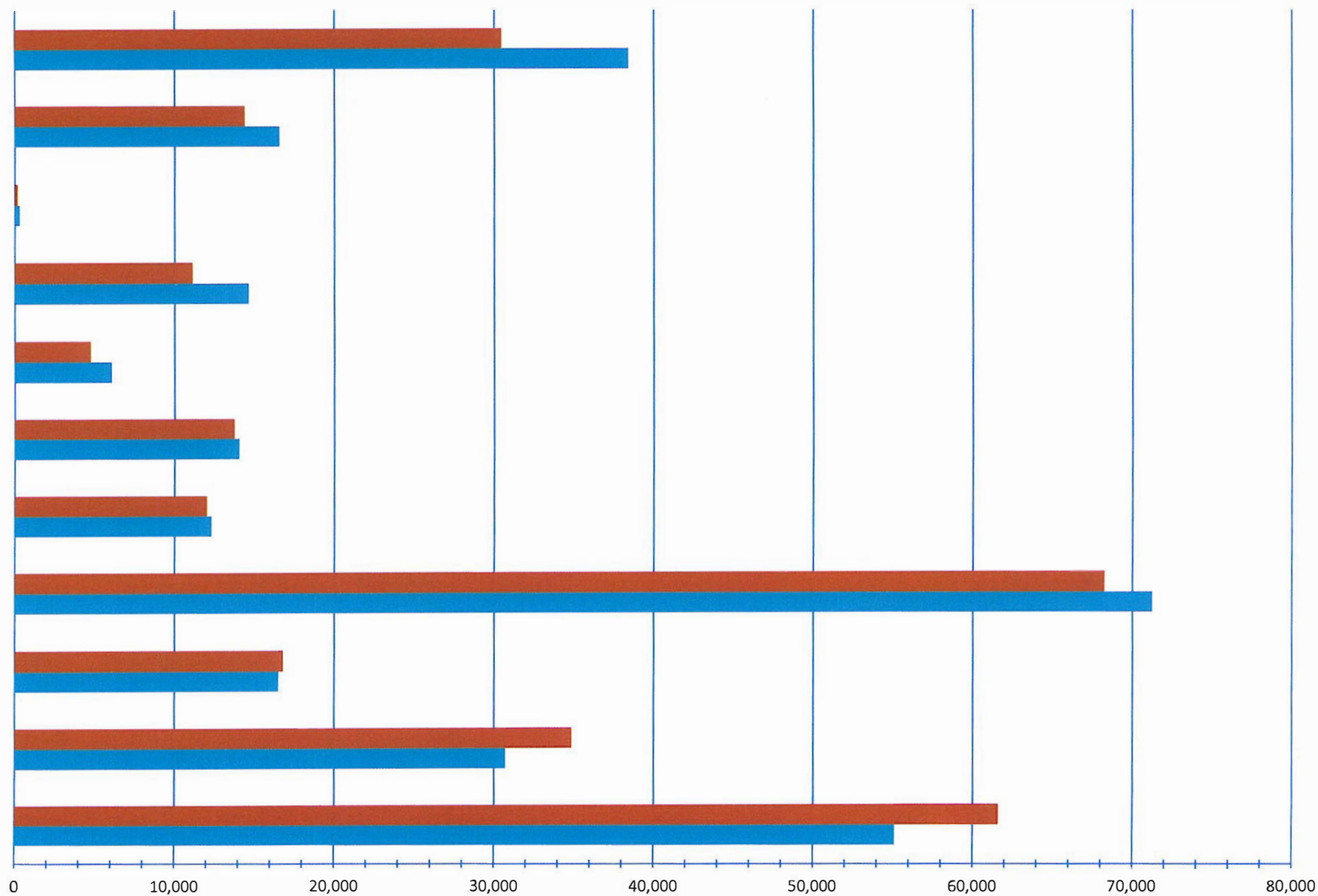
