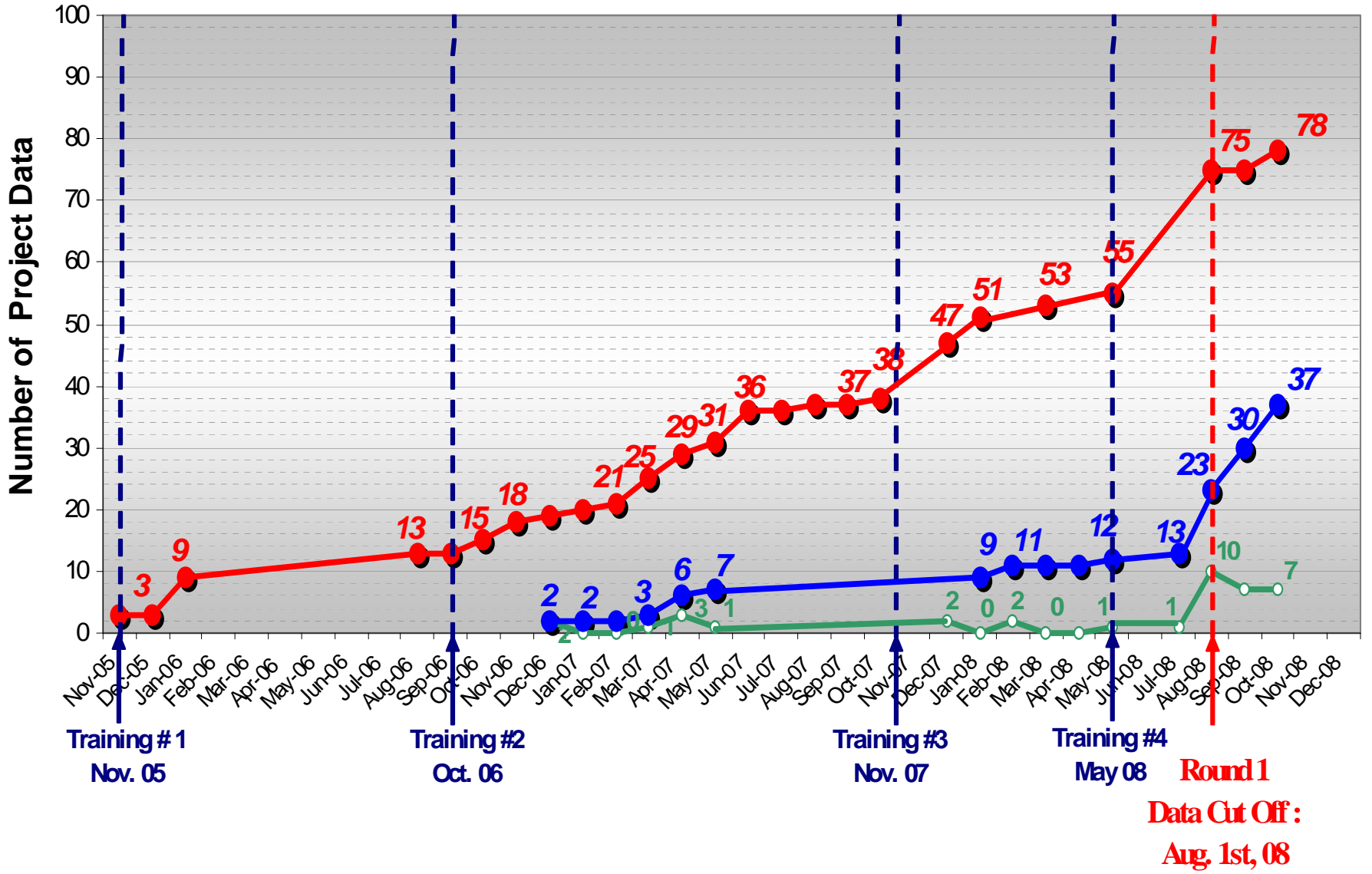


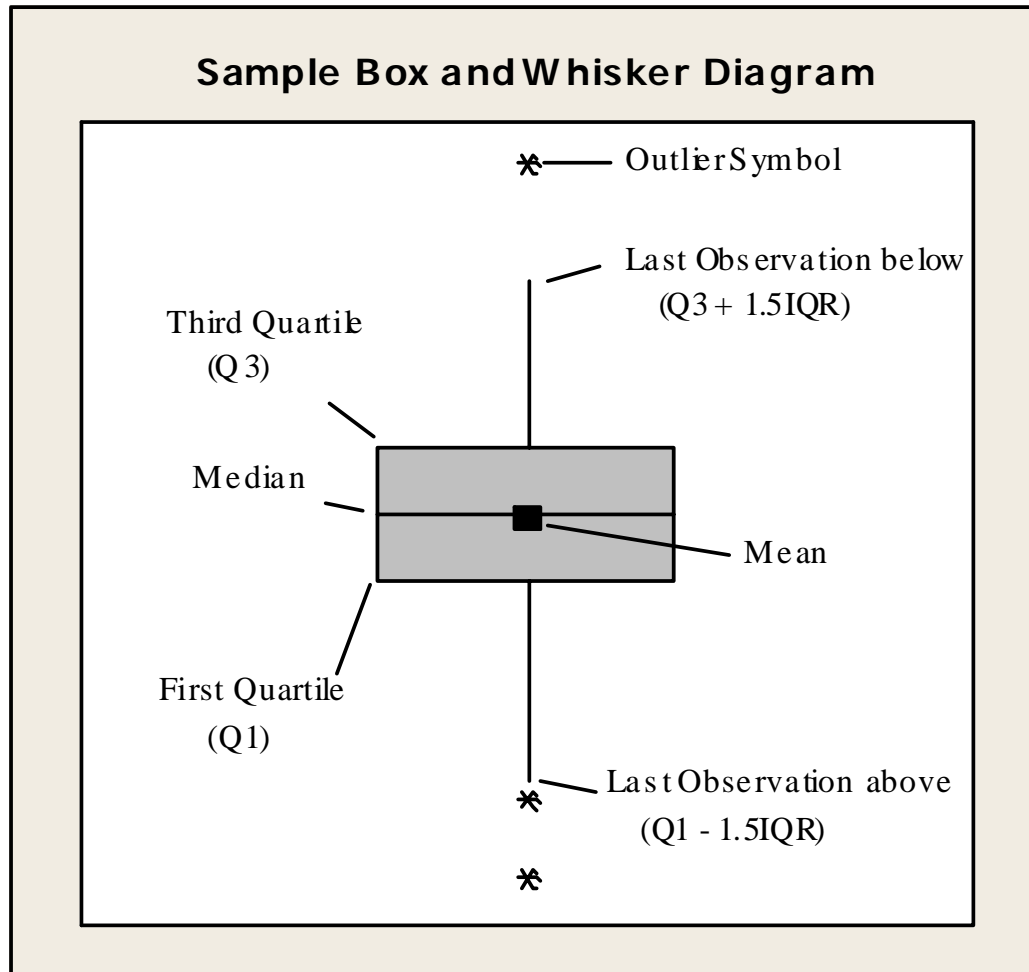
Benchmarking and the Alberta  
Report – a Government/Industry  
Partnership  
Alberta Report Phase I Results

Larry Sondrol  
Stephen Revay FCJC CCC

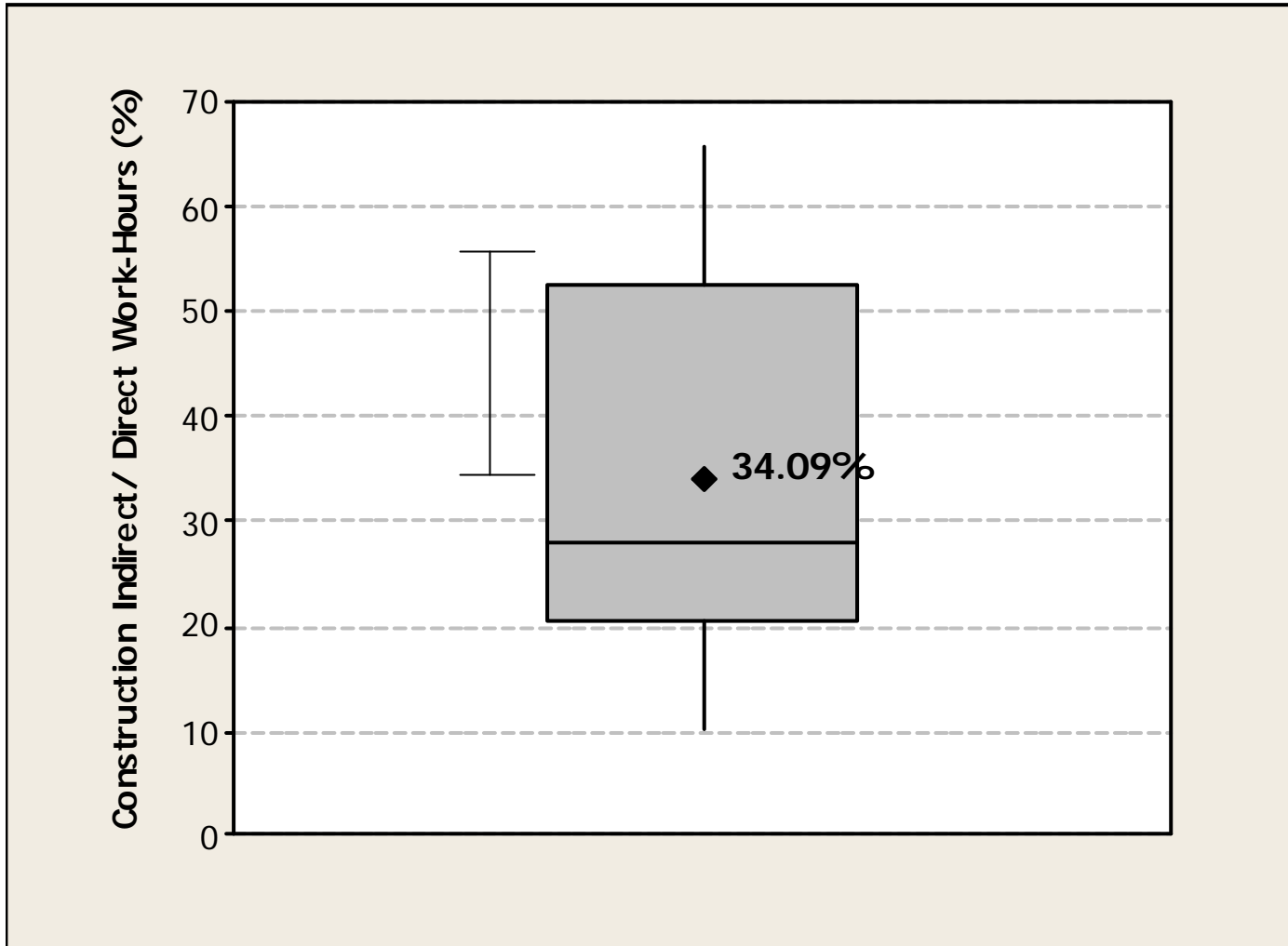
# Number of Project Data in COAA DB by Month (last updated Oct. 24th, 08)



