Occupational Projections

Beyond the Basics

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Lecia Parks Langston
Senior Economist
Utah Department of Workforce Services
Use both to make the best projections

- **Science**
  - Methodology
  - Statistical procedures
  - Projection Suite

- **Art**
  - Analyzing
  - Local area knowledge
  - Recognizing problems
The “Art” of being an analyst

• Requires digging into the data
• Often there’s no “sure” answer
• May require taking a risk
• Willing to question the data
• Checking it out in the real world
Facilitating the discussion...
The Importance of Reviewing Staffing Patterns

- The Occupational Statistics Program is a large and wonderful survey.
- However, it is not perfect—particularly for small states and/or substate areas.
- Imputed data can be a particular problem.
The Importance of Reviewing Staffing Patterns

- Using national or other-area staffing patterns can be problematic.
- Self-employment
The Importance of Reviewing Staffing Patterns

• Saving yourself from personal embarrassment.
Check to make the “Industry Total” and the Staffing Pattern are roughly equal

<table>
<thead>
<tr>
<th>Industry Total</th>
<th>Staffing pattern total does not equal industry total</th>
</tr>
</thead>
<tbody>
<tr>
<td>317.00</td>
<td>221</td>
</tr>
</tbody>
</table>

Why don’t they match???
Reviewing and Editing Staffing Patterns

<table>
<thead>
<tr>
<th>SOC</th>
<th>Title</th>
<th>Survey Level</th>
<th>Staffing Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-101</td>
<td>Chief Executives</td>
<td>8.81</td>
<td>0.01136716</td>
</tr>
<tr>
<td>11-102</td>
<td>General and Operations Managers</td>
<td>15.16</td>
<td>0.01956028</td>
</tr>
<tr>
<td>11-203</td>
<td>Marketing Managers</td>
<td>1.26</td>
<td>0.00162572</td>
</tr>
<tr>
<td>11-202</td>
<td>Sales Managers</td>
<td>1.26</td>
<td>0.00162572</td>
</tr>
<tr>
<td>11-301</td>
<td>Administrative Services Managers</td>
<td>1.26</td>
<td>0.00162572</td>
</tr>
<tr>
<td>11-301</td>
<td>Financial Managers</td>
<td>3.49</td>
<td>0.00450299</td>
</tr>
<tr>
<td>11-302</td>
<td>Construction Managers</td>
<td>20.81</td>
<td>0.00804303</td>
</tr>
<tr>
<td>13-102</td>
<td>Purchasing Agents, Except Wholesale, Retail, and Farm Products</td>
<td>12.16</td>
<td>0.000162572</td>
</tr>
<tr>
<td>13-105</td>
<td>Cost Estimators</td>
<td>12.16</td>
<td>0.000162572</td>
</tr>
<tr>
<td>13-108</td>
<td>Human Resources: Training, and Labor Relations Specialists, All Office</td>
<td>12.16</td>
<td>0.000162572</td>
</tr>
</tbody>
</table>

Click to sort by field

Right-click to edit levels
Review each industry

• Look for:
  ▫ Occupations with a high concentration that doesn’t make sense. For example, home health aides in Software Development.
  ▫ Even a few strange occupations may signal that something has gone awry in the staffing pattern.
  ▫ Imputed data
  ▫ NAICS or SOC miscodes
  ▫ Location issues
  ▫ Missing patterns
  ▫ Comparison to other areas
Make friends with LEWIS

- Local Employment and Wage Information System
LEWIS

• Is the primary input for staffing patterns.

• Also, includes the detailed information that can help you analyze the validity of your staffing pattern data and improve your final projections.
If something seems wrong. . .

- Is it large enough to worry about?
- Consult with your OES team. . . Or . . .
- Check it out in LEWIS yourself.
- http://www.lewissupport.com/
Select the appropriate NAICS level from the estimates directory

