

# **An LSGL Diagnosis and Classification of Deschutes County Employment Growth by Major Industry: 2002-2015**

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## Introduction: Who's on First?

However they are phrased, the first round of questions that inevitably arise when the economic performance of the Deschutes County economy is discussed are:

- How have Deschutes County's major industry sectors grown overall, both of late...and longer term?
- What Deschutes County industries have most consistently **lead** in this growth?
- What Deschutes County industries have most generally and persistently **lagged**?
- Are there some Deschutes County industry sectors that have recently **gained** by posting growth above par in contrast to their more general subpar performance in the past?
- What are the industry sectors that have more generally outperformed the overall industry average in the past, but that have more recently **slipped**?

In this *Oregon Regional Economic Analysis Project* module, we apply the LSGL framework of analysis to guide your investigation and endeavor to address these questions about the Deschutes County economy. LSGL analysis is a particularly handy and versatile vehicle for calibrating, classifying, illustrating and diagnosing the short vs. long-term growth and performance of the portfolio of individual industries that comprise, contribute to, and detract from, the overall average growth of the employment in Deschutes County.

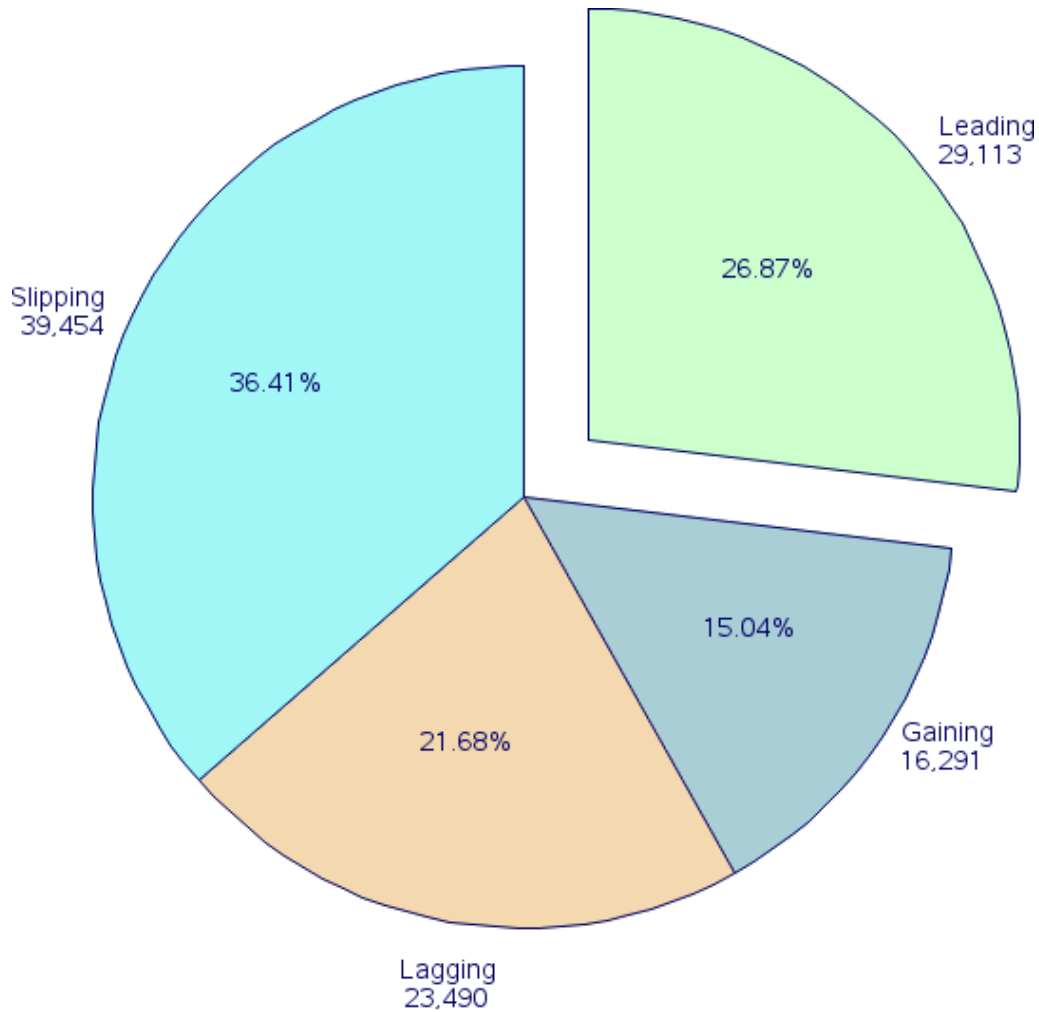
### About LSGL Analysis

"LSGL Analysis" is the moniker introduced on this *Oregon Regional Economic Analysis Project* website to characterize the technique adapted and borrowed from one that appears in the weekend finance sections of the popular press. In the press, for example, one rendition of this approach compares and classifies the market performance of the 30 stocks contained within the Dow over the past week, in contrast to their performance over the past month. The Dow's overall respective averages are the two key points of reference for judging the performance of the 30 individual securities comprising the Dow as *Leading*, *Slipping*, *Gaining* or *Lagging*.

In like fashion, in this module we compare, characterize and classify the employment growth of the 24 principal industry sectors for which the employment data are reported for Deschutes County over the year 2015 (**5.65%**) in contrast with their average annual growth over the longer-term period of 2002-2015 (**2.64%**). Within the context of this module, Deschutes County's total employment two growth averages over the respective time periods are correspondingly the two key relative points of reference for calibrating and classifying the employment growth of the 24 major industry sectors as *Leading*, *Slipping*, *Gaining*, or *Lagging*. Further explanation and illustration follows.

