Adaptation of DOL Regression Model for Local Negotiations

WIOA Negotiations

- Factors to be Considered in State Negotiations
  - Characteristics of those Served (Casemix)
  - Economic Conditions
  - National Targets
  - Continuous Improvement / Return on Investment
  - Targets of Other States
- Local Factors: Casemix & Economic Conditions
- Casemix & Economic Conditions to Be Addressed Thru Statistical Model
- Statistical Models require LOTS OF DATA to create
  - Historic results under the new Measures
  - Participant Casemix of those included in results
  - Economic Conditions relevant to the results

WIA vs WIOA

- In some ways, WIA & WIOA are very similar regarding Accountability:
  - Measures for Employment & Earnings & Credentials
- Similar is not the Same
  - Entered Employment not the same as Employed Q2
    - Unemployed at Date of Participation vs All Exiters
    - Q1 vs Q2
  - Retention not the same as Employed Q4
    - Q2-3 only mattered if Employed Q1
- Periods of Participation Extended by Self-Service
- What was purpose of capturing Demographics under WIA? Did Boards really understand it?
- Why does this matter? MODELING

Model Development & Strengths

- DOL had 10+ years of Title I Adult/DW/Youth Data
- Able to develop usable models except for
  - Median Earnings Q2 Post-Exit (Youth)
  - Measurable Skills Gains (Adult & DW & Youth)
- Great Statistical Technique
  - Tons of Data Elements that went WAY beyond model attempts under WIA
  - Recognition that Regression Models estimate “Average Effects” but that there are differences they can’t account for
    - Drop in Movie Ticket Sales hurts California more than Texas
    - Rise in Oil Prices helps North Dakota more than Maine
    - ESL has lesser impact in Texas than Michigan
- Fixed Effects Model provided 2 predictions
  - Target (what an “Average State” should achieve)
  - Predicted (what “Your State” should achieve)
Model Development & Weaknesses

- Great Statistical Technique but some limitations
  - Credential Definition Changed after Models were Developed
  - Historic Data based Exit on ANY Qualifying Service
    - if Self-Service extended Exit into next Quarter, WIASRD didn’t focus on the “WIOA” quarters
    - Texas data showed upwards of 8-9% of Title I exits occurred 1-4 quarters LATER than exits using WIOA standards
  - Supplemental Records usually gathered “when it counted”
  - Maybe Participant Characteristics were not fully captured?
  - Models included FEDES which is no longer available

- Data Limitations introduce Noise
- Fixed Effects Modeling hard for 50 States, PR & DC
  - Order of Magnitude Harder for nearly 600 WIBs
    - Tourism much bigger impact on Orlando FL than El Paso TX
    - Urban-Rural Characteristics not accounted for

Original Models vs Actual Results

- 11 Measures to Negotiate
  - DOL Models were within 10% of Texas’ Actual Results
    - 10 out of 11 using the “Targets” (missed Adult Credential)
    - 8 out of 11 using the “Predictions” (Missed Adult & DW Credential & Adult Earnings)
  - DOL Models not as consistent at Board Level
    - “Targets” within 10% of Actuals 23.4% of the time
      - 72 of 308 Instances (28 Boards x 11 Measures)
    - “Predictions” within 10% of Actuals 19.5% of the time
      - 60 of 308 Instances
    - In some instances model went >100% and <0%
      - Lack of Fixed Effects, Quality of Local Data, “Small N” Problem

- What does this mean for Local Negotiations?
  - Aren’t they supposed to use these models?

Key Local Negotiation Provisions

- WIOA Statute §116(c)(3) on Local Negotiations:
  - Make adjustments for the expected economic conditions and the expected characteristics of participants to be served in the local area, using the statistical adjustment model developed pursuant to subsection (b)(3)(A)(viii)

- WIOA Regulation §677.210 on Local Negotiations:
  a) The objective statistical adjustment model . . . must be . . . used in order to reach agreement on local negotiated levels of performance for the upcoming program year
  b) The negotiations will include a discussion of circumstances not accounted for in the model and will take into account the extent to which the levels promote continuous improvement

- TEGL 9-17 says the Statistical Model is a Tool to be used in Negotiations and that States are to USE the model and ADAPT it to OUR Needs at the local level

In Summary

- Models developed based on Historic Data that was not perfectly aligned to purpose
  - Some Differences in Exit Quarters
  - Different Incentives for Documenting Characteristics & Employment
  - Credential Models Developed under proposed measure definition, not the final definition

- Models are not optimized for each Board
- Models may not account for all relevant factors
- Models are Tools and Must be Adapted to OUR Needs
What Are Our Needs?