1. Double Click appropriate NAICS level
2. Select “Results” Tab
3. Select Industry from dropdown

4. Double click on problem occupation
5. Select Schedules tab
6. Double click schedule
7. Select Occupational Detail tab
| SOC Code  | Title                             | Level | A | B | C | D | E | F | G | H | I | J | K | L |
|----------|----------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-1011  | Chief Executives                | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 11-2022  | Sales Managers                  | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 13-1051  | Cost Estimators                 | 12    |   |   |   |   |   |   |   |   |   |   |   |   |
| 13-1161  | Market Research Analysts...     | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 13-2011  | Accountants and Auditors        | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 17-3011  | Architectural and Civil Draft...| 12    |   |   |   |   |   |   |   |   |   |   |   |   |
| 27-1025  | Interior Designers              | 24    |   |   |   |   |   |   |   |   |   |   |   |   |
| 37-2011  | Janitors and Cleaners, Excell...| 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 39-1021  | First-Line Supervisors of Per...| 12    |   |   |   |   |   |   |   |   |   |   |   |   |
| 39-9031  | Fitness Trainers and Aerobi...   | 23    |   |   |   |   |   |   |   |   |   |   |   |   |
| 41-1011  | First-Line Supervisors of Re...  | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 41-2031  | Retail Salespersons             | 11    |   |   |   |   |   |   |   |   |   |   |   |   |
| 41-2031  | Retail Salespersons             | 11    | 1  | 3 | 1 |   |   |   |   |   |   |   |   |   |

Not the sum of the detail
The short list. . .

- Select appropriate NAICS estimate
- “Results” tab
- Select industry
- Select occupation
- “Schedules” tab
- Click on desired “schedule” number
- Check “Status”
- “Occupational Detail” tab
Common Staffing Pattern Problems

- Imputed data
- NAICS miscodes (you might want to share with your BLS team)
  - Leave it or go back to industry projections
- Occupational miscodes
  - Check online employment postings.
- Survey schedule is heavily weighted and doesn’t reflect the overall industry.
  - Back out employment using weights
Common Staffing Pattern Problems

- Major employer missing from staffing pattern or has a “bad” pattern.
  - Can use an old staffing pattern.
- Bad location codes or all worksite employment reported for just one site.
- National staffing patterns not reflective of your area.
- Self-employment estimates
  - Review for reasonableness
  - Using PUMS data from the American Community Survey can provide insights.
Common “Problem” Occupations

- Teachers and Instructional Coordinators
  - Total may be right but distribution between kindergarten, elementary, middle and secondary may be off.
  - Your state department of education may have information that helps.
Common “Problem” Occupations

• Doctors/Dentists
  ▫ Distribution of types of doctors is especially problematic in small areas
    • Check online directories.

• Clergy/religious workers
  ▫ National staffing pattern may not reflect your area.

• Gaming occupations when you don’t have gambling in your state.
When to stop?

- Will it make a difference to overall projections?
- Will it be suppressed anyway?
- Am I totally micro-managing?

know when to stop
Other stuff... 

- Ratios, Factors, Rates and Assignments
  - Can be changed/edited.
  - Will affect all areas!
  - Should have a valid economic reason
Why might you change... Change Factors?
Why might you change... Self-employed Ratios?
Why might you change... Replacements or Separation/Exit Rates?
Why might you change... Occupational Education/Training Assignments?
Document, document, document

- Document the changes you make.
- There is a notebook function in the Projections Suite.
Make them the best . . .
Links. . .

- [jobs.utah.gov/wi](jobs.utah.gov/wi)
- Click “Occupational” under “Economic Data” Heading
Occupational Data
Search Occupations

Accountants and Auditors

Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data. Excludes "Tax Examiners and Collectors, and Revenue Agents" (13-2081).

Occupation Outlook

This occupation is expected to experience much faster than average employment growth with a high volume of annual job openings. Business expansion, as opposed to the need for replacements, will provide the majority of job openings in the coming decade. Accountants and auditors who have earned professional recognition, especially as Certified Public Accountants (CPAs), should have the best prospects. Job applicants who have a master's degree in accounting or a master's degree in business with a concentration in accounting also may have an advantage. Strong demand for accountants may lead to good prospects for entry-level positions. However, competition will be stronger for jobs with the most prestigious accounting and business firms.

Wages

<table>
<thead>
<tr>
<th>Area Name</th>
<th>Hourly Inexperienced</th>
<th>Hourly Median</th>
<th>Annual Inexperienced</th>
<th>Annual Median</th>
<th>On the job Training</th>
<th>Education</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>$18.49</td>
<td>$27.66</td>
<td>$38,470</td>
<td>$57,520</td>
<td>None</td>
<td>Bachelor's</td>
<td>None</td>
</tr>
<tr>
<td>Central Utah</td>
<td>$18.62</td>
<td>$24.78</td>
<td>$38,730</td>
<td>$51,540</td>
<td>None</td>
<td>Bachelor's</td>
<td>None</td>
</tr>
</tbody>
</table>
Search Occupations Wages