## Deschutes County Employment Industry Shares in 2015

Leading, Slipping, Gaining, and Lagging Industries



Source: Oregon REAPProject.org  
Data: Regional Income Division, BEA (11-17-2016)

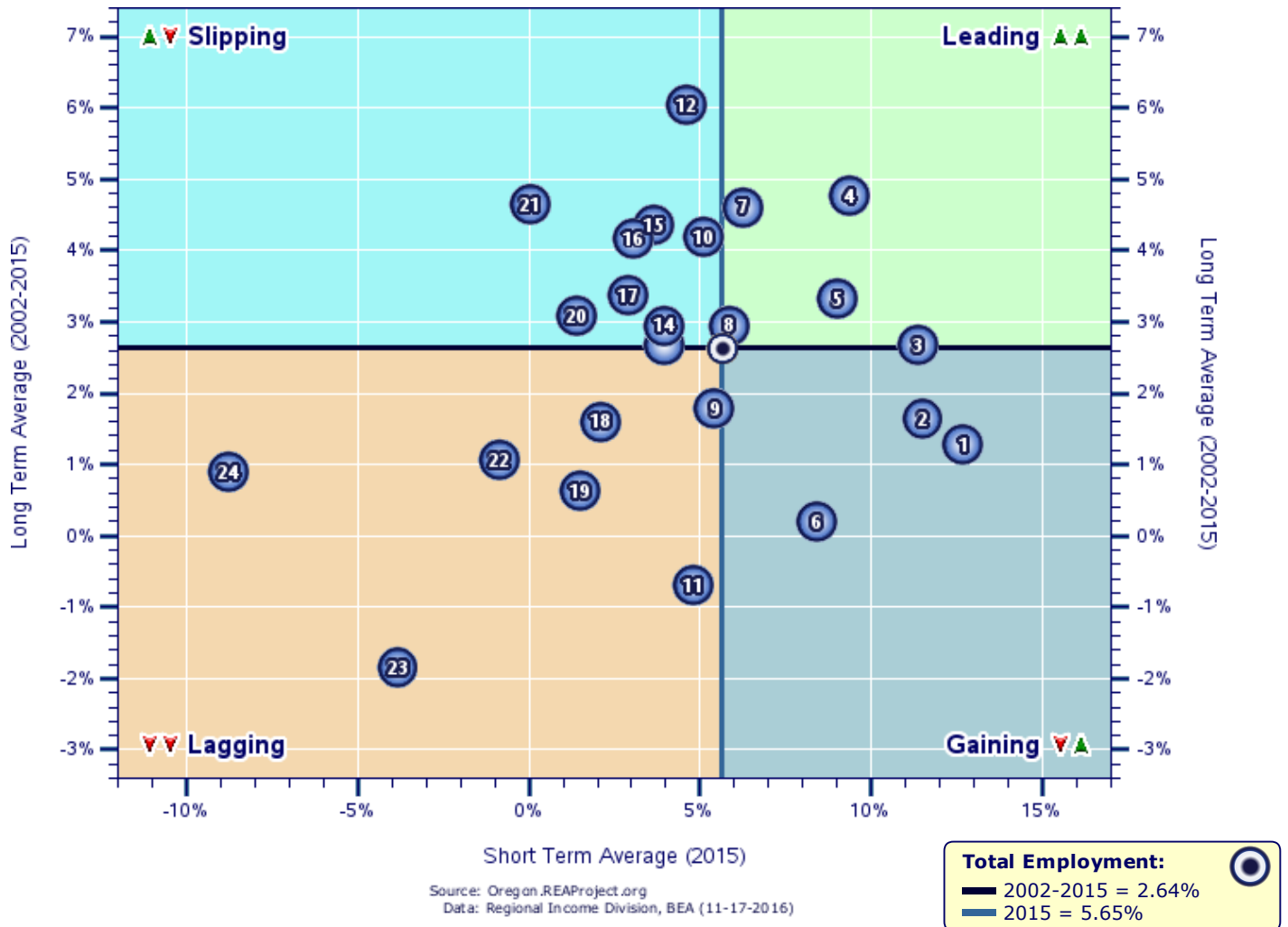
In summary and in combination, of the total **108,348** jobs reported by the Bureau of Economic Analysis for Deschutes County in 2015:

- **5** sectors are classified as **Leading** (▲▲), accounting for **29,113** jobs and **26.87%** of the total;
- **9** sectors are documented as **Slipping** (▲▼), numbering **39,454** jobs and **36.41%** of the total;
- **3** sectors are computed as **Gaining** (▼▲), comprising **16,291** of the jobs and **15.04%** of the total;
- **7** industry sectors are designated as **Lagging** (▼▼), making up **23,490** of the jobs and **21.68%** of the total;

Note: Percent share of total figures may not add due to rounding by a factor of  $\pm 0.01\%$ .

## Employment Growth by Industry Sector

An LSGL Analysis and Portrayal: 2002-2015 and 2015



This figure displays the industries of Deschutes County as dots on a scattergram, with the vertical axis representing the average annual industry employment growth rate over the longer-term (2002-2015), and the horizontal axis representing the industry employment growth rate for the near-term (2015).

This figure sets apart those industries whose long-term industry employment (2002-2015) growth exceeded the industry-wide average of **2.64%**, by portraying them in the top two quadrants demarcated by the horizontal line positioned at **2.64%** on the vertical axis. Industries whose long-term average annual industry employment growth rate trailed the industry-wide average (**2.64%**) are distributed in the bottom two quadrants. In all, **14** industries surpassed the industry-wide average over the years 2002-2015, while **10** industries fell below.

Similarly, the two quadrants on the right of This figure demarcated by the vertical line present the positions of the **8** industries whose most recent (2015) industry employment growth rate exceeded the industry-wide average (**5.65%**). The two quadrants on the left feature those **16** industries whose industry earnings growth over 2015 trailed the industry-wide average.

Accordingly, each quadrant portrays the performance of all industries corresponding with their longer-term (2002-2015) and short-term (2015) performance relative to their respective industry-wide averages of **2.64%** over 2002-2015 and **5.65%** over 2015:

**Leading Industries**(▲▲) (top-right quadrant)...are industries whose average annual employment growth rate surpassed the industry-wide average both long-term (**2.64%**) and near-term (**5.65%**).

**Slipping Industries**(▲▼) (top-left quadrant)...are industries whose long-term average annual employment growth rate exceeded the industry-wide average (**2.64%**), but whose near-term growth has "slipped" by falling below the industry-wide average (**5.65%**).