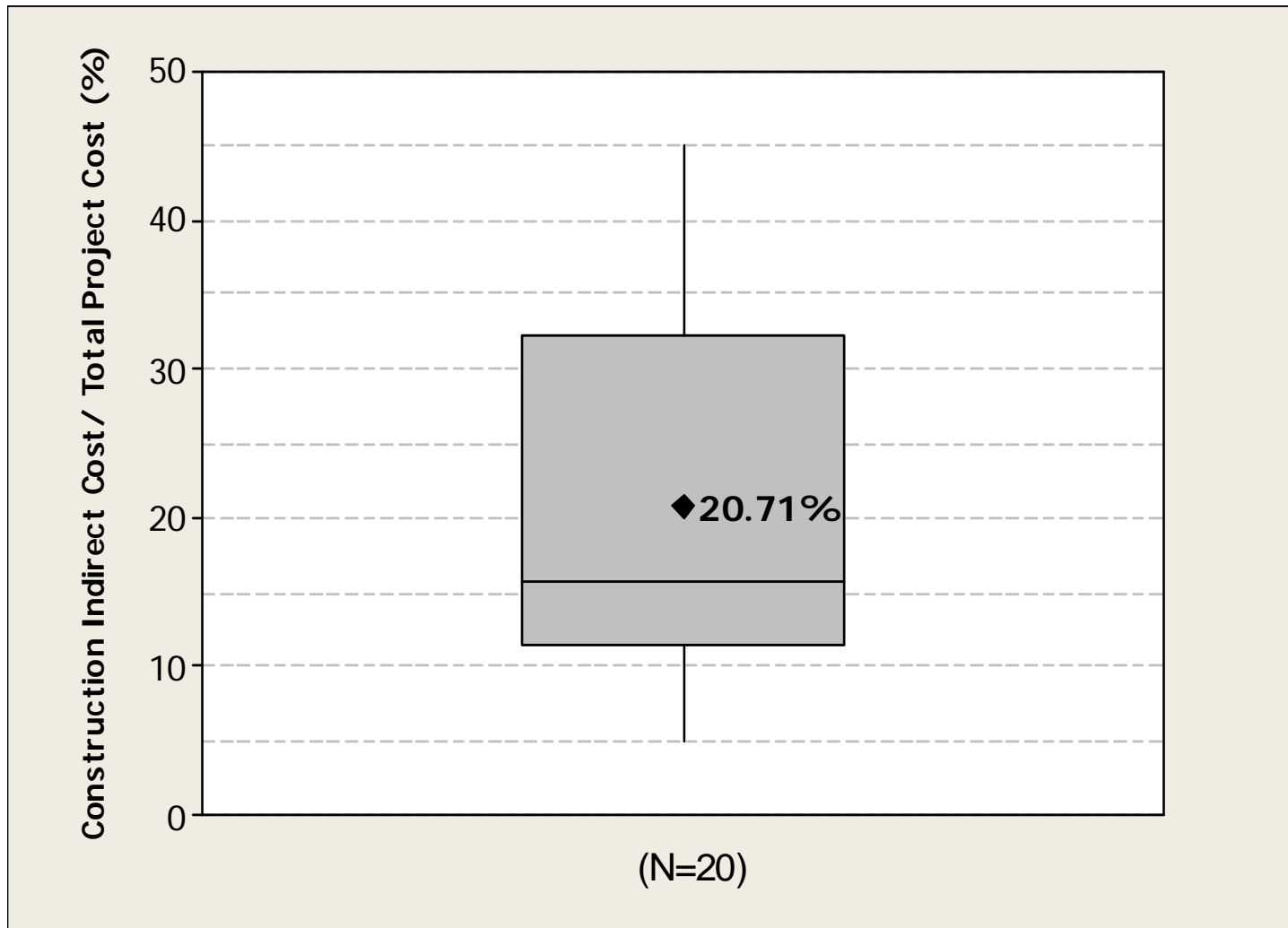
# Sample Box and Whisker Diagram



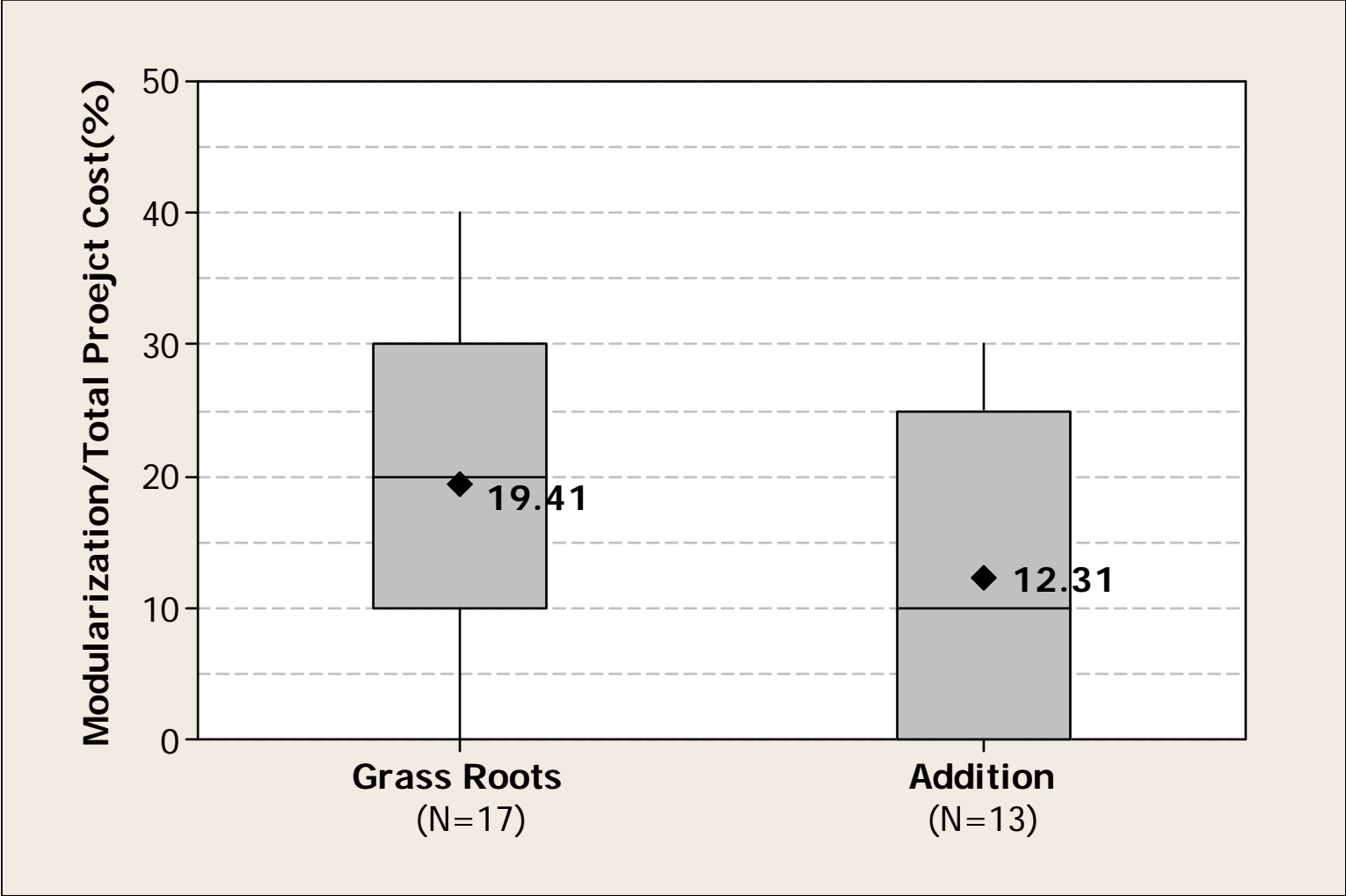
**Figure 4-3 Construction Indirect / Direct Work hours (%)**



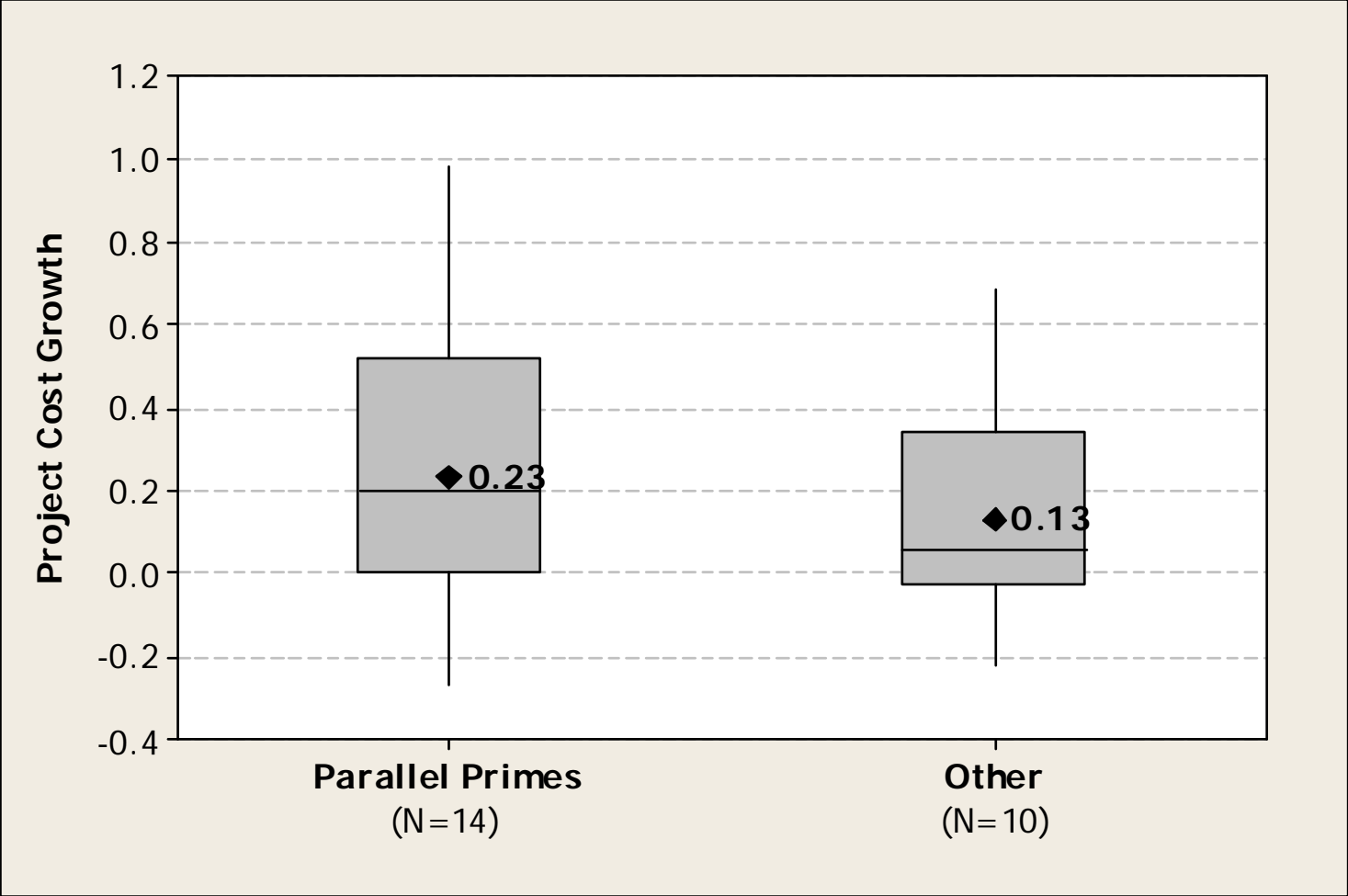
**Figure 4-4 Construction Indirect Cost / Total Project Cost (%)**



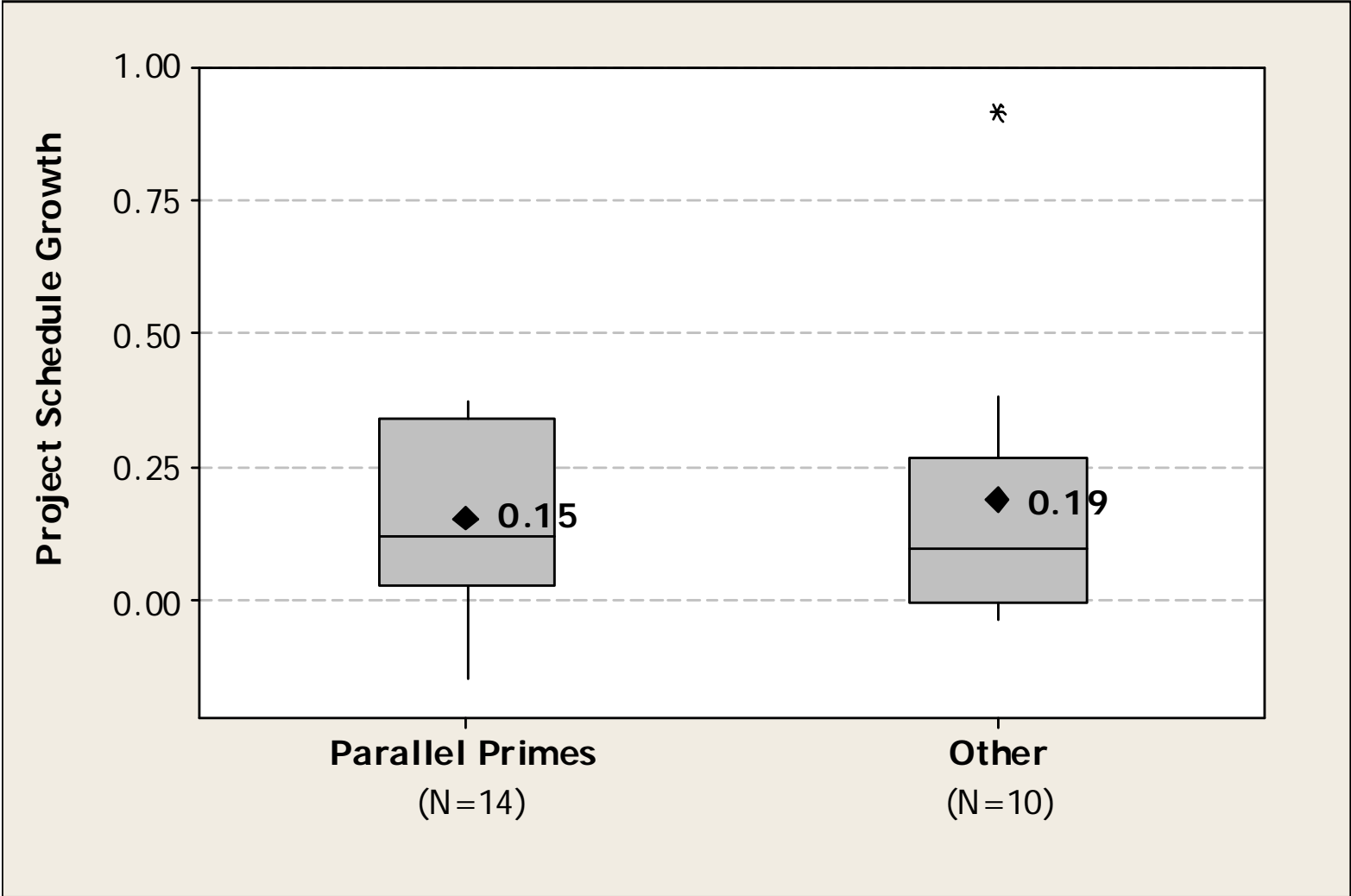
**Figure 4-5 Modularization by Project Nature**



