 we're...
 - Buying One (1) unit, costs \$100M, BY2011\$
 - Full-fund in the buy year
 - Long lead
 - 3-years prior, 20% of unit cost
 - 1-year prior, 15% of unit cost
 - Remaining percentage in purchase or full fund year

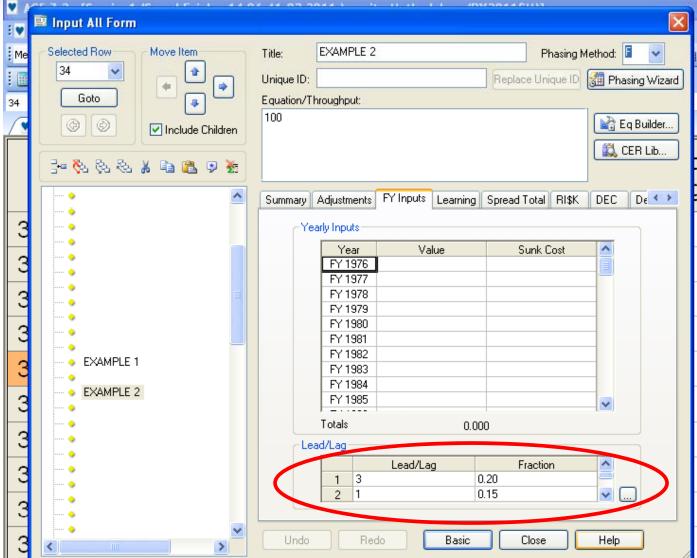


EXAMPLE 2 (cont.)





EXAMPLE 2 (cont.)

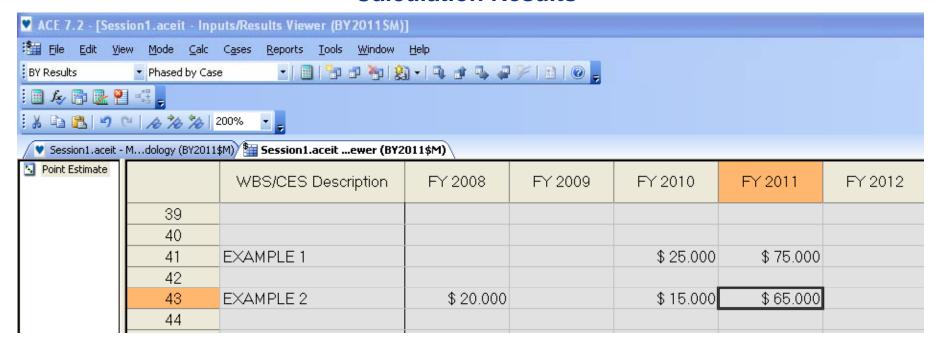


Input All Form



EXAMPLE 2 (cont.)

Calculation Results



Utilize Lead/Lag to move costs to/across multiple and non-consecutive years!



EXAMPLE 3

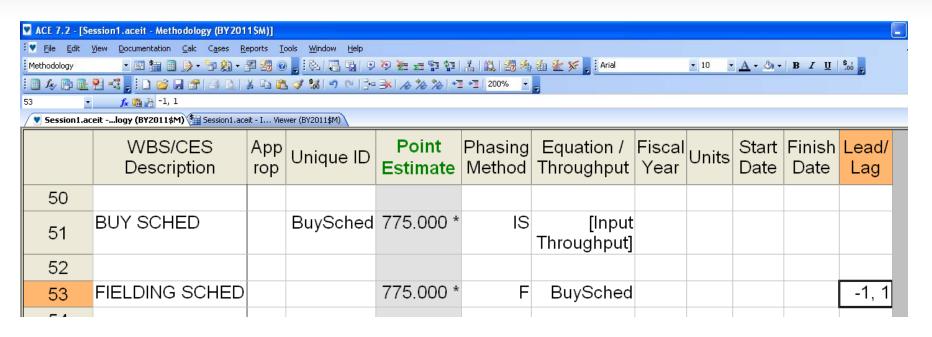
■ So for example 3 we're...

- Purchasing many units over multiple years
- There is a one-year fielding lag in getting units fielded

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
BUY SCHEDULE	108	125	82	93	112	255	-
FIELD SCHEDULE	-	108	125	82	93	112	255



EXAMPLE 3 (cont.)





EXAMPLE 3 (cont.)

Calculation Results





EXAMPLE 4

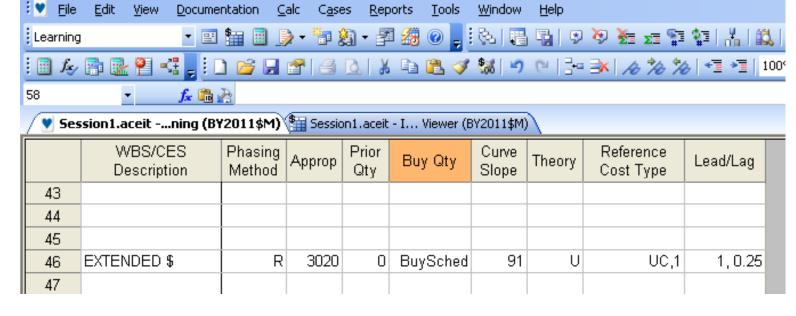
■ Example 4:

- Using same *buy* schedule as Ex. 3
- Except... we're also going to assume:
 - Theoretical first unit (T1) costs \$100M, BY2011\$
 - ➤ Cost Improvement on 91% slope
 - Long lead 25% of each unit's costs 1-yr prior



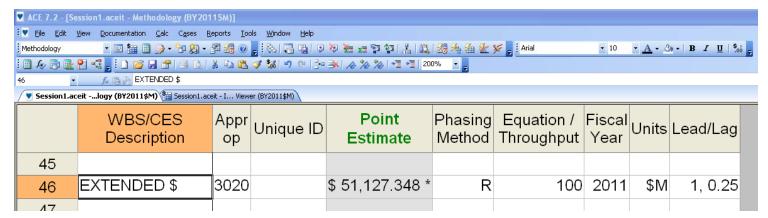
EXAMPLE 4 (cont.)