- Guide Negotiations? Yes, but What Else?
- Teach Boards that Creaming Doesn’t Help
  - Serve Highly Educated People with lots of Work History & Relevant Skills? Target Goes Up
  - Serve Less Educated People with many “Other Characteristics” that May Negatively Impact Employment? Target Goes Down
- Answer the Arguments
  - “We have more Hard to Serve participants”
  - “We’re serving more Hard to Serve Participants Now”
- Reinforce Performance Periods (lag)
  - Make sure their arguments line up with the measurement periods

What Did TWC Do?

- Built Model Tool w/ prior 6 Years & last 4 Qtrs
  - Tool Uses all of DOL’s Elements & Weighting
  - Each DOL Model Element filled out for each Board
    - Demographics / Education
    - Prior Employment / Earnings
    - Other Characteristics Impacting Employment
    - Service Levels
    - Industry Employment
    - Unemployment Rate
- Year by Year Comparison
  - Actual Performance (Numerators & Denominators & Rates)
  - Model’s Predictions
  - Predictions based on Expected Change
  - Casemix & Economic Trends
  - IMPACT OF CHANGE IN EACH FACTOR

Local Negotiation Regression Tool

- Excel Workbook – Nothing too Tricky
- One Tab for each of the 11 Models / Measures
  - Transparent – All Factors, All Predictions, All Formulae
  - Measure / Model Tabs are great for training
- One Board Negotiation Tab
  - Shows all 11 measures
  - Includes TWC’s proposed target
  - Provides space for Board Proposals / Justifications
- TWC’s Proposed Targets
  - Lean more on Predicted Change

Mins & Maxes & Cont. Improvement

- TWC uses Mins & Maxes in target setting as part of Continuous Improvement Strategy
- Maxes
  - Ensure reward for greatness isn’t “Great! Now do More”
  - Provide Space where Strong to focus on where Weak
    - Say Board is 93% on Adult Employed Q2 but 65% on DW; Where should they focus?
    - Law of Diminishing Returns
  - Usually Set at 7th best performance
    - Why 7th? 28 Boards so 7th best is Top Quartile
- Mins
  - Promote continuous improvement by setting a Floor
  - Usually set at 7th lowest performance
    - Why 7th? 28 Boards so 7th worst is Bottom Quartile
- Incentive Awards
**Future Plans**

- Develop Local Fixed Effects
  - Need to differentiate between Legitimate Differences & Bad Performers
- Correction Factor for Median Earnings
  - Historic Performance based on those Employed in Q2
  - Negotiations based on Total Casemix
  - Not all Exitters Employed in Q2 so Total Casemix less useful in negotiating future outcomes
  - Example
    - Total Exitters = 100 BAs, 20 Grad School, 50 HS grads, 70 dropouts
    - Employed Q2 = 99 BAs, 20 Grad School, 25 HS grads, 20 dropouts
- Incorporation of the Statistical Models into TWC’s Business Insight Generator
  - “Real Time” performance assessments

**Adult Employed Q2 Page 1: Overview**

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<thead>
<tr>
<th>Program Year</th>
<th>PY12</th>
<th>PY13</th>
<th>PY14</th>
<th>PY15</th>
<th>PY16</th>
<th>PY17</th>
<th>Last 4Qtrs</th>
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<td>DOL Target (Average State)</td>
<td>74.71%</td>
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<td>81.58%</td>
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<td>81.59%</td>
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**Adult Employed Q2 Page 1: Casemix**

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**Adult Employed Q2 Page 2: Impact of Change in Casemix**

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<th>PY16</th>
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