**Figure 4-6 Project Cost Growth by Project Delivery System**

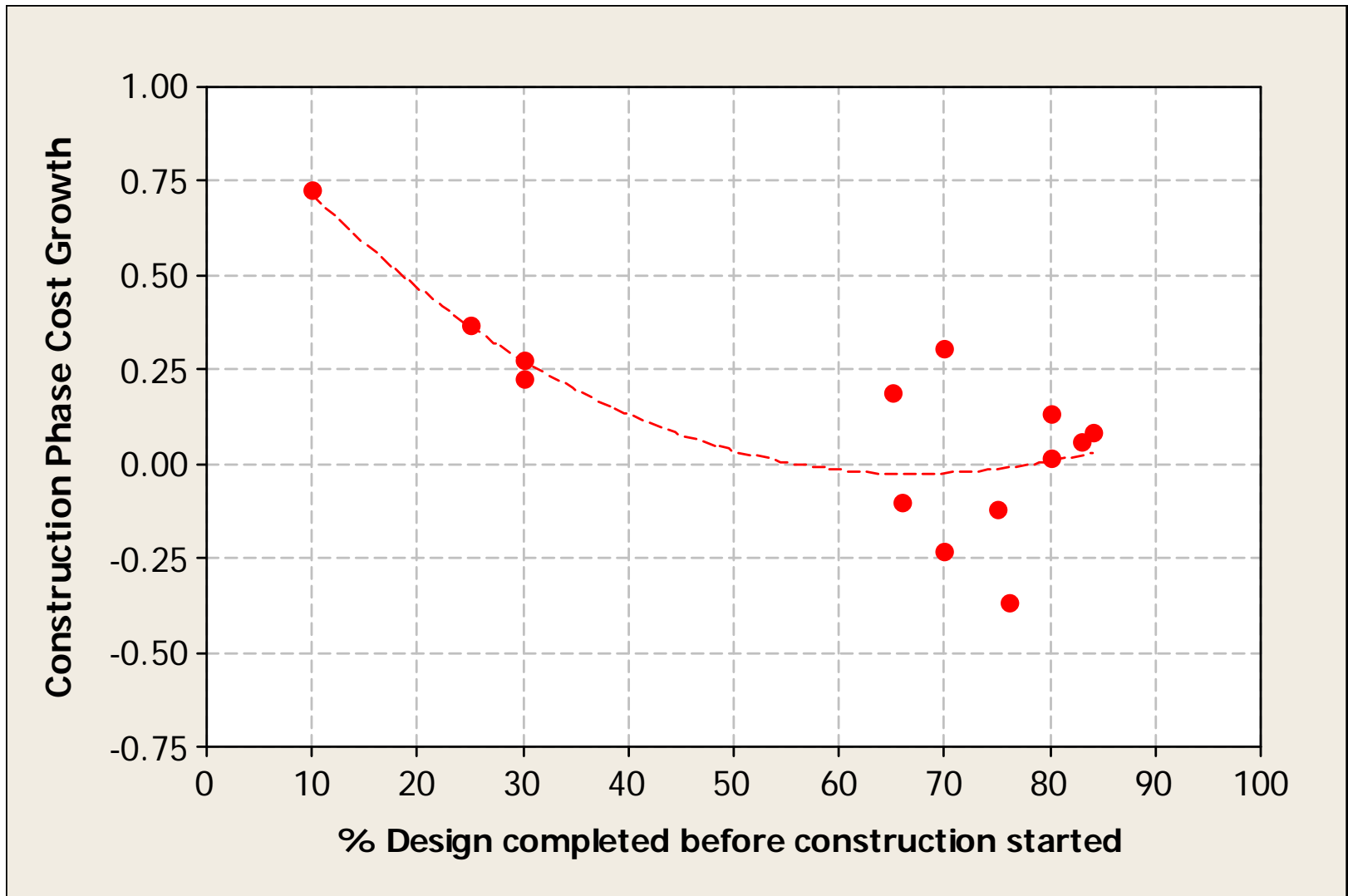


**Figure 4-7 Project Schedule Growth by Project Delivery System**

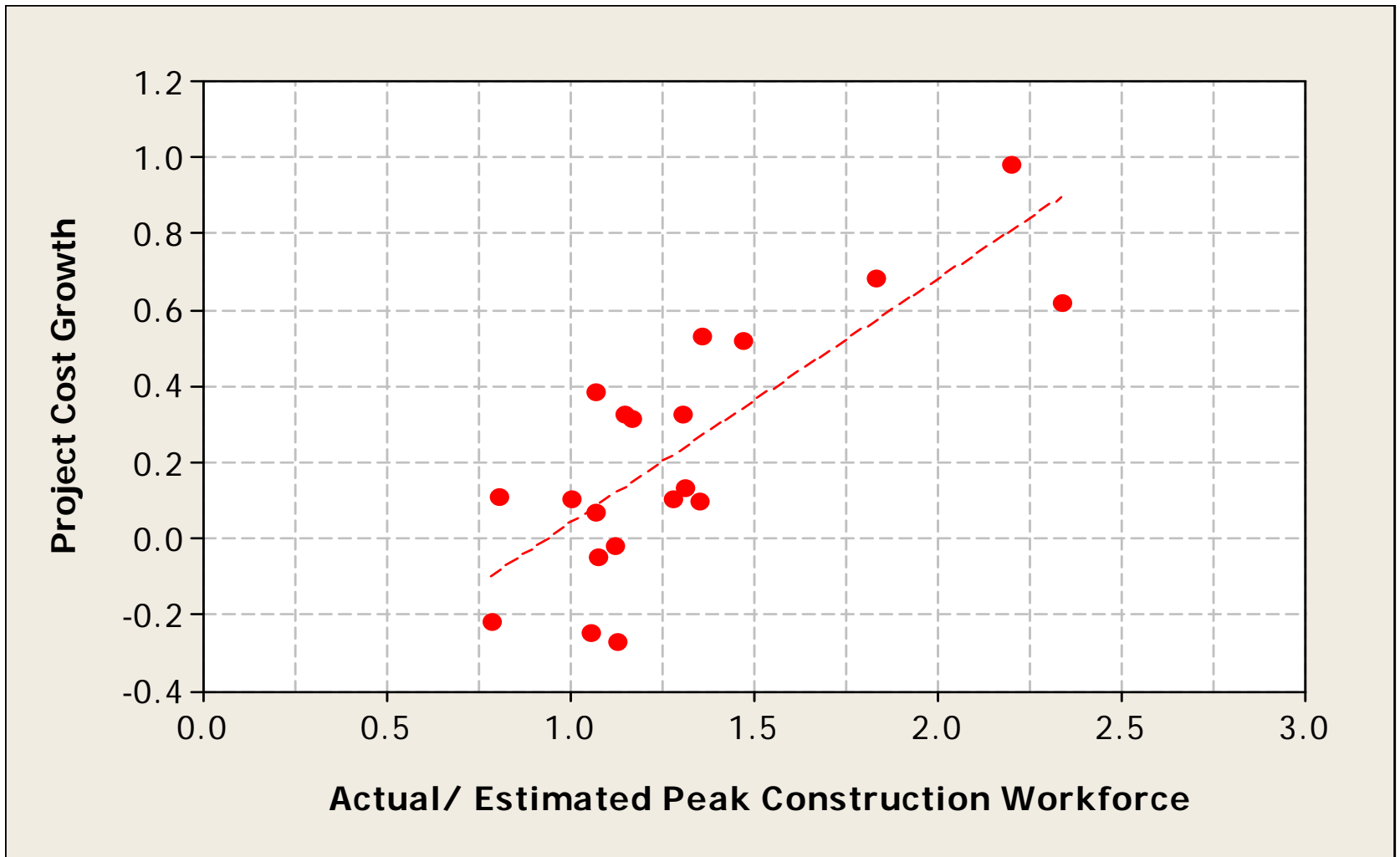




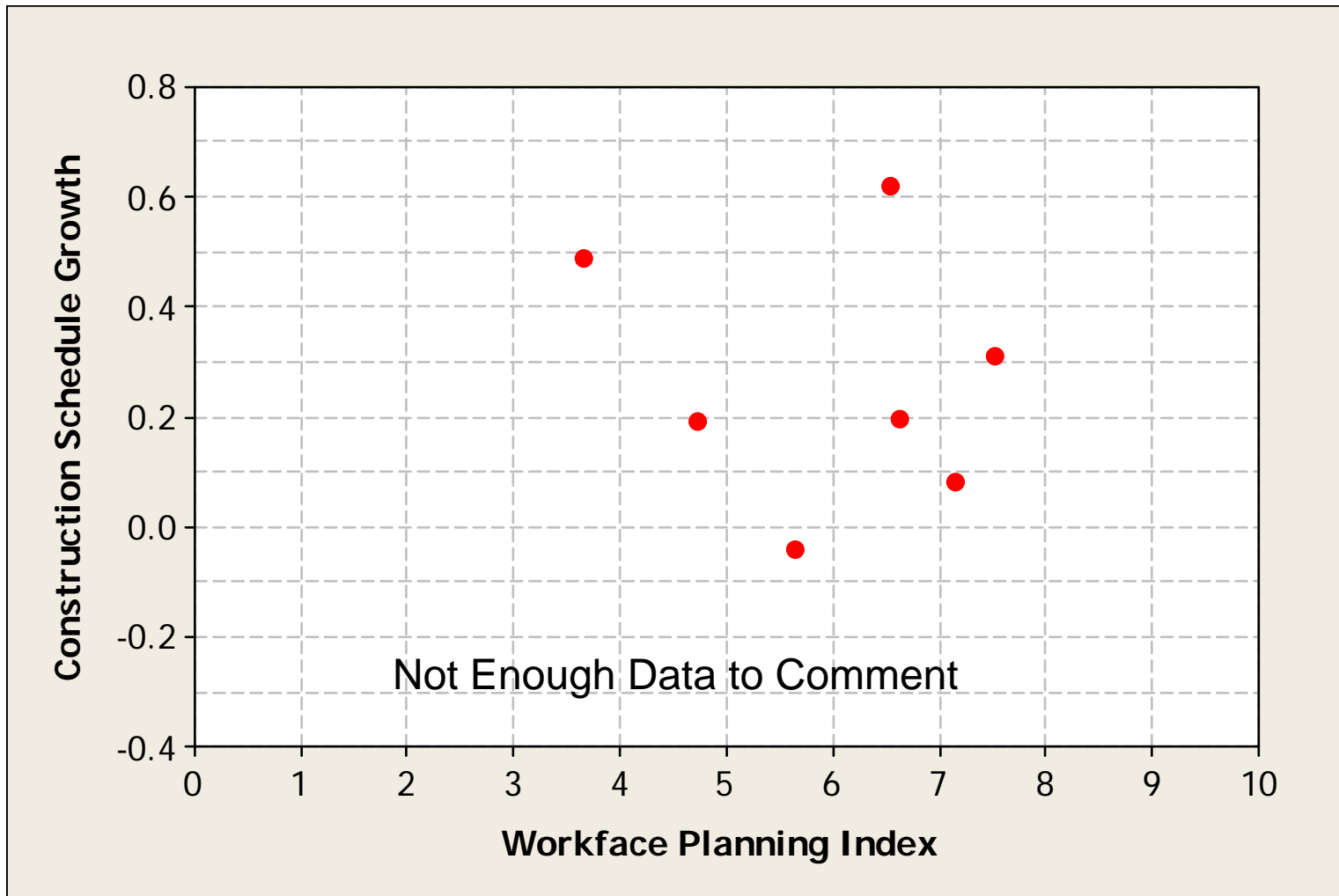
**Figure 4-8 Effect of % Engineering Completed before  
Substantial Construction Started**