Learning Workscreen



ACE 7.2 - [Session1.aceit - Learning (BY2011SM)]

Methodology Workscreen





EXAMPLE 4 (cont.)

Calculation Results



25% Long Lead for 108 units Calculated on 91% Unit Learning Curve

1 25% Long Lead for 125 units +

1 75% Full Fund for 108 units

1 Calculated on 91% Unit Learning Curve

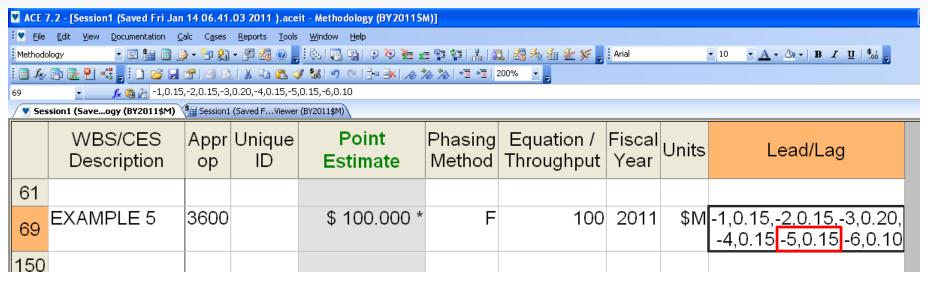


EXAMPLE 5

- Phasing of costs across multiple years
- Specify yearly percentages of values/costs
- Similar to % phasing method
 - Flexibility to change utilizing variables



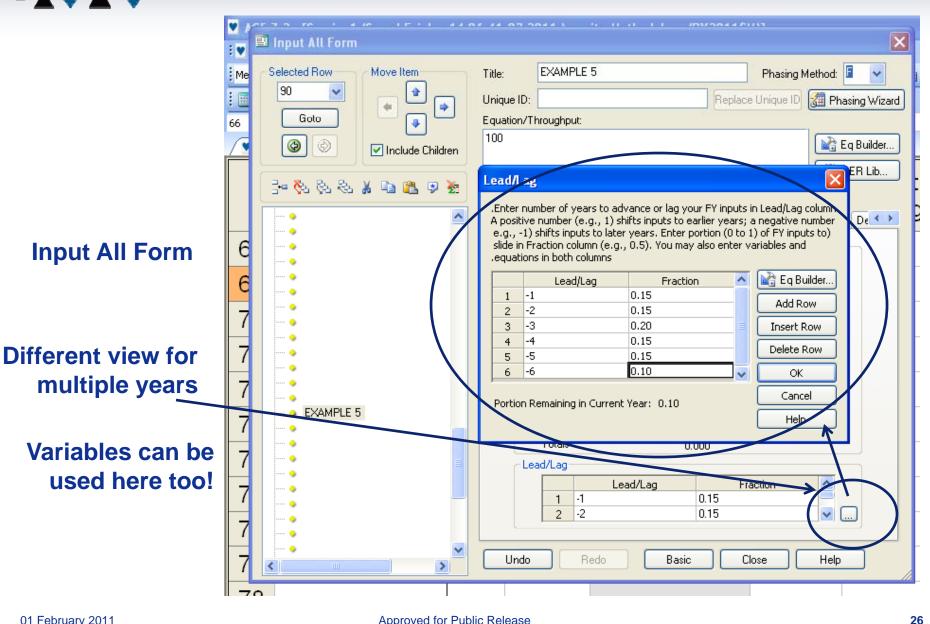
EXAMPLE 5 (cont.)



Lead/Lag are entered in ordered pairs of "Year, Percentage" seperated by a comma ","



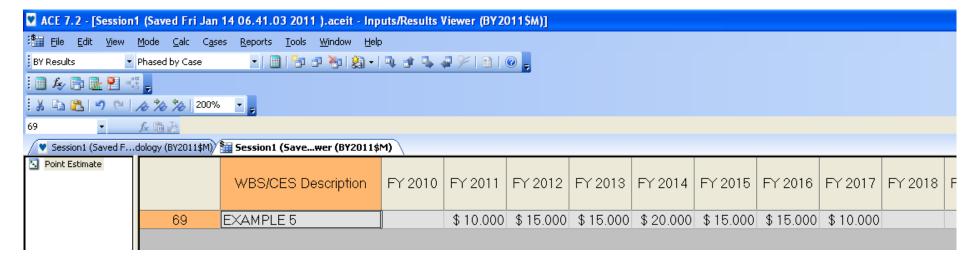
EXAMPLE 5 (cont.)





EXAMPLE 5 (cont.)

Calculation Results





Summary

- Enlighten on little-used, highly flexible column
- Many, many uses for unique Lead/Lag feature
 - Phase values
 - Re-phase or shift values
 - Leag/Lag portions costs