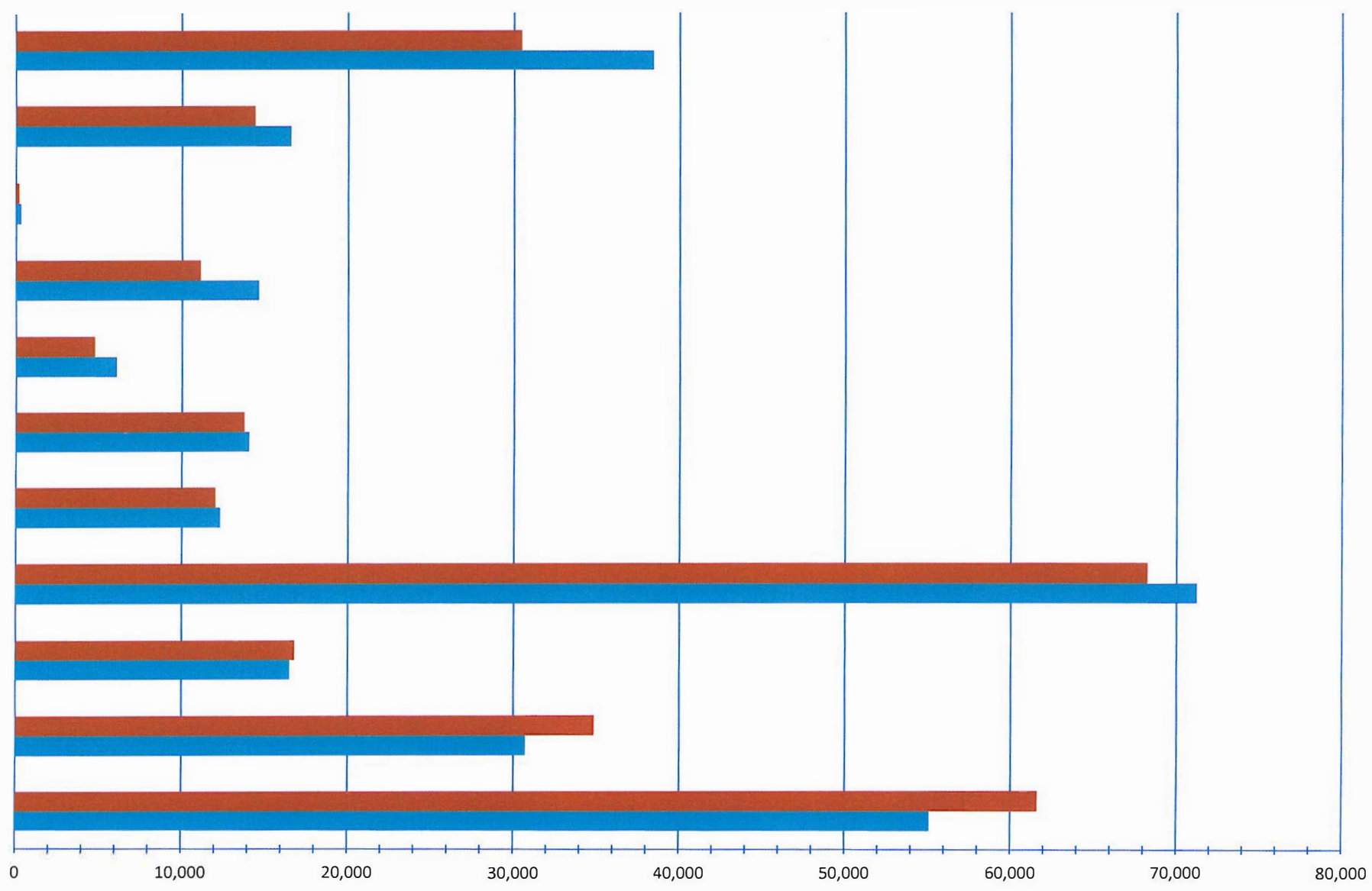


SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages



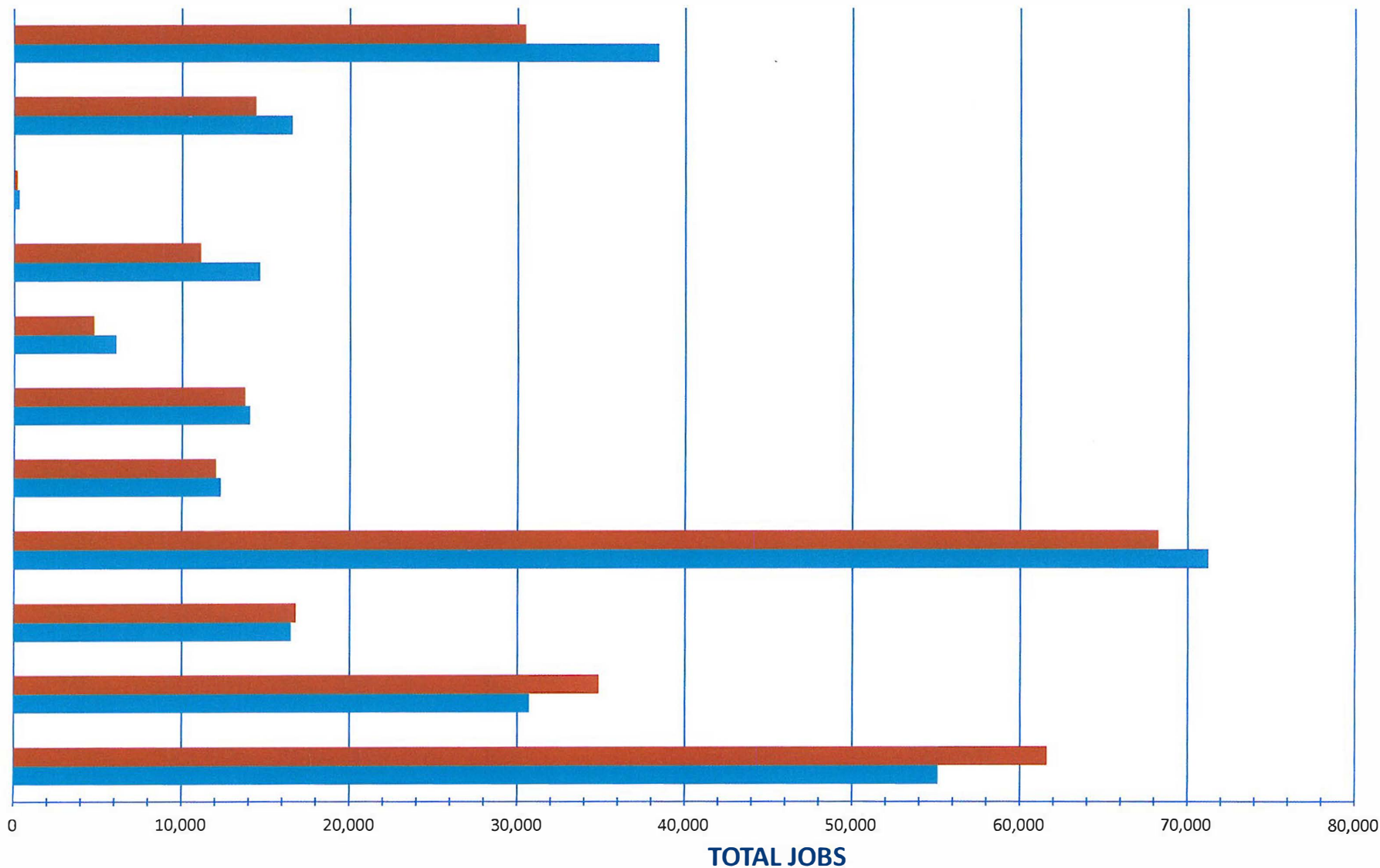
SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages