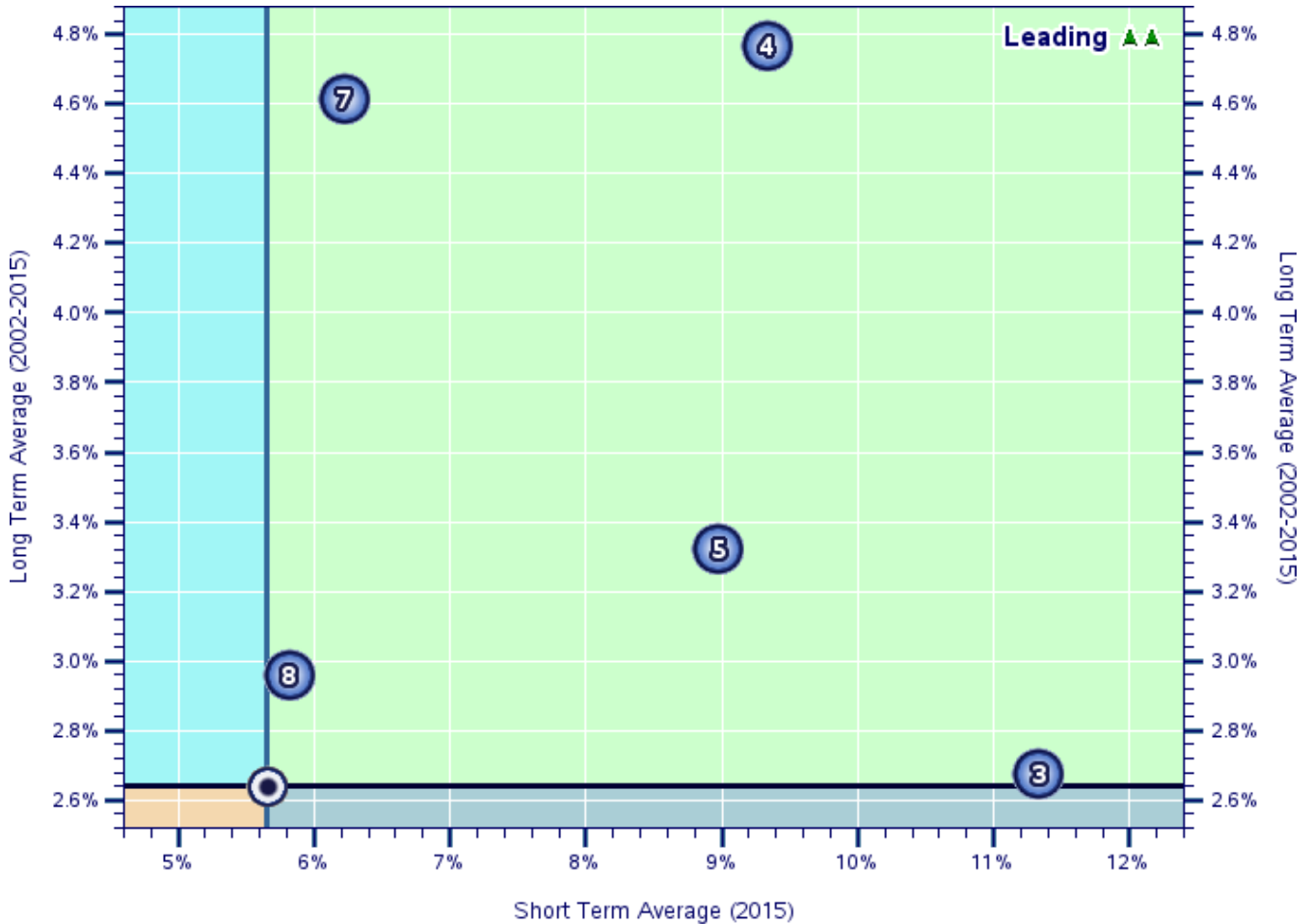
**Gaining Industries**(▼▲) (bottom-right quadrant)...are industries whose long-term average annual employment growth rate fell below the industry-wide average (**2.64%**), but whose near-term growth has "gained" by registering above the average (**5.65%**) industry-wide.

**Lagging Industries**(▼▼) (bottom-left quadrant)...are industries whose average annual employment growth rate fell under the industry-wide average both long-term (**2.64%**) and near-term (**5.65%**).

**Summary of Deschutes County's Industry Totals**

		Short Term Average		
		Below (5.65%)	Above (5.65%)	
Long Term Average	Above (2.64%)	9	5	14
	Below (2.64%)	7	3	10
		16	8	24

## Leading Industries 2015 vs. 2002-2015 Averages



Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

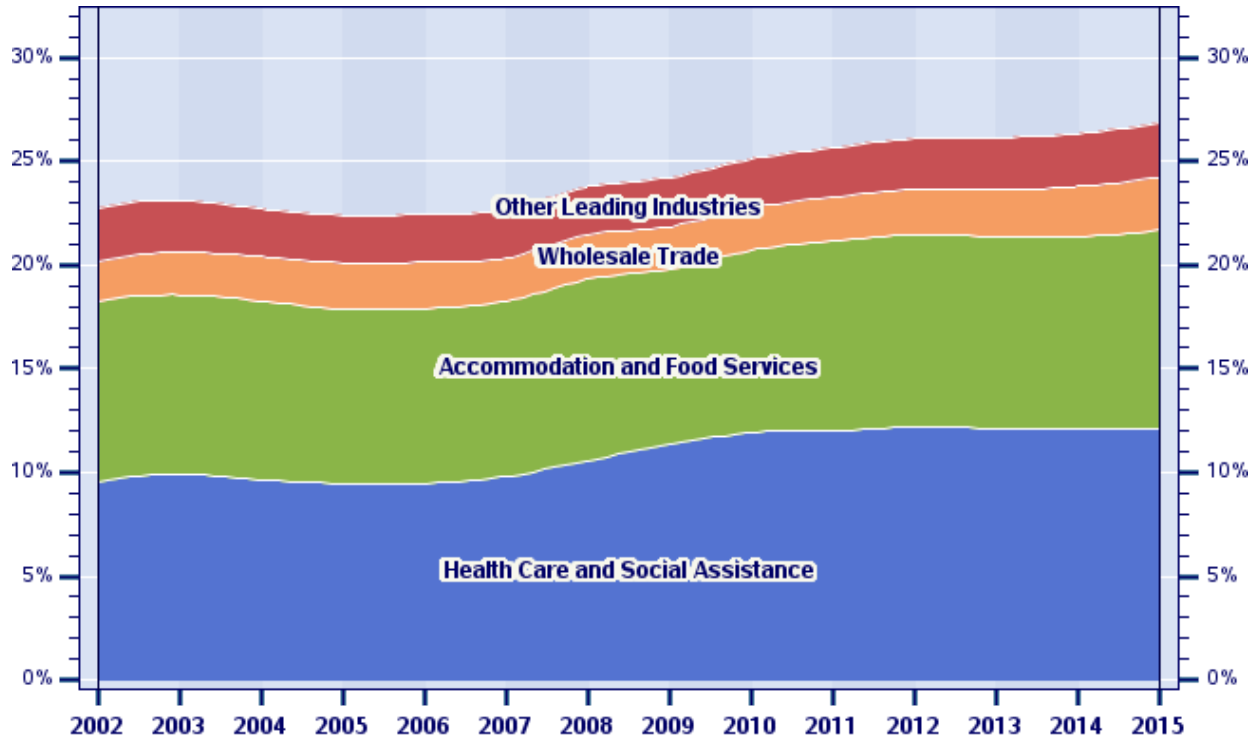
Turning attention to the top-right quadrant and building from the discussion above, This figure features a display of the distribution of the 5 Deschutes County industries classified as *Leading* (▲▲). These 5 industries surpassed the industry-wide average annual employment growth both long-term (2002-2015 = **2.64%**) as well as near-term (2015 = **5.65%**). Each is identified by its corresponding ranking based on it's average annual employment growth rate over 2015 as listed below.