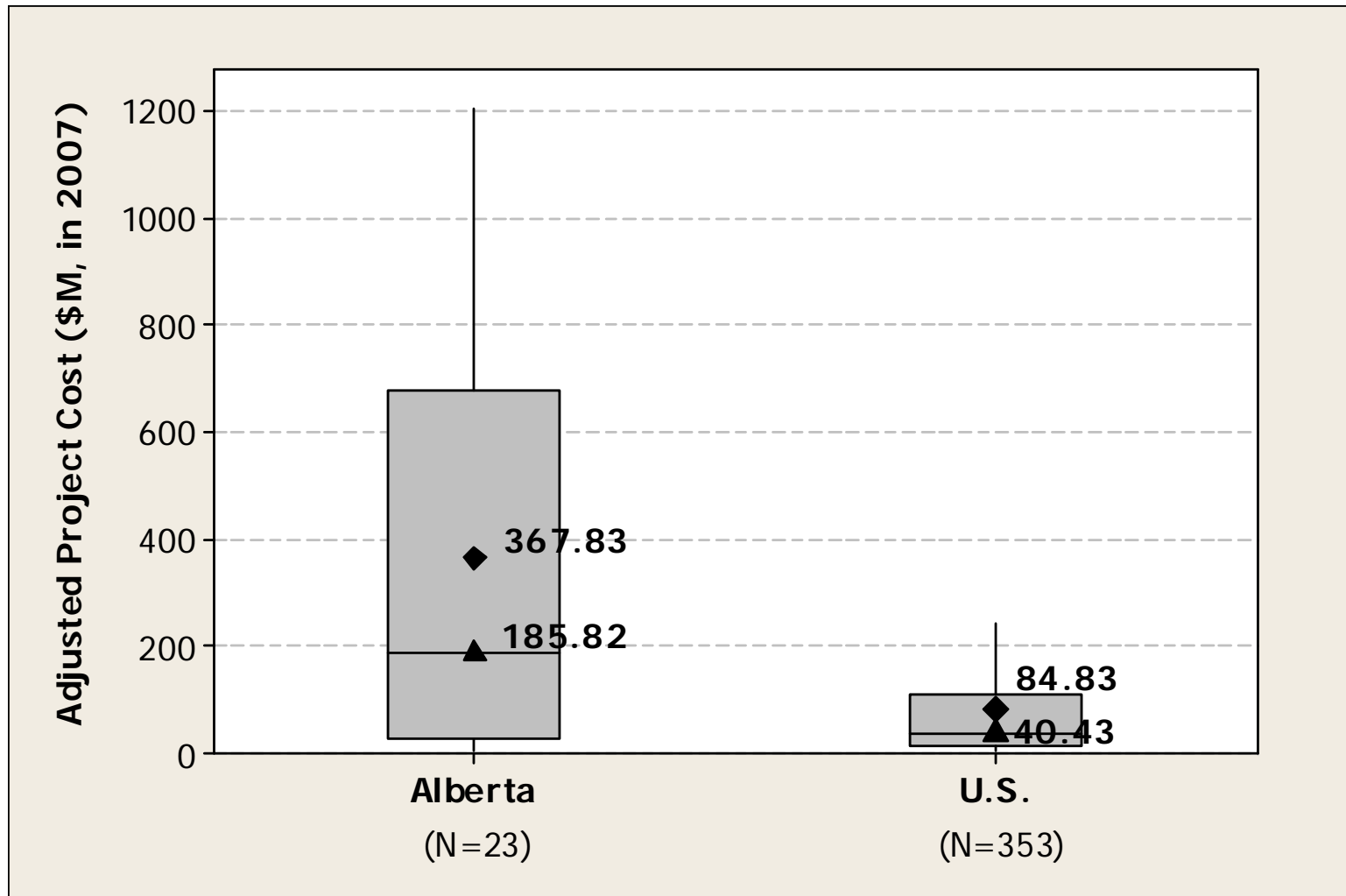
# Figure 4-9 Actual / Estimated Number of Peak Construction Workforce



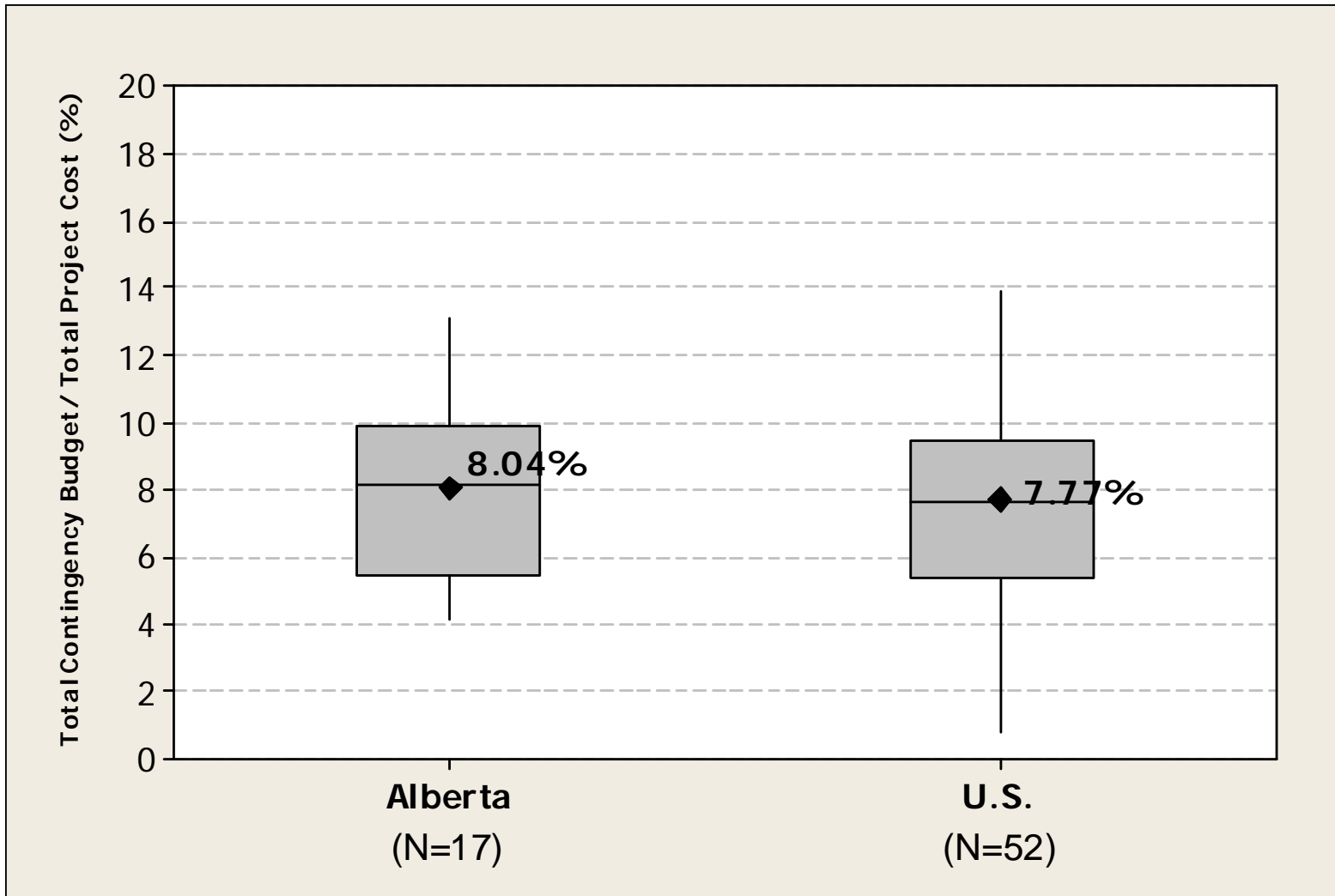
**Figure 4-15 Workface Planning vs. Construction Schedule Growth**



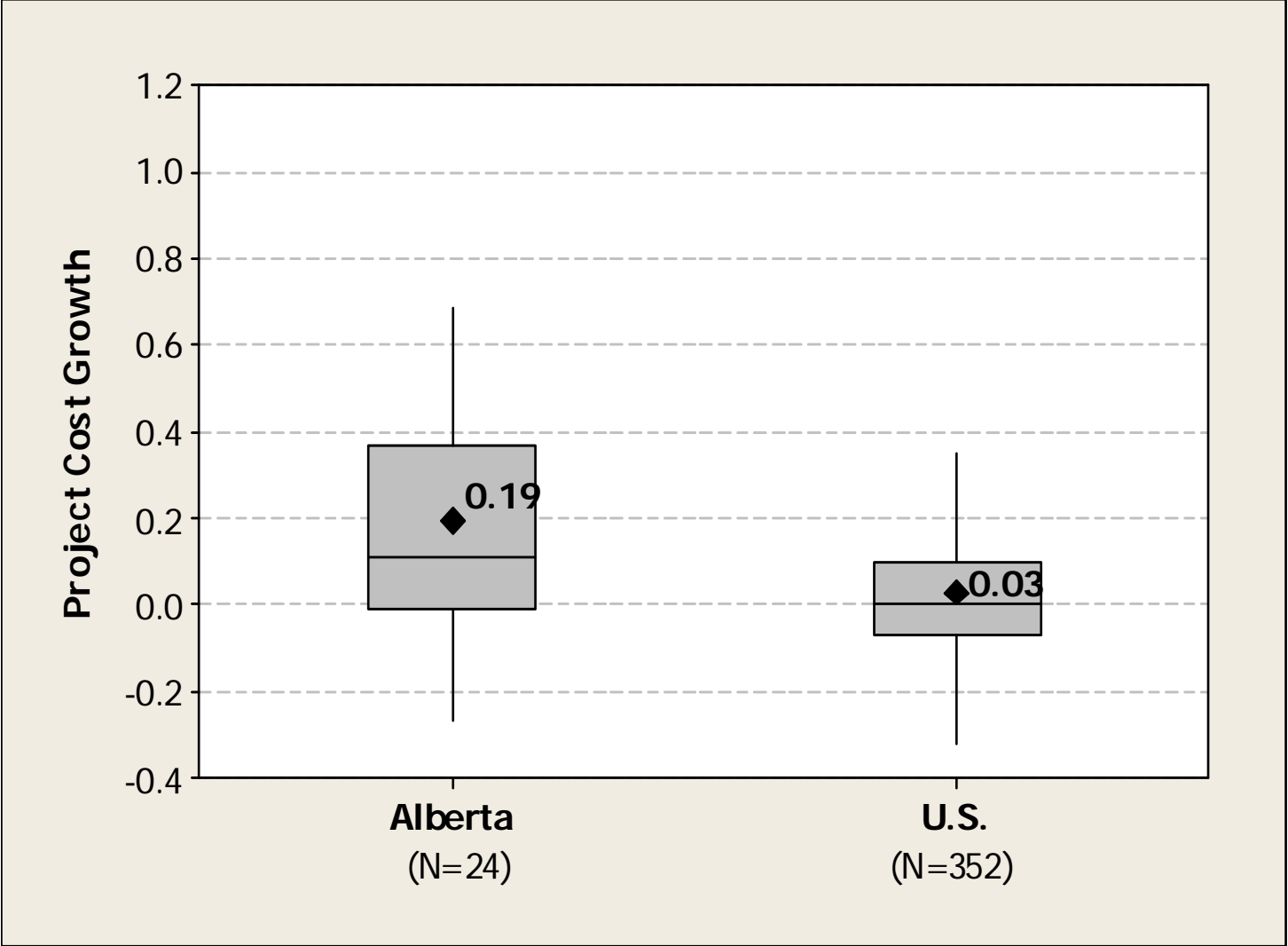
**Figure 4-16 Project Size (\$M CDN, in 2007)**