### Total Jobs in Central New York Region, 2007 AND 2017



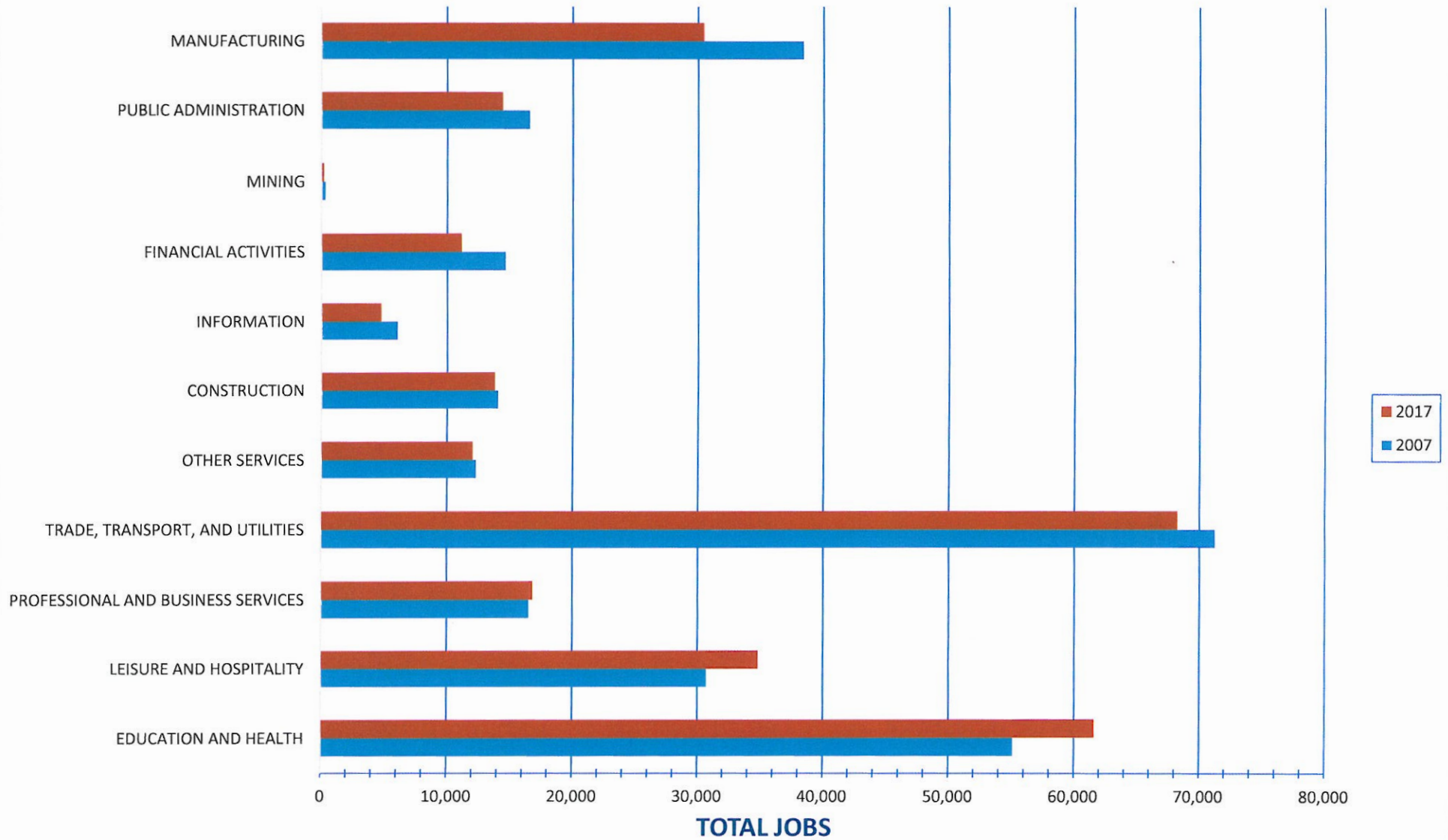
SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages

### Total Jobs in Central New York Region, 2007 AND 2017



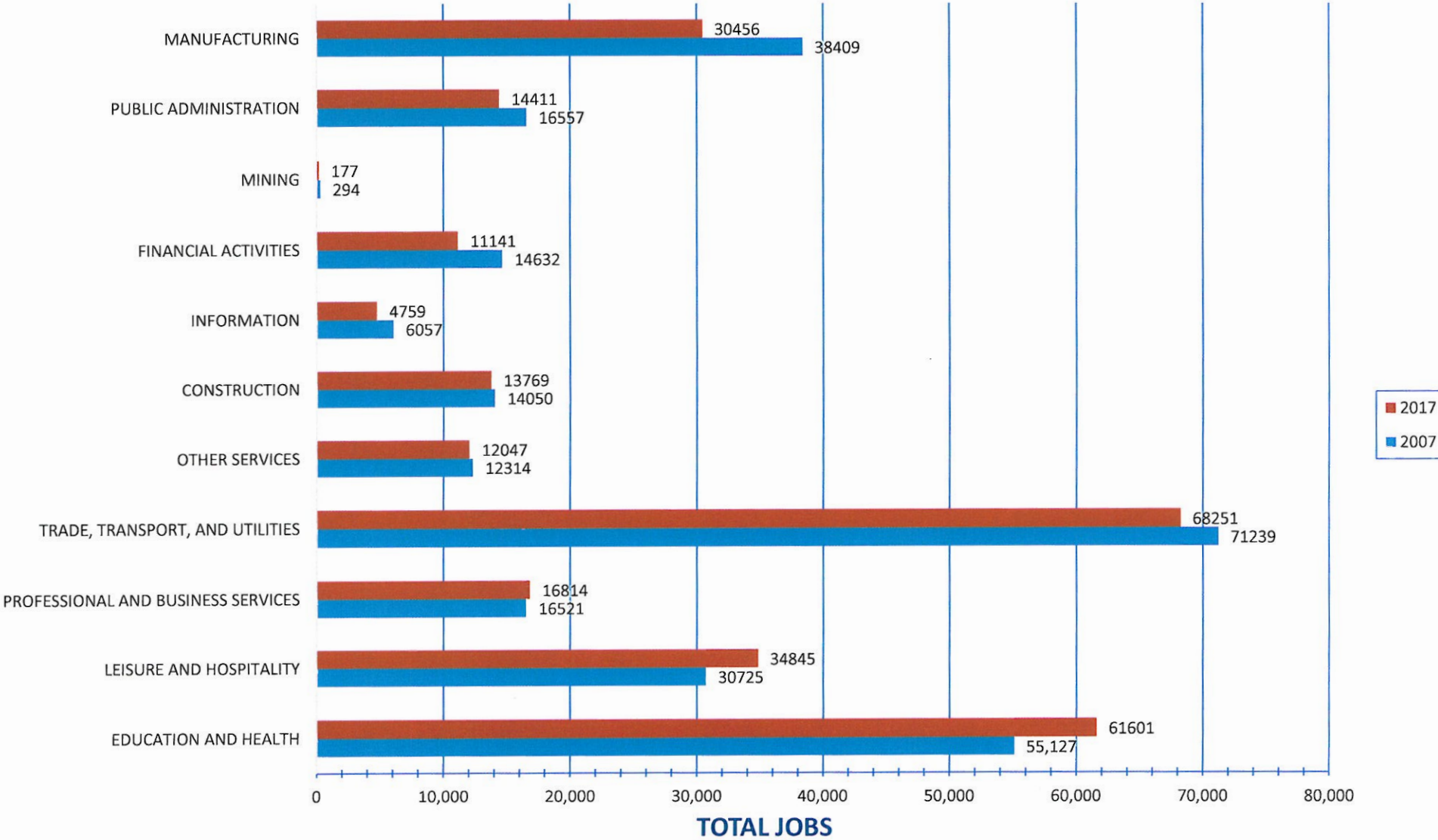
SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages

### Total Jobs in Central New York Region, 2007 AND 2017



SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages

### Total Jobs in Central New York Region, 2007 AND 2017



SOURCE: NYS Department of Labor Quarterly Census of Employment and Wages

*Teacher Note: Supplemental graph activity to be used with Manufacturing Career Kit: Unit 1, Section 4.1 Activity*

*Use the supplemental graphs to introduce reading and interpreting graphs concept.*

*End activity with look at Job Losses and Gains graph*

Activity: Allow students a few minutes to look at each graph, take notes on them before addressing discussion questions. All questions could be turned into a written activity as well.

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Suggested Discussion Questions to accompany Graphs:

Graph #1:

- Looking at the graph, what do you think the two different bar graphs stand for?
- What do the numbers along the bottom mean?
- How could we label the X (horizontal) and Y (vertical) axis?
- Anything else that you notice?

Graph #2:

- What has been added to the graph?
  - Does this help in identifying the graphs?
- Does this change your prediction on what the graph is telling us?
- What could the numbers represent?
- Why are the two bar graphs different color?
- What questions do you have?

Graph #3:

- What has been added this time?
  - Does this give you any more information?
- Any change in what you think the graph is telling us?

Graph #4:

- What has been added this time?
  - Does it help you to work with the graphs better?
- What other information would you like about the graph?
- Could you pose questions that could be answered from the graph yet?
  - What might they be?
- What do you notice? What do you wonder?

Graph #5:

- What has been added this time?
- Where could these jobs be? What do you think the Y-axis could be labeled as?
- Are we missing any other information?

Graph #6:

- It looks like all parts of graph have now been labeled. Are there any questions you have?
- Pretend you are the teacher, what questions could I ask to be answered from this graph?



Graph #7:

- What was added to this graph?

Review of all Graphs:

- Which Graph 1-7 do you prefer and why?
- Is there anything that surprised you about the information in the last two graphs?

\*Now, have students go through and complete the activity that begins on page 24 in the manufacturing career kit.



45 MINUTES

# Interpreting Bar Graphs: Job Losses and Gains Across Sectors\*

Students predict, then read a graph detailing how various industries fared in New York City\* in 2004 and 2014.



Interpret graphs

## PREP

- Read the graph, *Job Losses and Gains*

## MATERIALS

- *Job Losses and Gains Graph*
- *Prediction Guide: Rising and Falling Industries* worksheet

## EXPLAIN

- 1 Before planning a career, it helps to know which industries are growing, which are shrinking, and which are staying level. At any point in time, the number of jobs in some industries is increasing, and in others, decreasing.

First off, what do we mean by industry?

- › *An industry is a collection of related jobs. For example, what industry a substance abuse counselor and a sanitation collector belong to? Manufacturing.*

If a particular industry is growing, what does that mean for job seekers—people looking for jobs?

- › *There are jobs that need to be filled.*

If it is shrinking, what happens to jobs?

- › *There are fewer jobs. Some people might lose their jobs and there won't be many new openings.*

Which industries do you think are growing in New York City\* right now?

- 2 Distribute the prediction guide, one per pair, and explain that in partners, students are going to predict which industries increased in 2014, which decreased and which remained level. Then ask, **Which categories do you think Manufacturing jobs fall into?**

- › *Education and Healthcare, Public Administration and Other.*

- 3 When students are finished, distribute *Job Losses and Gains Graph* and ask them to read it carefully.



\*RAENs will provide regional adaptations.



## Prediction Guide: Rising and Falling Industries

With a partner, decide whether you think each of the industries below increased, decreased or remained level between 2004 and 2014, marking a check in the corresponding boxes below. Discuss the reasons for your choices.