By virtue of its growth rate over 2015, ranking highest among the leading sectors, ***Transportation and Warehousing*** is dubbed the "**Most Leading.**" All sectors within this category include:

- **Transportation and Warehousing** (3rd)
- **Health Care and Social Assistance** (7th)
- **Wholesale Trade** (4th)
- **Forestry, Fishing, and Related Activities** (8th)
- **Accommodation and Food Services** (5th)

## Deschutes County Leading Industries

### Cumulative Share as a Percent of Total Employment: 2002-2015



Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

This figure depicts the cumulative share of those industry sectors classified as "Leading" in 2015 when compared with their longer-term average over 2002-2015 and are shown in order of their relative importance from bottom to top. When an industry's growth rate exceeds that of the overall average it follows that its corresponding share of total employment rises. Accordingly, as both their long- and short-term growth rates of those industry sectors classified as *Leading* exceeded the overall industry average, their individual and collective share of total employment advanced over both 2002-2015 and 2015.

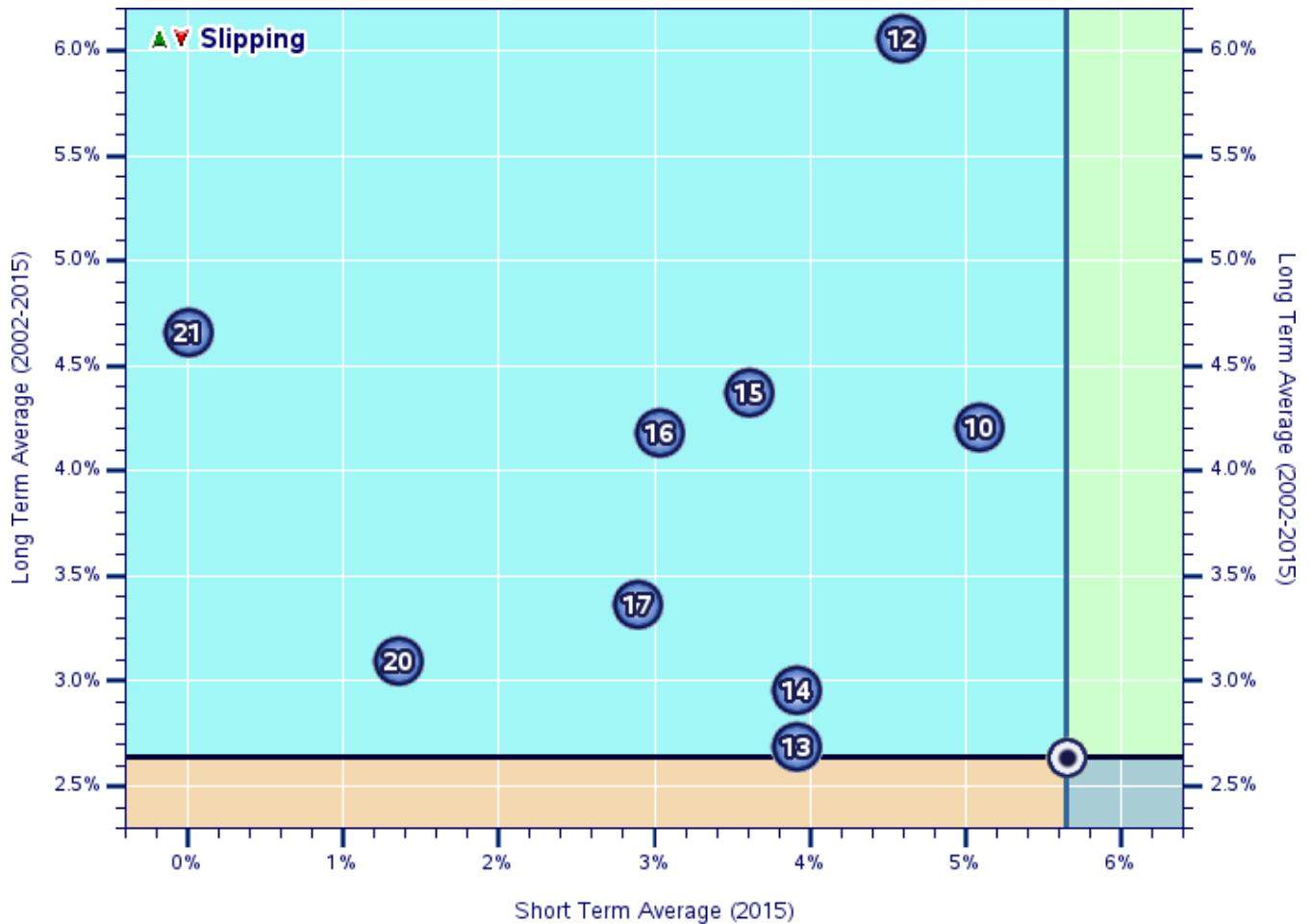
In combination, the share of all leading sector employment advanced from **22.75%** in 2002 to **26.87%** in 2015, for a net share-shift gain of **4.12%**. Between 2014-2015 the share of all leading sectors in combination rose from **26.33%** to **26.87%**, for a net share-shift increase of **0.54%**.