**Figure 4-17 Contingency Budget (%)**

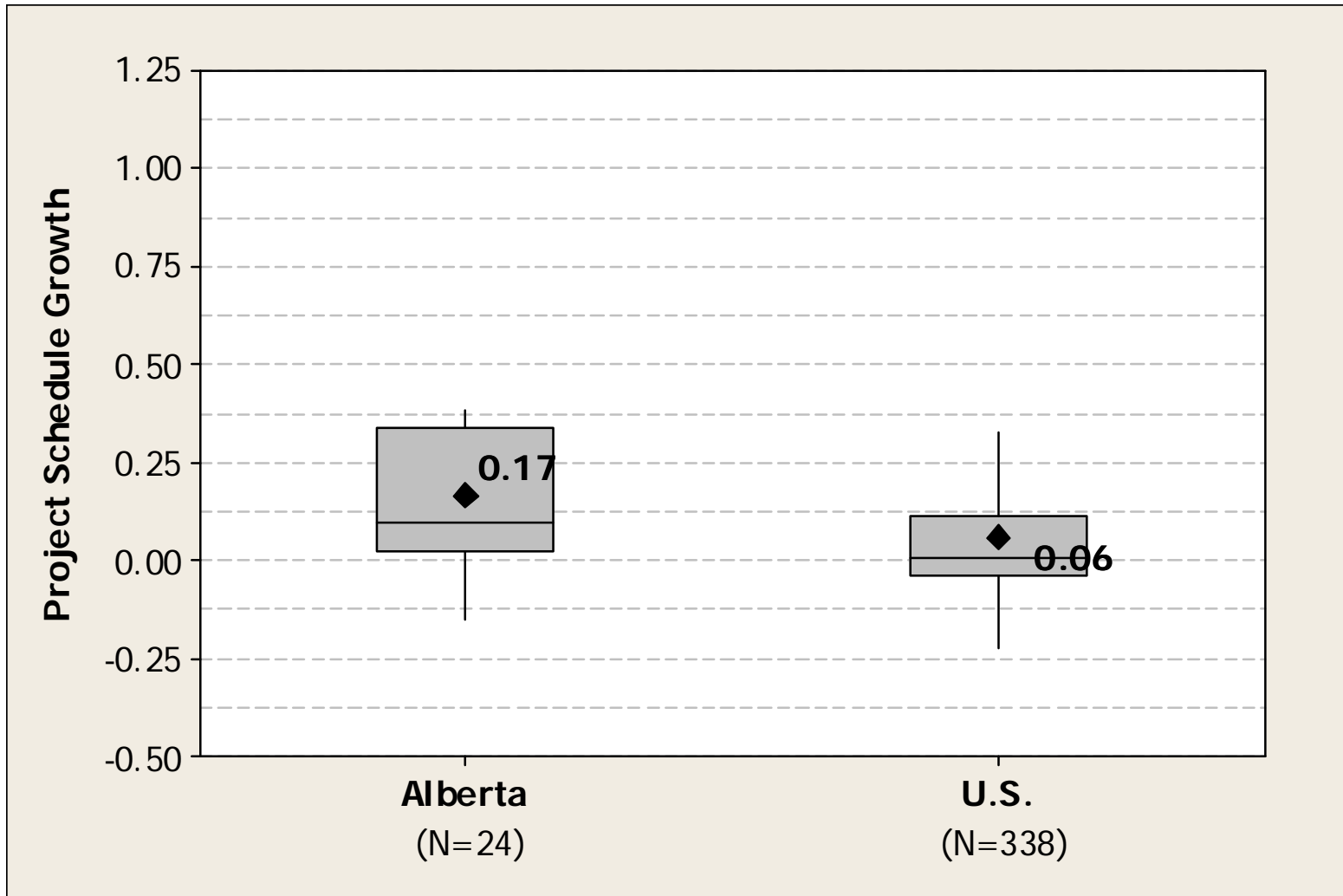


# Figure 4-18 Project Cost Growth



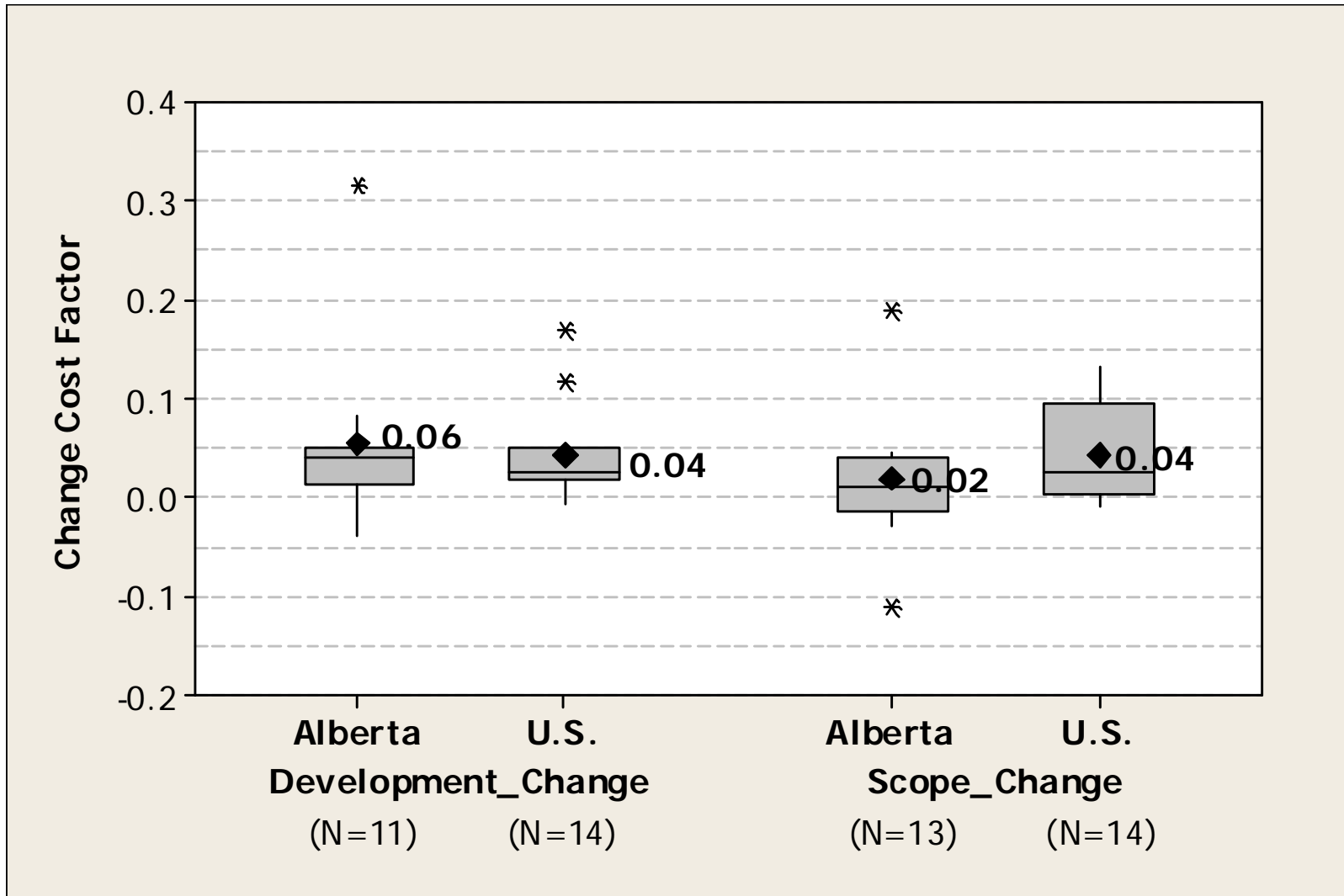
# Figure 4-19

## Project Schedule Growth



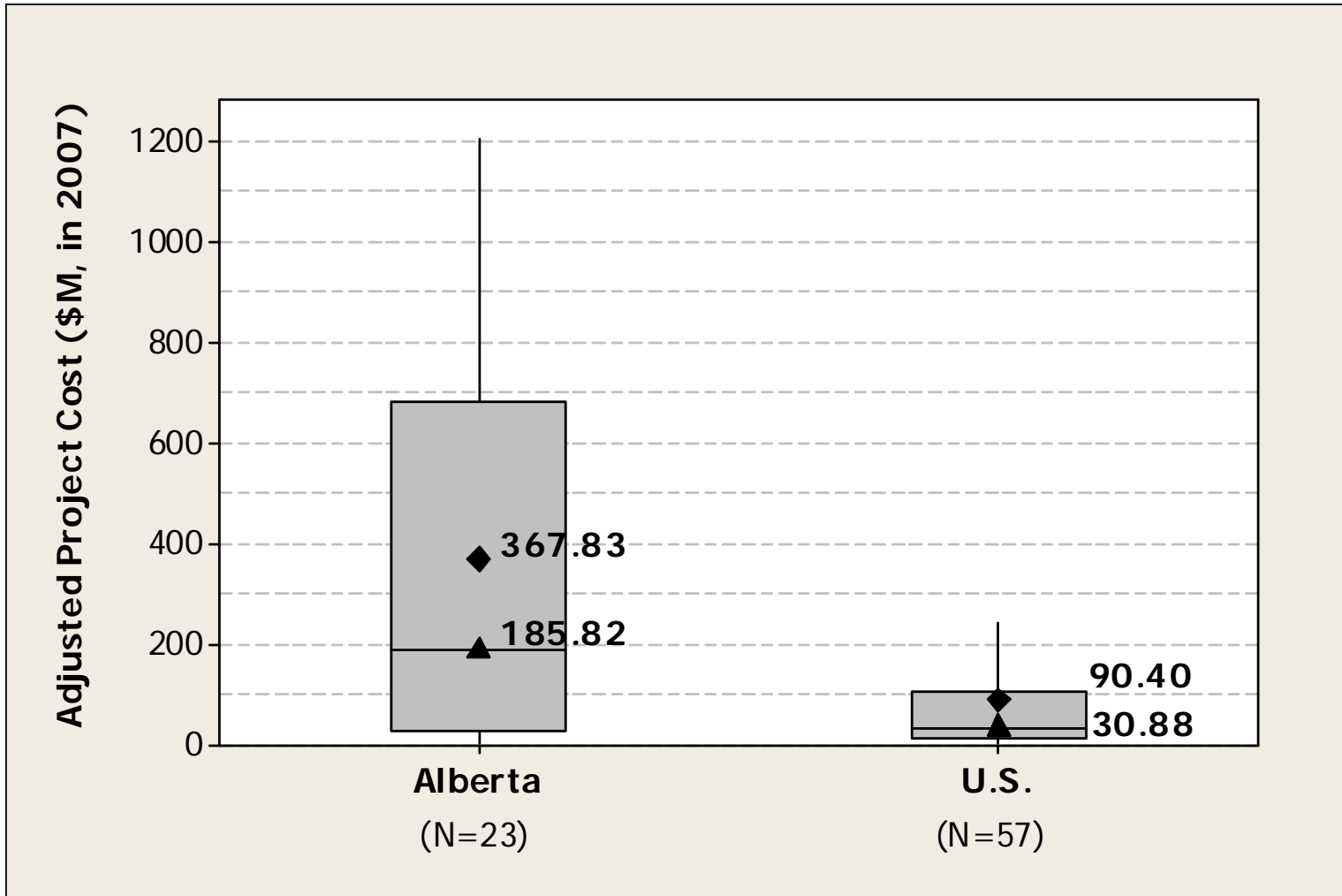
# Figure 4-20

## Development and Scope Change Cost Factor



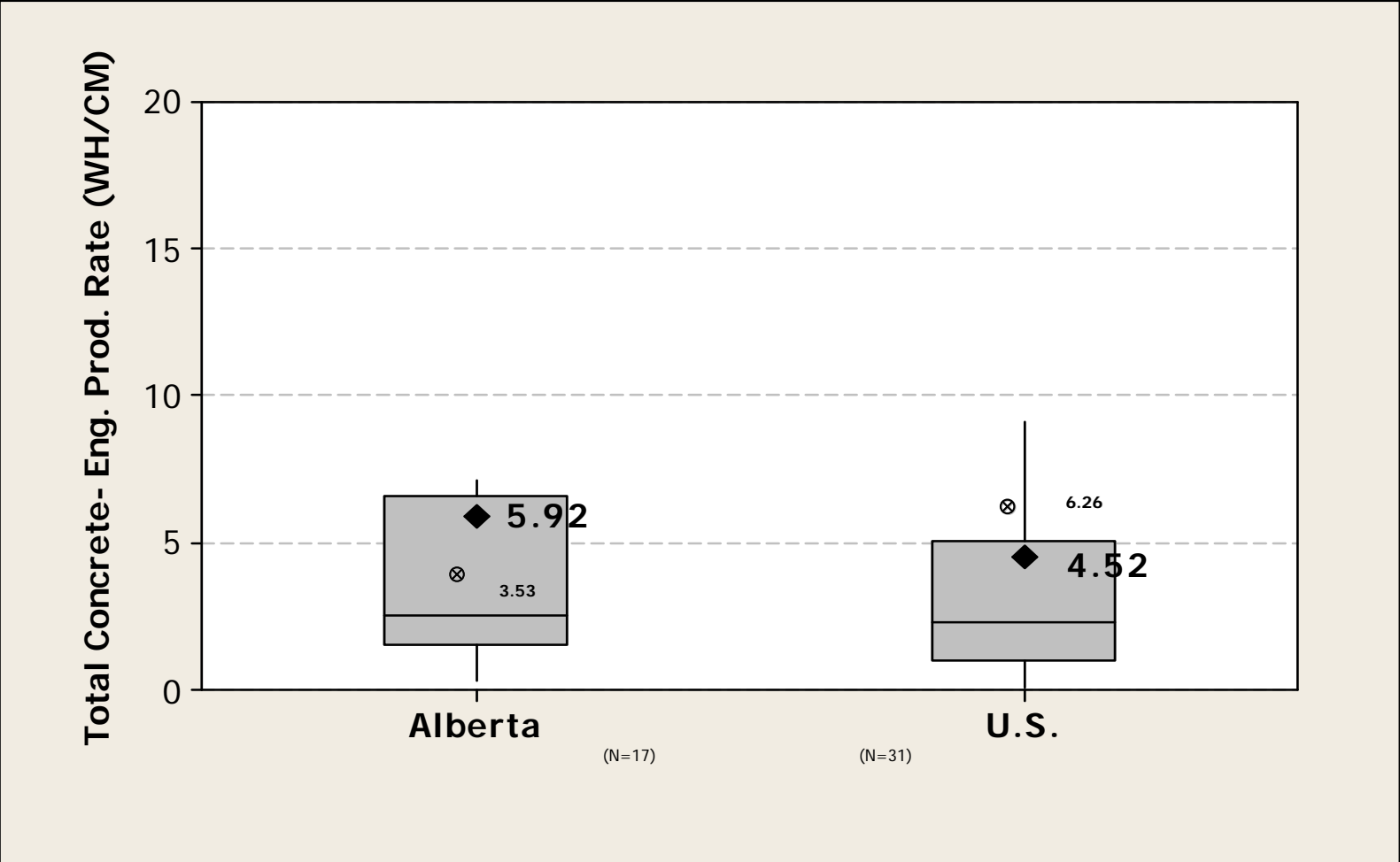


**Figure 4-21**  
**Comparison of Project Size (\$M CDN, in 2007) for**  
**Engineering Productivity Dataset**



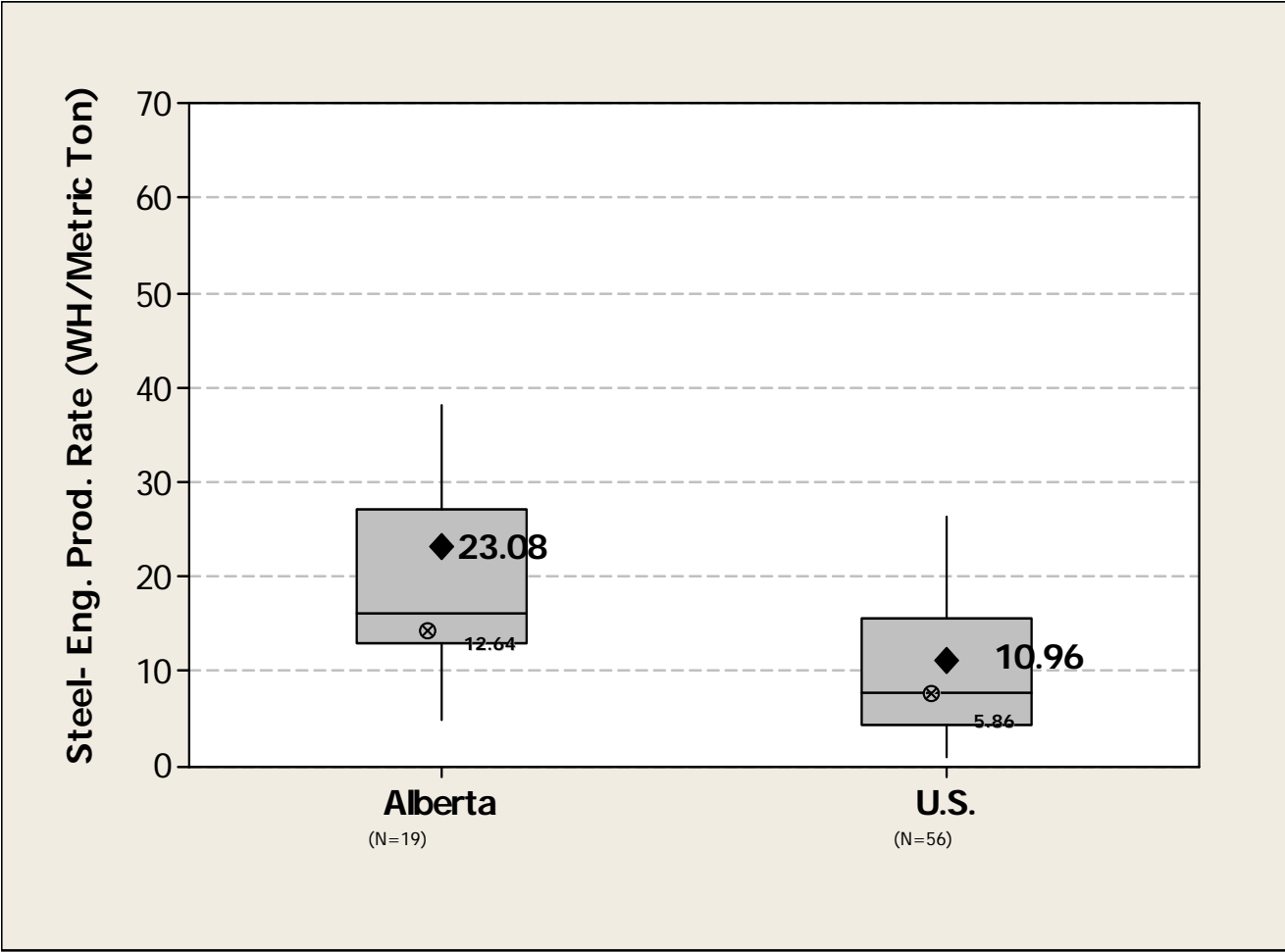