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Inexperience Median</th>
<th>Projected Annual Openings</th>
<th>Star Rating</th>
<th>Education</th>
<th>License</th>
<th>Current Statewide DWS Job Orders</th>
<th>Industries and Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Administrators, Postsecondary Institutions</td>
<td>$12.00</td>
<td>$16.66</td>
<td>18</td>
<td>Bachelor's degree</td>
<td>Yes</td>
<td>8</td>
<td>View Data</td>
</tr>
<tr>
<td>Meeting, Convention, and Event Planning Services</td>
<td>$11.81</td>
<td>$16.96</td>
<td>41</td>
<td>Bachelor's degree</td>
<td></td>
<td>10</td>
<td>View Data</td>
</tr>
<tr>
<td>Compensation, Benefits, and Related Services</td>
<td>$18.87</td>
<td>$23.72</td>
<td>19</td>
<td>Bachelor's degree</td>
<td></td>
<td>45</td>
<td>View Data</td>
</tr>
<tr>
<td>Training and Development Professionals</td>
<td>$15.86</td>
<td>$22.91</td>
<td>228</td>
<td>Bachelor's degree</td>
<td></td>
<td>6</td>
<td>View Data</td>
</tr>
<tr>
<td>Appraisers and Assessors, Real Estate</td>
<td>$15.77</td>
<td>$22.08</td>
<td>55</td>
<td>Bachelor's degree</td>
<td>Yes</td>
<td>6</td>
<td>View Data</td>
</tr>
<tr>
<td>Credit Analysts</td>
<td>$15.03</td>
<td>$23.54</td>
<td>66</td>
<td>Bachelor's degree</td>
<td></td>
<td>11</td>
<td>View Data</td>
</tr>
<tr>
<td>Credit Counselors</td>
<td>$11.87</td>
<td>$16.41</td>
<td>39</td>
<td>Bachelor's degree</td>
<td></td>
<td></td>
<td>View Data</td>
</tr>
<tr>
<td>Tax Examiners and Collectors</td>
<td>$18.60</td>
<td>$23.01</td>
<td>88</td>
<td>Bachelor's degree</td>
<td></td>
<td></td>
<td>View Data</td>
</tr>
<tr>
<td>Food Scientists and Technologists</td>
<td>$16.37</td>
<td>$23.23</td>
<td>5</td>
<td>Bachelor's degree</td>
<td></td>
<td></td>
<td>View Data</td>
</tr>
</tbody>
</table>
Search Transferable Skills

### Related Occupations

Please choose a specific occupation by selecting one of the options below.

**Enter Keyword:** [ ]  Go  Select by Occupation group title

### Related Occupations Report

**Administrative Services Managers (113011)**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Statewide Median Wage</th>
<th>Average Annual Growth Rate</th>
<th>Average Annual Openings</th>
<th>Star Ratings</th>
<th>Training Level</th>
<th>Education</th>
<th>License Required</th>
<th>Job Orders Currently in DWS System</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Services Managers</td>
<td>$35.37</td>
<td>2.59</td>
<td>90</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>N/A</td>
<td>59</td>
<td>View data</td>
</tr>
<tr>
<td>Budget Analysts</td>
<td>$34.96</td>
<td>2.16</td>
<td>20</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>N/A</td>
<td>4</td>
<td>View data</td>
</tr>
<tr>
<td>Financial Managers</td>
<td>$47.69</td>
<td>2.75</td>
<td>230</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>N/A</td>
<td>245</td>
<td>View data</td>
</tr>
<tr>
<td>First-Line Supervisors of Office and Administrative Support Workers</td>
<td>$23.28</td>
<td>6.40</td>
<td>640</td>
<td>★★★★★</td>
<td>None</td>
<td>Diploma or equivalent</td>
<td>N/A</td>
<td>182</td>
<td>View data</td>
</tr>
<tr>
<td>Human Resources Managers</td>
<td>$44.66</td>
<td>3.2</td>
<td>60</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>N/A</td>
<td>61</td>
<td>View data</td>
</tr>
<tr>
<td>Management Analysts</td>
<td>$34.18</td>
<td>4.33</td>
<td>380</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>N/A</td>
<td>139</td>
<td>View data</td>
</tr>
<tr>
<td>Medical and Health Services Managers</td>
<td>$44.15</td>
<td>3.16</td>
<td>150</td>
<td>★★★★★</td>
<td>None</td>
<td>Bachelor's degree</td>
<td>Yes</td>
<td>118</td>
<td>View data</td>
</tr>
</tbody>
</table>