#### Note on "Other Leading Industries"

The "Other Leading Industries" category portrayed in this graph represents a combined total of those industries whose percent share of total employment was so small that their representation individually in this figure would not be discernable. Those industries that are combined include:

- Forestry, Fishing, and Related Activities
- Transportation and Warehousing

## Slipping Industries 2015 vs. 2002-2015 Averages



Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

Focusing now on the top-left quadrant of the LSGL schema introduced earlier, This figure depicts the distribution of the Deschutes County industries classified as *Slipping*. The employment growth rate of these 9 industries outpaced the average industry-wide (2002-2015 = **2.64%**), while they trailed the industry-wide average near-term (2015 = **5.65%**). Again, each industry is identified by it's corresponding ranking based on its average annual employment growth rate over 2015 as noted below.

**9** Deschutes County's industries which comprised **36.41%** of the total jobs are classified as *Slipping* ( ▲▼ ), and are identified below.

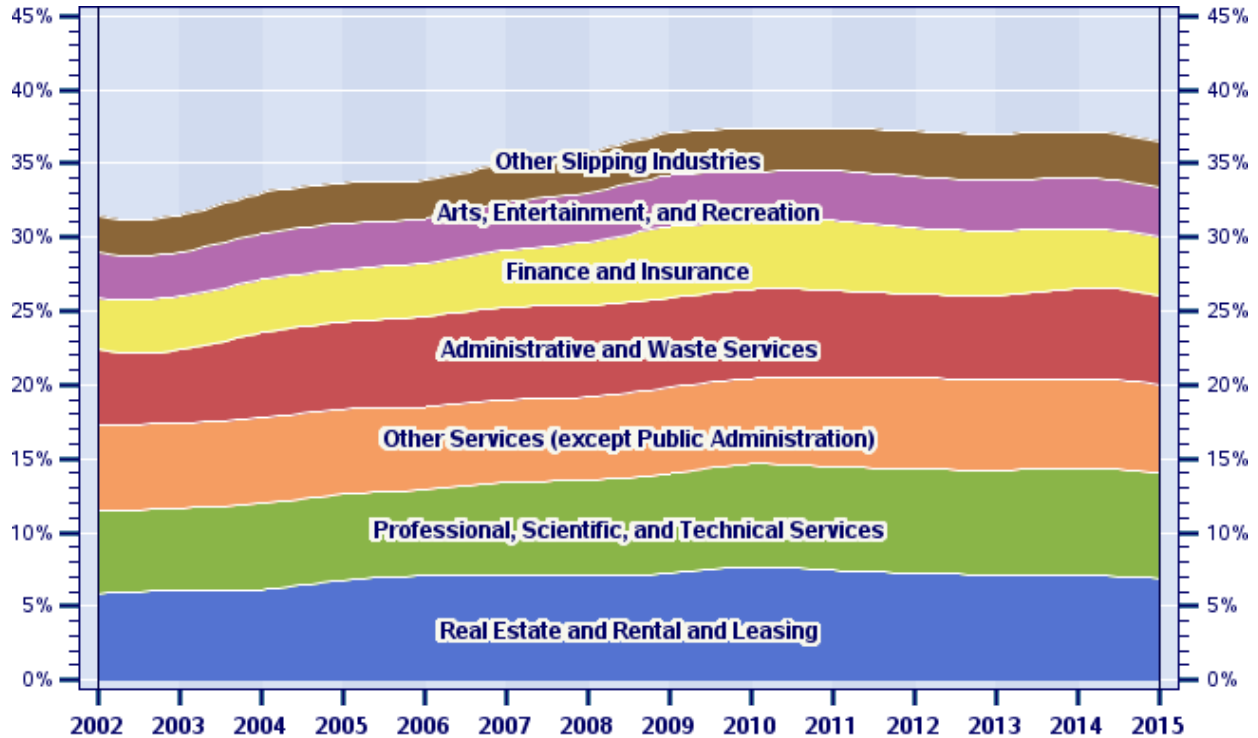
By virtue of its growth rate over 2015, ranking lowest among the slipping sectors, *Mining* is dubbed the "**Most Slipping.**" All sectors within this category include:

- **Administrative and Waste Services** (10th)
- **Educational Services** (12th)
- **State Government** (13th)
- **Other Services (except Public Administration)** (14th)
- **Professional, Scientific, and Technical Services** (15th)
- **Real Estate and Rental and Leasing** (16th)
- **Finance and Insurance** (17th)
- **Arts, Entertainment, and Recreation** (20th)
- **Mining** (21st)