# Figure 4-22

## Comparison of Concrete Engineering Productivity (WH/ Cubic Meter)



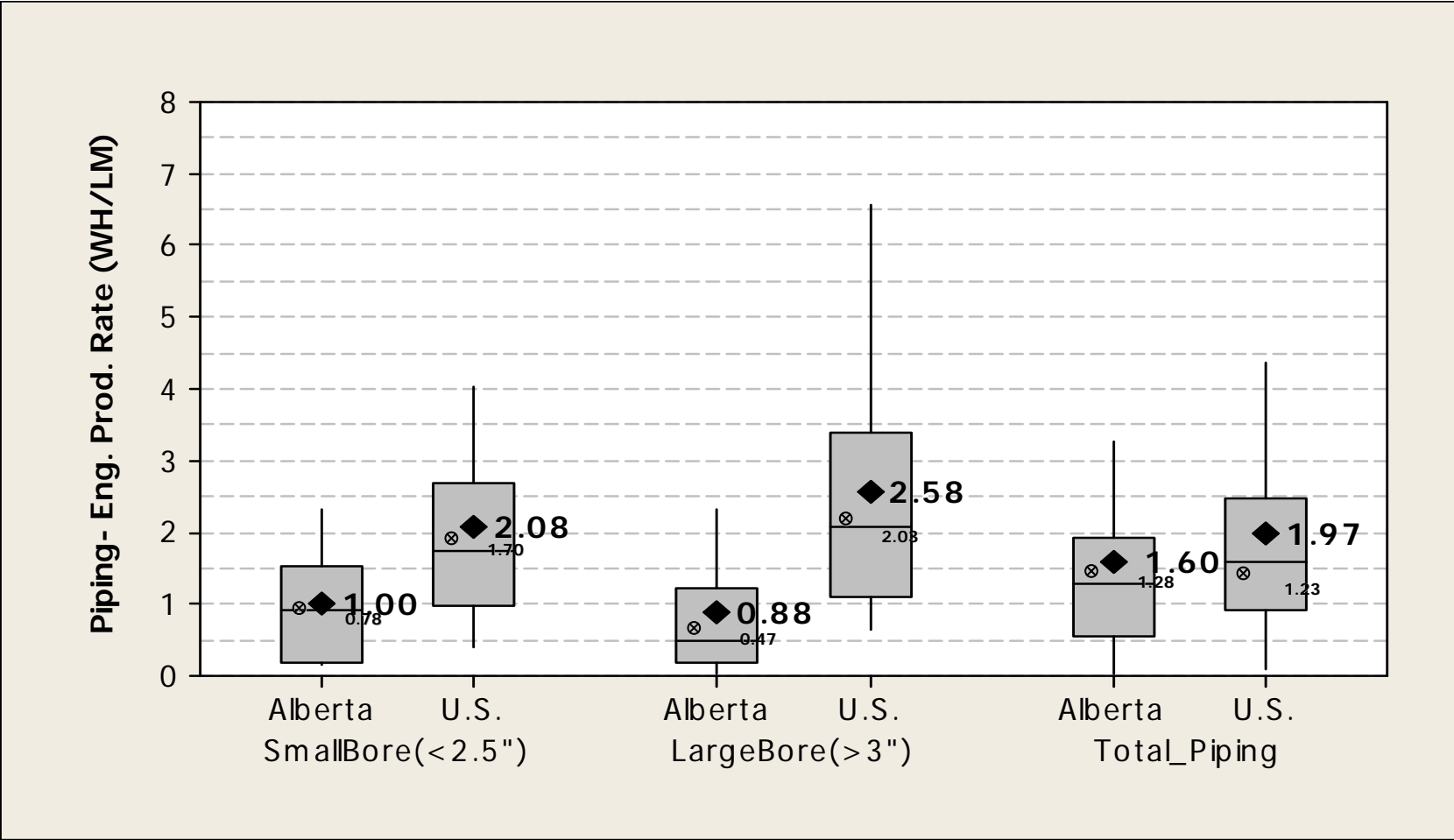
# Figure 4-23

## Comparison of Structural Steel Engineering Productivity (WH/ Metric Ton)



# Figure 4-24

## Comparison of Piping Engineering Productivity (WH/ Linear Meter)



# **Figure 4-XX**

## **Comparison of Electrical Engineering Productivity**

Not enough data to produce results.

More projects required.

# **Figure 4-XX**

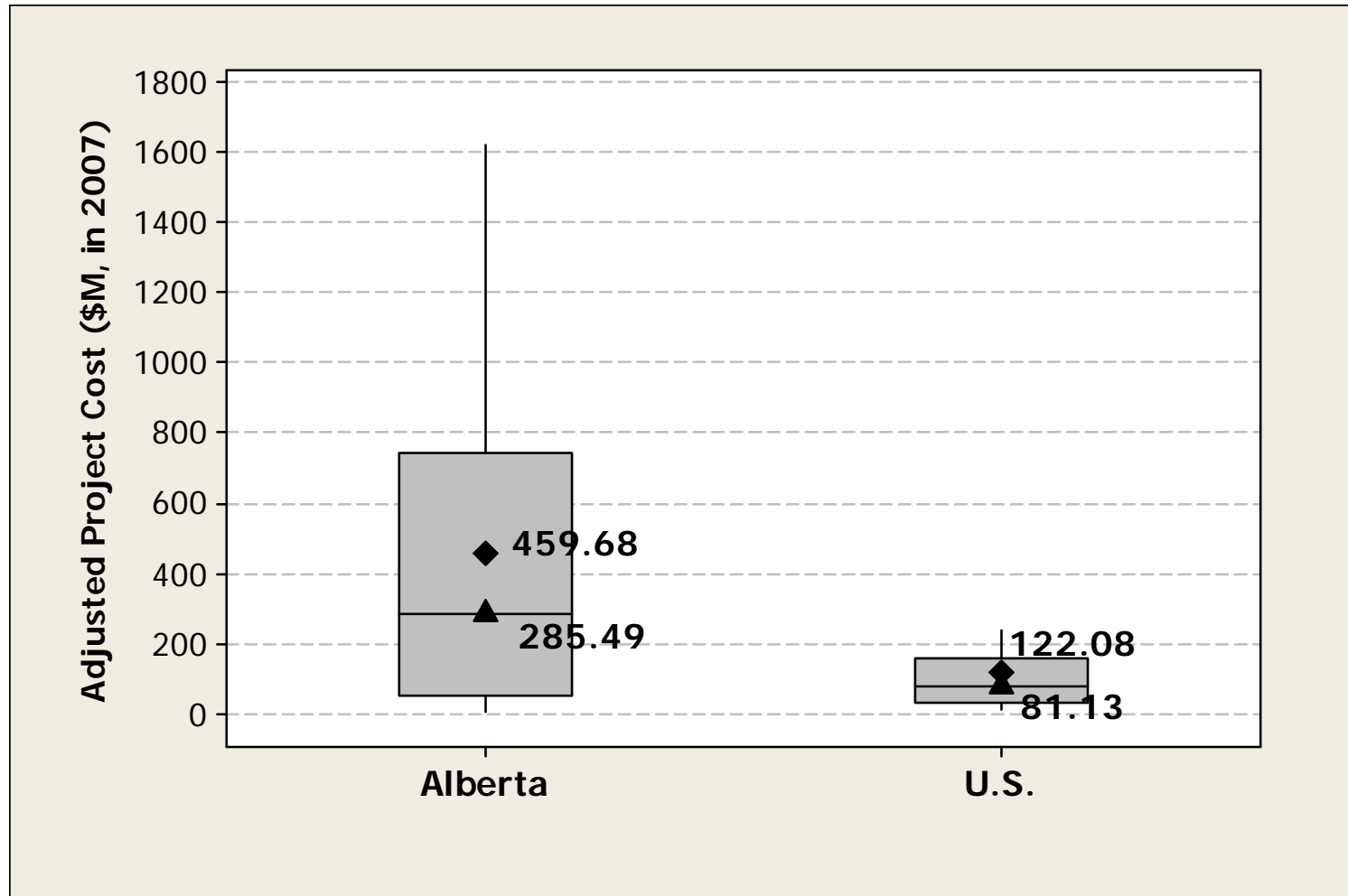
## **Comparison of Instrumentation Engineering Productivity**

Not enough data to produce results.

