**V374: Intermediate Public Finance and Budgeting**

Fall 2023

Project #1:Cost Estimation

You are a data analyst for Indiana University, and you have been asked to estimate the annual cost of expanding University childcare services. The Bloomington campus operates three childcare centers. You have been appointed the data analyst for one of the centers. You will estimate annual costs of expanding services at your assigned center for the period 2023 to 2026.

**Data:**

Annual data for your assigned childcare center are posted on Canvas. You can find your assigned childcare center in the Excel file labeled “**Roster**” and the annual cost data in the Excel file labeled “**Childcare**”. You are expected to estimate the cost of increasing number of kids served by your center by 15% or 20% or 25%. Below are some additional data you will need for your calculations.

Table 1: Number of children currently served by each childcare center

|  |  |  |  |
| --- | --- | --- | --- |
| Age Group | Judy’s | Mama’s | Uptown |
| Infant | - | 18 | 8 |
| Toddler | - | 10 | 20 |
| 2 year old | - | 12 | 20 |
| 3 – 5 year old | 60 | - | 60 |

Notes: Judy’s childcare center only admits pre-schoolers (i.e., 3–5-year-olds)

Table 2: State regulations - Space requirement and teacher ratios

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age of the Youngest Child in Group | Maximum Number of Children per Caregiver | Maximum Number of Children per classroom | Minimum classroom Space requirement per child (in square feet) | Minimum playground space per child (in square feet) |
| Infant | 4 | 8 | 50 | 75 |
| Toddler | 5 | 10 | 35 |
| 2 year olds | 5 | 10 | 35 |
| 3-5 year olds | 10 | 20 | 35 |

Table 3: Current fee per child for each center

|  |  |  |  |
| --- | --- | --- | --- |
| Age Group | Judy’s | Mama’s | Uptown |
| Infant | - | $332 | $332 |
| Toddler | - | $313 | $313 |
| 2 yr old | - | $288 | $289 |
| 30-36 months | - |  |  |
| 3 – 5 yr old | $242 |  | $241 |

**Estimation method:**

You must use the data for your assigned childcare center to prepare your estimate using an appropriate method.

**Deliverable:**

There are two deliverables for this assignment.

1. **One-page** **writing** (at least): you can follow this framework (Introduction: 4 sentences/Content: 7 sentences/Conclusion: 3 sentences)  
   Note:  
   (1) Content: will include your estimate and a short description of your methods.   
   (2) You should make sure that any intelligent reader (or a newspaper reporter or a legislator) can replicate what you have done from that description.   
   (3) You must make clear your estimate for each **year** for the period 2023 and 2024.   
   (4) **Report your estimates using a table**.
2. **Excel workbook with your work**: you must prepare your estimate in excel and must upload your workbook.

**Grading:**

Your grade on this exercise will be in two parts.

1. **90%** will be based on the memo: the quality of the description and presentation of your estimate –
   1. Does it include enough information to facilitate replicability?
   2. Is it written in clear and transparent?
   3. Are the tables labeled correctly?
   4. Is the project formatted and presented correctly?
2. **10%** will be based on your excel workbook. You need to demonstrate basic understanding of excel; using formula, formatting cells, etc.