## Deschutes County Slipping Industries

Cumulative Share as a Percent of Total Employment: 2002-2015



Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

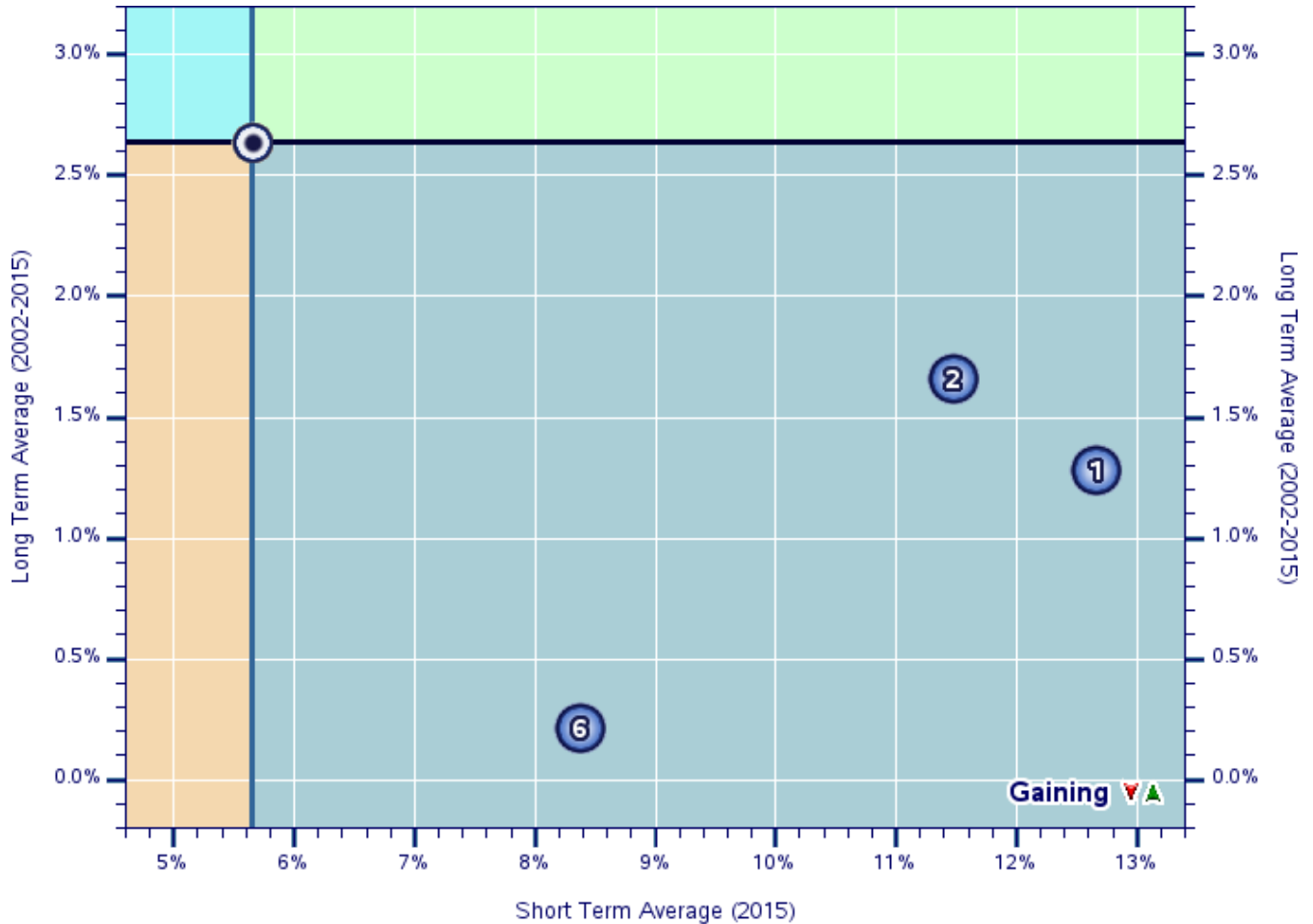
This figure portrays the cumulative share of those industry sectors classified as "Slipping" over 2002-2015. In combination, their share of employment advanced from **31.48%** in 2002 to **36.41%** in 2015, for a net share-shift of **4.93%**. However, their growth rate fell below that of the overall average in 2015. Therefore, their share of total employment slipped from **37.16%** in 2014 to **36.41%** in 2015, for a net share-shift of **-0.75%**.

### Note on "Other Slipping Industries"

The "Other Slipping Industries" category portrayed in this graph represents a combined total of those industries whose percent share of total employment was so small that their representation individually in this figure would not be discernable. Those industries that are combined include:

- Mining
- Educational Services
- State Government

## Gaining Industries 2015 vs. 2002-2015 Averages



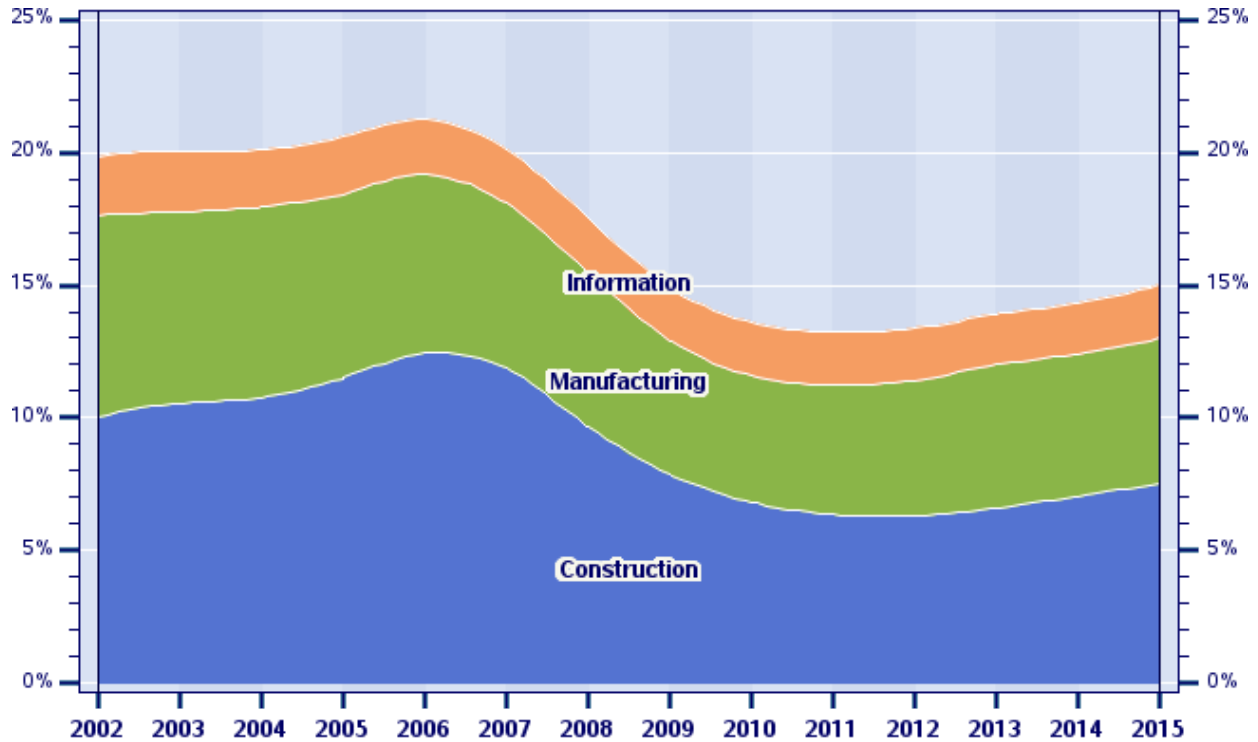
Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

This figure shows the distribution of the 3 industries classified as *Gaining* (▼▲) (bottom-right quadrant), in that their long-term average annual employment growth rate posted below the average industry-wide (2002-2015 = **2.64%**), while they outperformed the industry-wide average near-term (2015 = **5.65%**). Again, each industry is identified by its corresponding ranking based on its average annual employment growth rate over 2015 as noted below.