More projects required.

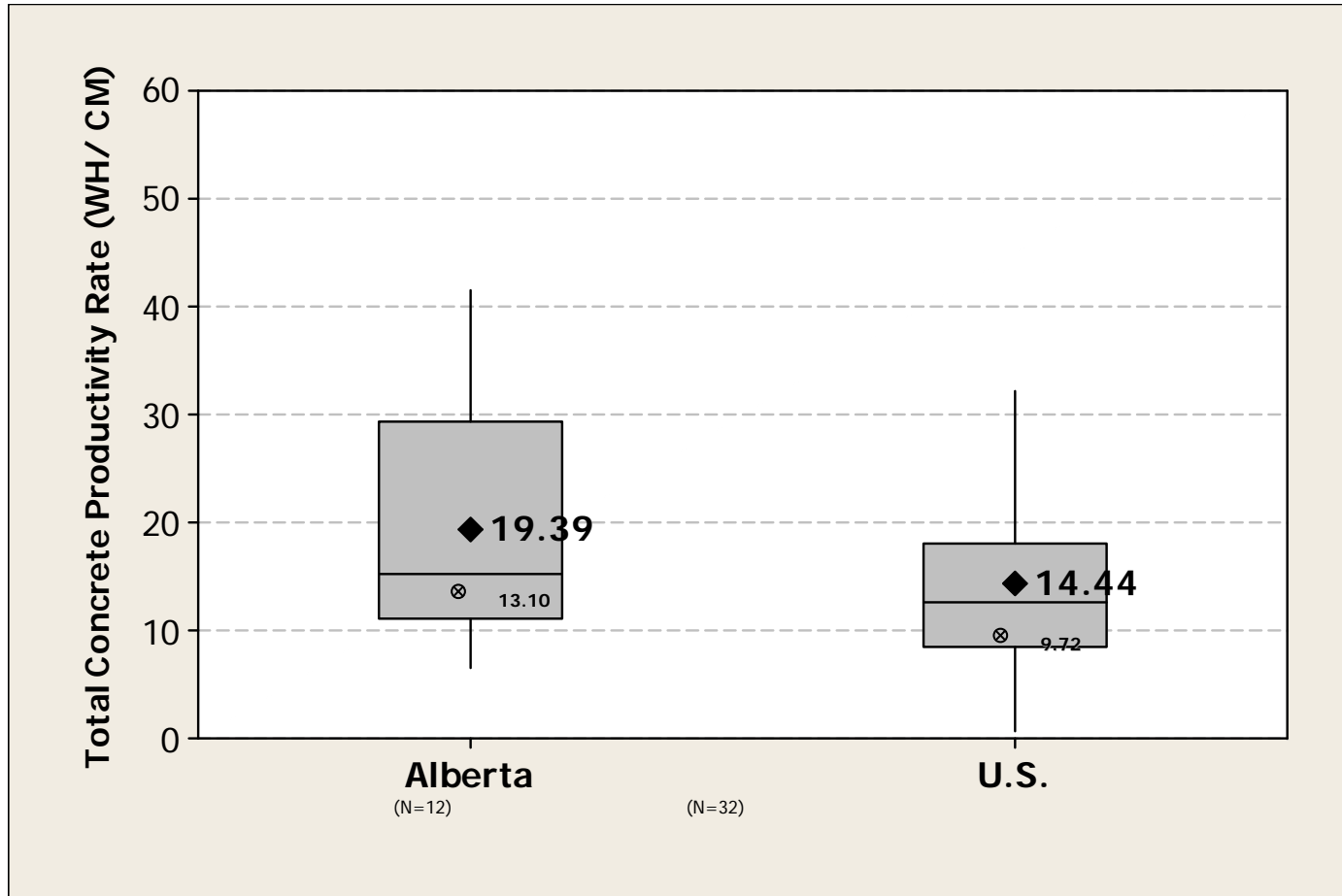
# Figure 4-25

## Comparison of Project Size (\$M CDN, in 2007) for Construction Productivity



# Figure 4-26

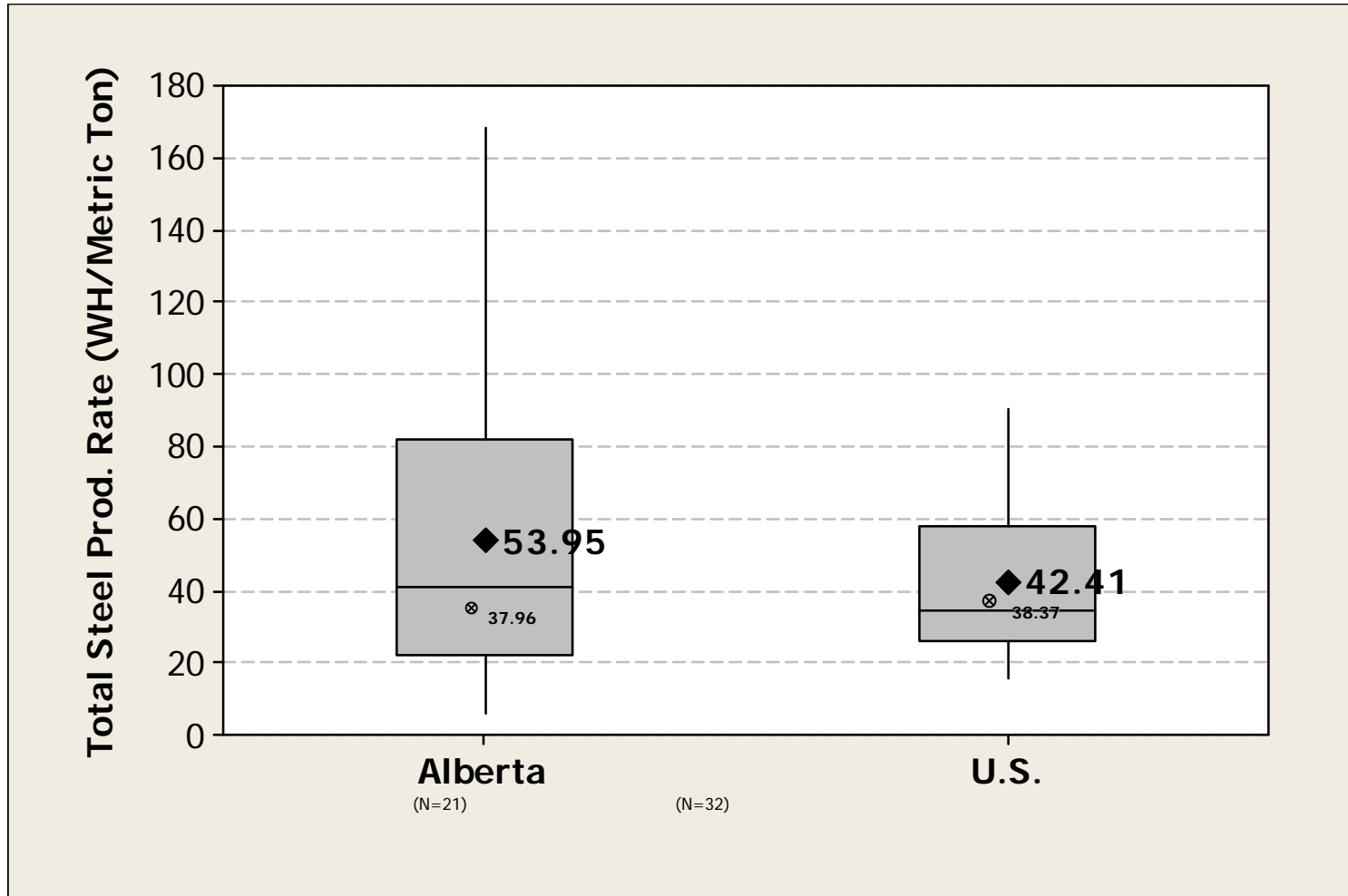
## Comparison of Total Concrete Construction Productivity (WH/ m3)





# Figure 4-27

## Comparison of Total Structural Steel Construction Productivity



# **Figure 4-XX**

## **Comparison of Total Piping Construction Productivity**

Not enough data to produce results.

More projects required.

# **Figure 4-XX**

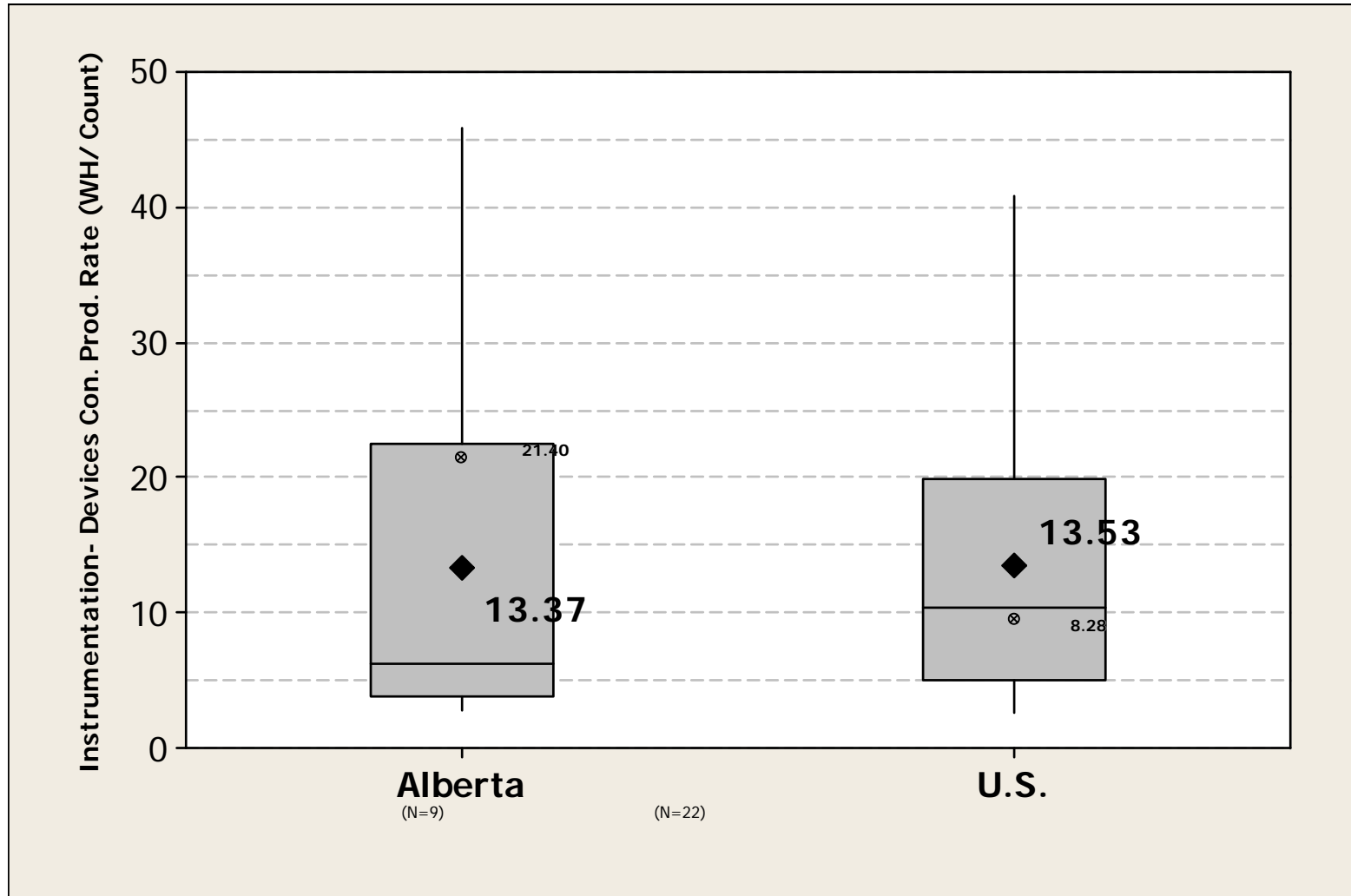
## **Comparison of Total Electrical Construction Productivity**

Not enough data to produce results.