Industry	Increased	Decreased	Stayed Level
Manufacturing			
Public Administration			
Financial Services			
Information			
Construction			
Other Services			
Trade, Transportation and Utilities			
Professional and Business Services			
Leisure and Hospitality			
Education and Health			

## Department of Labor and CareerKit Sectors

The data on labor statistics included in the CareerKits comes from the Department of Labor, which collects information on hundreds of jobs and businesses. The table below describes the intersection of Department of Labor and CareerKit sectors, which are categorized similarly in many cases, though some differences exist. When considering which sectors to study with students based on the availability of local jobs, use this table alongside the Job Losses and Gains graph.

U. S. DEPARTMENT OF LABOR SECTORS REFLECTED IN THE JOB LOSSES AND GAINS GRAPH		CAREERKIT LOCATION
<b>Construction</b>	Organizations that build things. This includes organizations that build houses, office buildings, sewer pipes, power lines, highways and bridges. It includes organizations that employ people with general skills such as managing a building project and specialty skills such as carpenters, electricians and plumbers.	Construction
<b>Manufacturing</b>	The CareerKits divide Manufacturing into two sectors: Manufacturing, which includes organizations that make products such as clothing, machines, electronics and cars, and Food Production, which includes organizations that grow, raise and produce products such as apples, bacon, yogurt and milk.	Manufacturing Food Production
<b>Mining and Logging</b>	Organizations that prepare natural resources for use. Some examples of natural resources are coal, metals, minerals, oil, gas and trees.	<i>Does not appear in the CareerKits</i>
<b>Education, Healthcare and Social Assistance</b>	Organizations that offer childcare, education and training as well as healthcare and social assistance. This includes daycare centers, schools, colleges, hospitals, shelters and soup kitchens.	Healthcare Education and Childcare Community and Social Assistance
<b>Government</b>	Sometimes called "public administration" or "the public sector," the Government sector includes local, state, and federal agencies. This includes organizations that are in charge of public housing, trash collection and national security as well as prisons, the police and the fire department, among others.	Public sector careers are addressed in every CareerKit sector.
<b>Entertainment, Food and Hospitality</b>	Organizations that provide art, fun, food and places to stay overnight. This includes organizations involved in theater, dance and music, as well as museums, parks, bowling alleys, restaurants and hotels.	Hospitality, Recreation and the Arts
<b>Professional and Administrative Services</b>	Organizations that provide support services to other organizations. This includes services such as accounting, advertising, billing, security, mailing packages and cleaning.	Organizations that are dedicated to these tasks are not included in the CareerKits, however administrative careers are included in every CareerKit.

<b>Banking, Insurance and Real Estate</b>	This sector includes organizations that deal with money. This includes banks as well as insurance and mortgage companies. It also includes organizations that rent property, vehicles or machinery, such as buildings, cars, refrigerators, televisions and bulldozers.	<i>Does not appear in the CareerKits</i>
<b>Information</b>	Organizations involved in producing, processing and distributing different types of information. This includes publishers of books, newspapers and computer software as well as producers of movies, music, radio and television programs.	Some of these careers are included in the Technology CareerKit
<b>Trade, Transportation and Utilities</b>	The CareerKits divide this sector into Retail and Transportation & Warehousing. Retail includes businesses that sell products such as clothing, cars, telephones and furniture. Transportation & Warehousing includes airlines, taxi and limousine companies, shipping and trucking. Some utilities are addressed in other sectors, such as phone/internet in Technology and others, and water and sewage treatment are included in the Manufacturing CareerKits.	Transportation and Warehousing Retail Technology Manufacturing
<b>Other</b>	This catchall includes organizations that do things not captured by the other sectors. This sector includes car, computer and shoe repair shops, beauty salons, laundromats, parking lots and religious organizations.	Manufacturing