- **Construction** (1st)
- **Manufacturing** (6th)
- **Information** (2nd)

## Deschutes County Gaining Industries

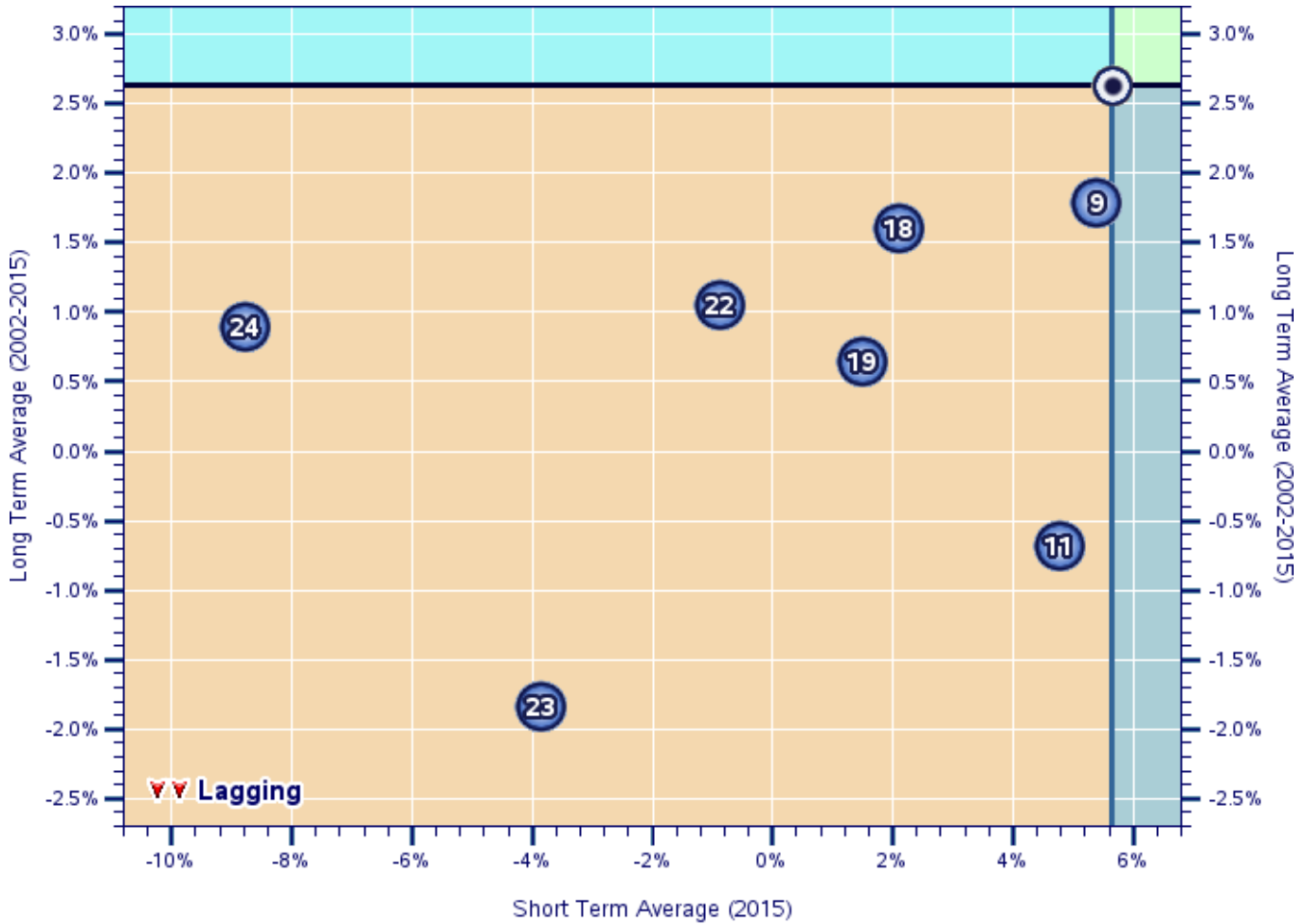
Cumulative Share as a Percent of Total Employment: 2002-2015



Source: Oregon REAPProject.org  
Data: Regional Income Division, BEA (11-17-2016)

This figure tracks the cumulative share of those industry sectors classified as "Gaining" over 2002-2015 by order of their importance from bottom to top. As the growth rate of these sectors trailed the overall average over 2002-2015, their share of total employment declined from **19.83%** in 2002 to **15.04%** in 2015, to yield a share-shift decline of **-4.79%**. However, in the terminal year 2015 their growth bested the overall average resulting in an advance in their share of total employment from **14.33%** in 2014 to **15.04%** in 2015, to make for a share-shift gain of **0.71%**.

## Lagging Industries 2015 vs. 2002-2015 Averages



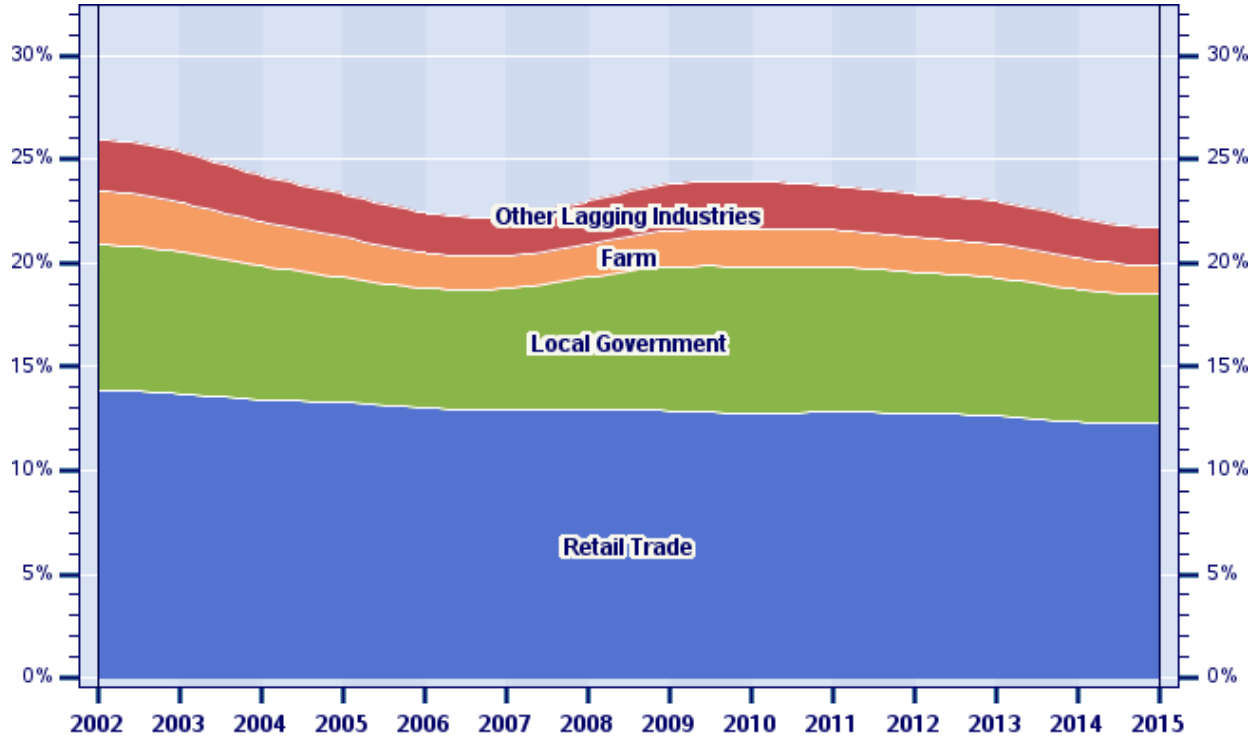
Source: Oregon.REAProject.org  
Data: Regional Income Division, BEA (11-17-2016)