More projects required.

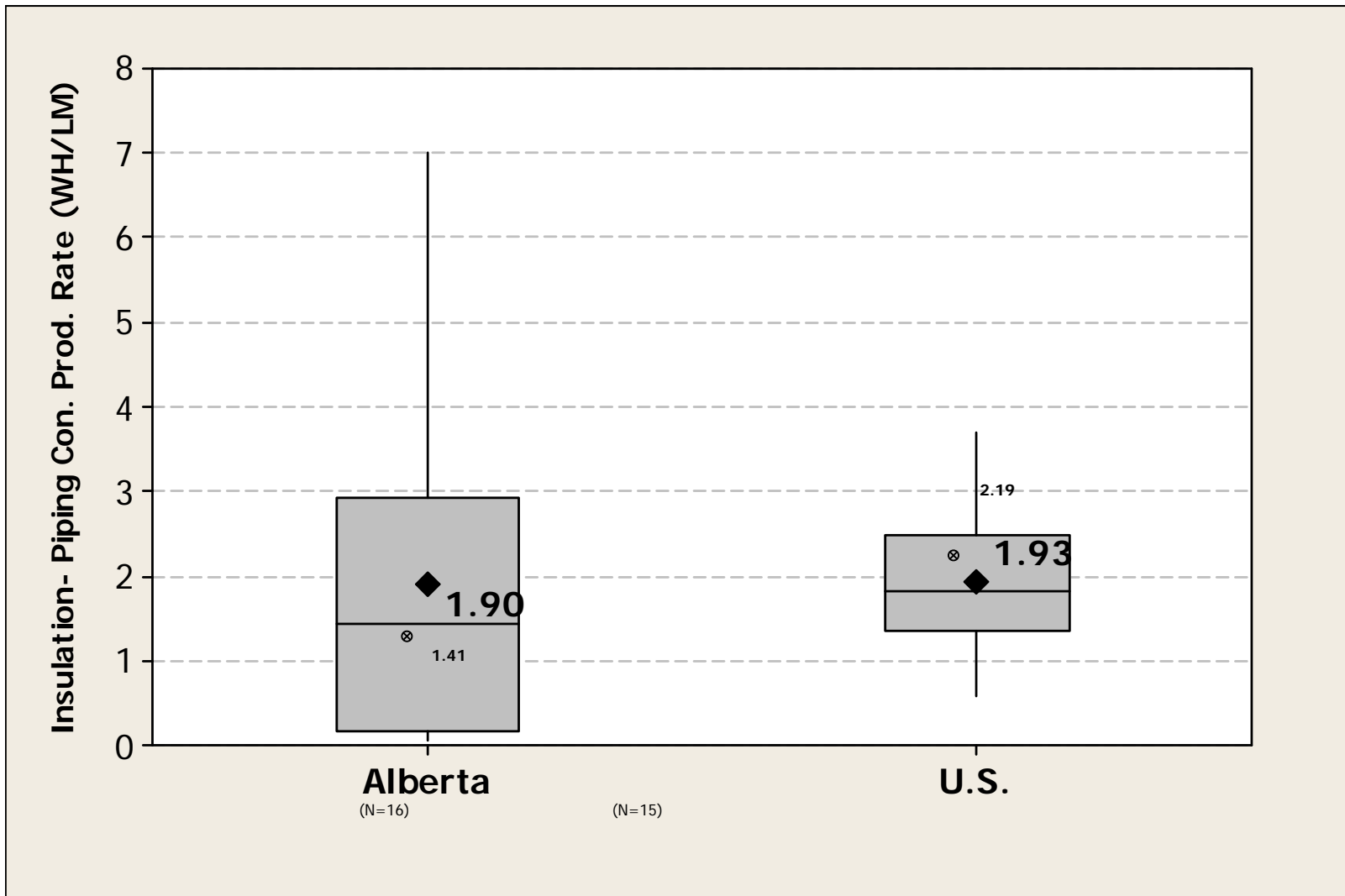
# Figure 4-28

## Instrumentation – Devices Construction Productivity



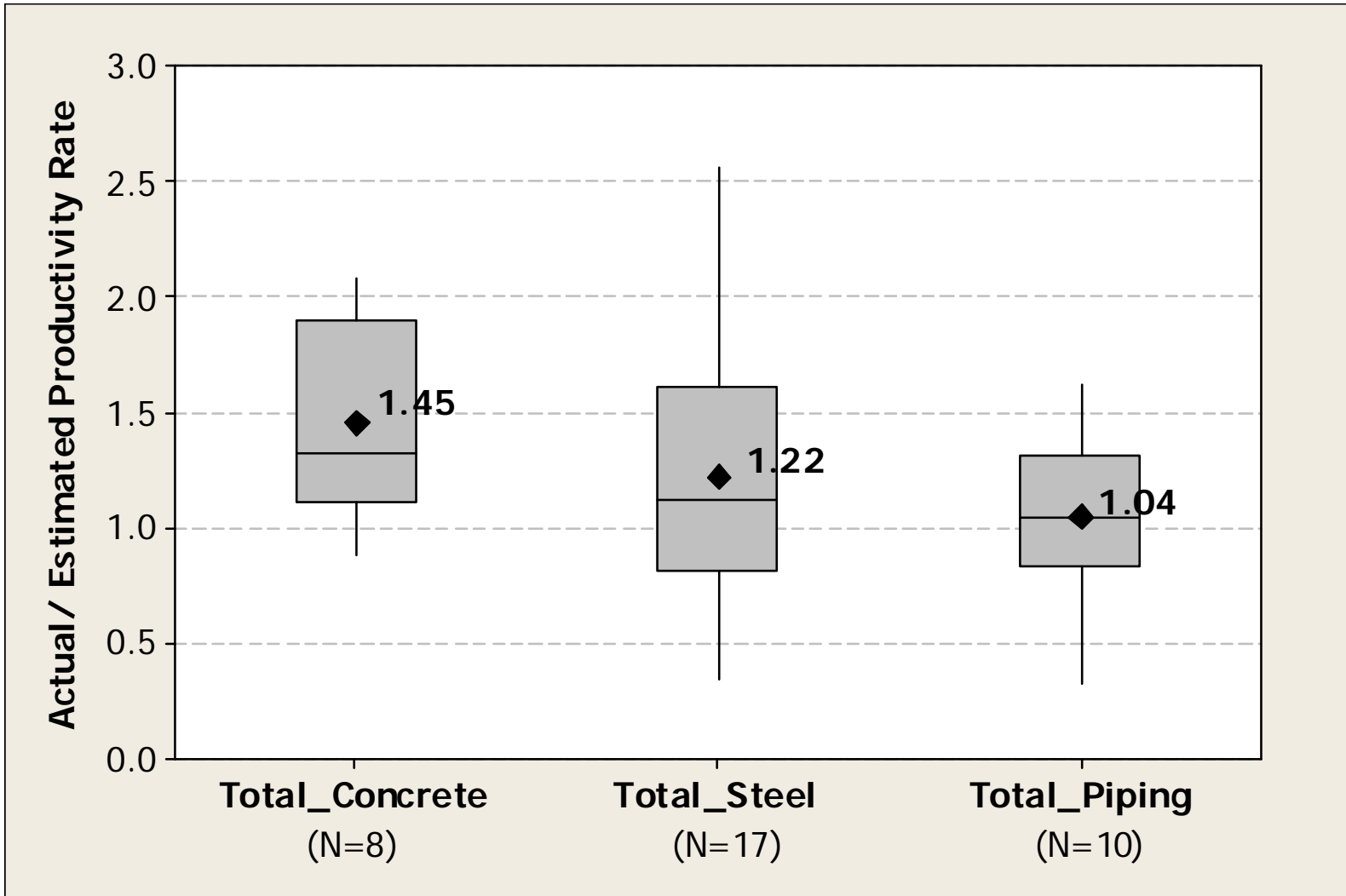
# Figure 4-29

## Comparison of Insulation- Piping Construction Productivity (WH/ Linear Meter)

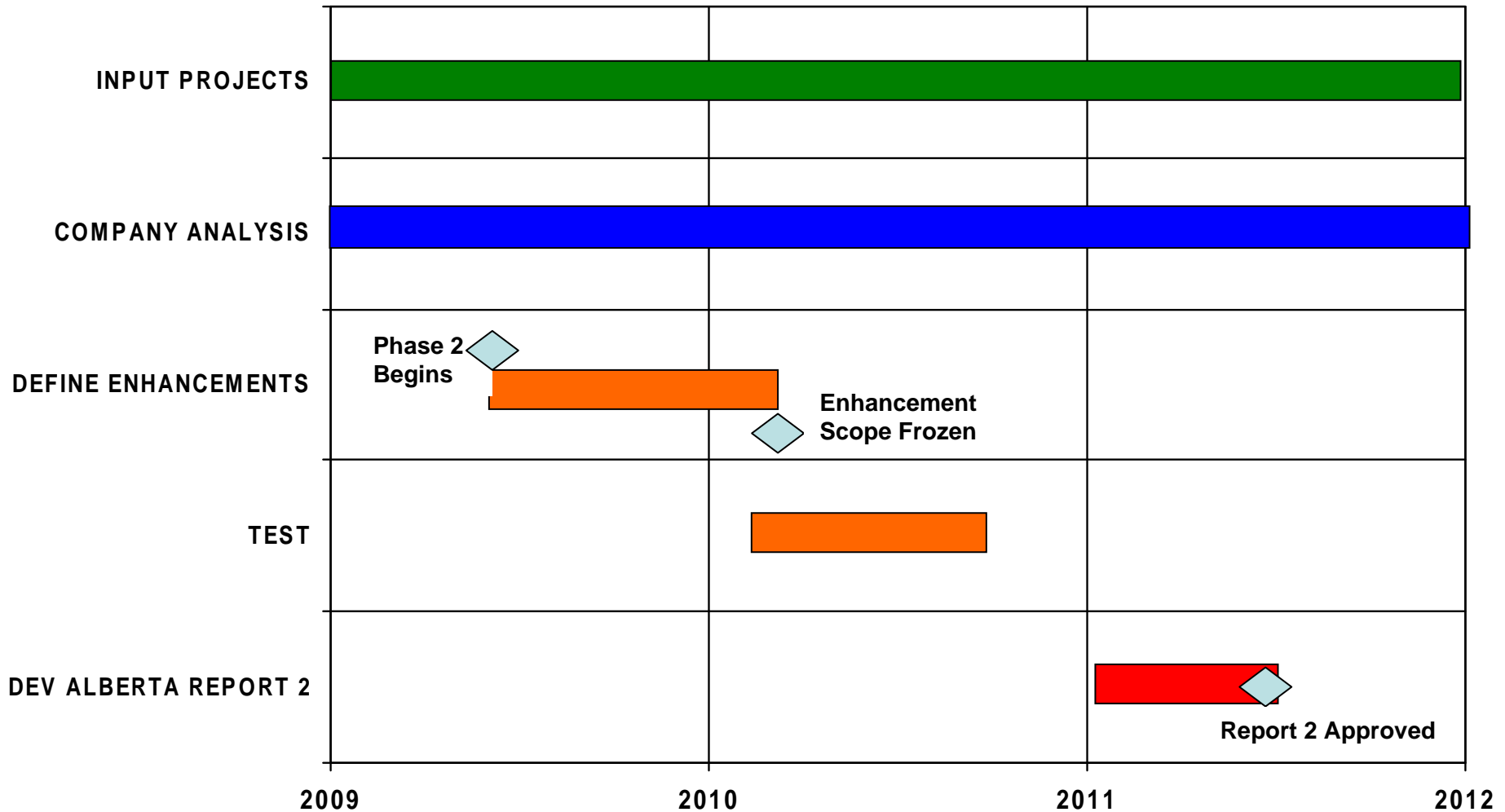


# Figure 4-31

## Actual / Estimated Construction Productivity Rate by Work Discipline



# Phase II - DRAFT Simplified Schedule



# Project Status – 2 year look ahead

	WIP Projects on Hold/Dead	Valid WIP Projects	New Projects
OWNER	11	60	10
CONTRACTOR	7	17	2
TOTAL	18 of 41	77	12



# Thank-You

Not enough data to produce results.

More projects required.