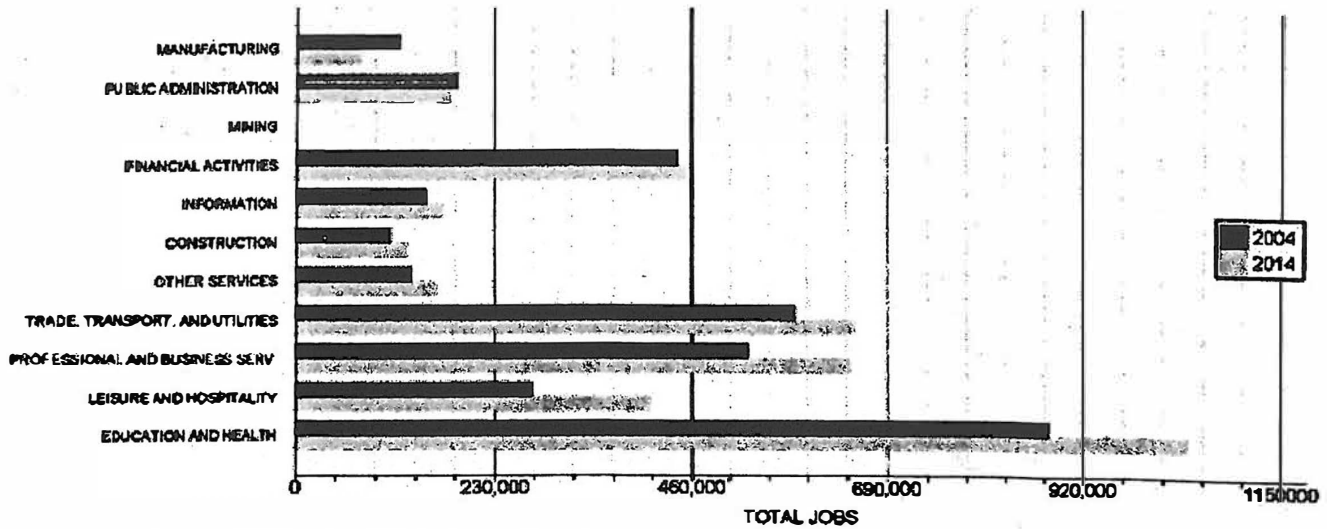
Continued...



# Job Losses and Gains Graph: How Did You Do?\*

Read the graph below\* noting the employment numbers for each industry sector in 2004 and 2014.

TOTAL JOBS IN NYC, 2004 AND 2014



SOURCE | NYCLMIS analysis of NYS Department Of Labor Quarterly Census Of Employment And Wages. NYC includes Bronx, Queens, New York, Richmond, and Kings counties

## DISCUSSION

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Before we think about how the data compares to your predictions, let's discuss how to read this graph.

- According to the title, what is this graph about?
- What do the words going down the left side of the page tell you?
- What do the numbers across the bottom of the page tell you?
- What do the dark blue and light blue lines represent?
- What do the heavy black vertical lines represent?
- What do the fine black vertical lines represent?
- Where on this graph is the key? What does it tell you?
- Why are there two years shown on this graph?
- What does it mean when a dark blue line is longer than its partner light blue line?
- What does it mean when a light blue line is longer than its partner dark blue line?
- The heavy black vertical lines represent an increase of 200,000 jobs. How much of an increase does each fine black vertical line represent? How did you arrive at that answer?
- Ask students to find the corresponding industry sectors from the graph listed on their worksheets and discuss how these numbers compare to their predictions.

## PAIR ACTIVITY

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In pairs, write three statements about the graph, two that are true and one that isn't. When you are finished, share with another pair. Each pair should determine which of the other pair's statements are true and which is false.

## FOLLOW-UP DISCUSSION

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- 1 Which sector showed the most job growth from 2004 to 2014?  
How do you know?
- 2 Which sector showed the least job growth from 2004 to 2014?  
How do you know?
- 3 Why are the industries listed in this order?
- 4 How is the information in this graph by relevant to a job-seeker?