This figure depicts the distributions of the 7 industries classified as *Lagging* (▼▼) portrayed earlier in the bottom-left quadrant. These industries trailed the industry-wide average annual employment growth both long-term (2002-2015 = 2.64%) as well as near-term (2015 = 5.65%). Each industry is identified by its corresponding ranking based on its growth rate over 2015 as noted below.

- **Retail Trade** (9th)
- **Utilities** (11th)
- **Local Government** (18th)
- **Federal Civilian** (19th)
- **Military** (22nd)
- **Farm** (23rd)
- **Management of Companies and Enterprises** (24th)

## Deschutes County Lagging Industries

Cumulative Share as a Percent of Total Employment: 2002-2015



Source: Oregon.REAPProject.org  
Data: Regional Income Division, BEA (11-17-2016)

This figure tracks the cumulative share of those industry sectors classified as "Lagging" over 2002-2015 by order of their average share from bottom to top. Their growth rates lagged below the overall average both long-term (2002-2015) and near-term (2015). As a result their share of total employment dropped from **25.95%** in 2002 to **21.68%** in 2015, producing a net share-shift of **-4.27%**. Similarly, over 2014-2015 their share of total employment also dropped from **22.18%** to **21.68%**, for a net share-shift of **-0.50%**.

### Note on "Other Lagging Industries"

The "Other Lagging Industries" category portrayed in this graph represents a combined total of those industries whose percent share of total employment was so small that their representation individually in this figure would not be discernable. Those industries that are combined include:

- Utilities
- Management of Companies and Enterprises
- Federal Civilian
- Military

## Deschutes County Employment Growth By Industry Sector

2015 vs. 2002-2015



Major Industry	2002		2002-2015			2015		2015		
	Jobs	Percent of Total	Growth Rate	Rank	Share-Shift	Jobs	Percent of Total	Growth Rate	Rank	Share-Shift
<b>Leading Industries ▲▲</b>										
Forestry, Fishing, and Related Activities	632	0.82	2.96	12	-0.04	838	0.77	5.81	8	0.00
Wholesale Trade	1,494	1.93	4.77	2	0.58	2,720	2.51	9.32	4	0.08
Transportation and Warehousing	1,366	1.76	2.68	14	0.10	2,025	1.87	11.32	3	0.10
Health Care and Social Assistance	7,371	9.52	4.62	4	2.63	13,162	12.15	6.21	7	0.06
Accommodation and Food Services	6,750	8.72	3.32	9	0.85	10,368	9.57	8.96	5	0.29
<b>Slipping Industries ▼▼</b>										
Mining	195	0.25	4.66	3	0.04	312	0.29	0.00	21	-0.02
Finance and Insurance	2,711	3.50	3.37	8	0.44	4,268	3.94	2.89	17	-0.11
Real Estate and Rental and Leasing	4,505	5.82	4.19	7	1.09	7,488	6.91	3.03	16	-0.18
Professional, Scientific, and Technical Services	4,375	5.65	4.37	5	1.46	7,702	7.11	3.61	15	-0.14
Administrative and Waste Services	3,996	5.16	4.21	6	0.90	6,568	6.06	5.09	10	-0.03
Educational Services	954	1.23	6.06	1	0.56	1,939	1.79	4.58	12	-0.02
Arts, Entertainment, and Recreation	2,409	3.11	3.10	10	0.21	3,602	3.32	1.35	20	-0.14
Other Services (except Public Administration)	4,487	5.79	2.96	11	0.19	6,486	5.99	3.91	14	-0.10
State Government	744	0.96	2.69	13	0.04	1,089	1.01	3.91	13	-0.02
<b>Gaining Industries ▼▲</b>										
Construction	7,742	10.00	1.29	18	-2.48	8,145	7.52	12.66	1	0.47
Manufacturing	5,915	7.64	0.22	22	-2.14	5,958	5.50	8.37	6	0.14
Information	1,696	2.19	1.66	16	-0.17	2,188	2.02	11.46	2	0.11
<b>Lagging Industries ▼▼</b>										
Farm Employment	2,014	2.60	-1.83	24	-1.24	1,470	1.36	-3.86	23	-0.13
Utilities	307	0.40	-0.67	23	-0.13	286	0.26	4.76	11	-0.00
Retail Trade	10,735	13.86	1.79	15	-1.56	13,336	12.31	5.38	9	-0.03
Management of Companies and Enterprises	322	0.42	0.90	20	-0.08	363	0.34	-8.79	24	-0.05
Federal Civilian	864	1.12	0.65	21	-0.30	884	0.82	1.49	19	-0.03
Military	416	0.54	1.06	19	-0.12	451	0.42	-0.88	22	-0.03
Local Government	5,433	7.02	1.61	17	-0.83	6,700	6.18	2.09	18	-0.22
<b>Total Employment</b>	<b>77,433</b>	<b>100.00</b>	<b>2.64</b>			<b>108,348</b>	<b>100.00</b>	<b>5.65</b>		

**Source:** Calculations by the Oregon Regional Economic Analysis Project (OR-REAP) with data provided by the U.S. Department of Commerce, Bureau of Economic Analysis