



Choice:

ECONOMICS MATERIALS FOR
SUCCESS

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Labor market – Would you get a job in aviation for \$137,000 a year?

Related news article: [America's air traffic controllers are in short supply – those who qualify can make \\$137,000 annually, with no bachelor's required](#) (*Fortune*, February 4, 2025)

Summary: This worksheet could be used for in-class or homework practice. Students will be asked to read the *excerpts* from a short article about the reasons for the shortage of air traffic controllers in the U.S. despite the financial stability and job security the job offers, and the proliferation of the travel industry. The understaffing has likely contributed to the rising number of plane crashes. The article explains that costly, time-taking training and lack of trainers has deteriorated the shortage of air traffic controllers. In addition, many elderly air traffic controllers retired during the Covid-19 pandemic while the coaching process of new aviation workers was temporarily stopped.

Students will analyze the factors that have contributed to the decline in the supply of air traffic controllers, brainstorm solutions to alleviate the shortage of aviation professionals, and elaborate on whether a higher wage would necessarily be an incentive for workers to work more hours. **Answers are provided at the end of this document.**

Learning objectives: At the end of this worksheet, students will be able to:

- o Identify the effect of a delay in the coaching process of new air traffic controllers and the retirement of older workers in the profession on the market for air traffic controllers (decrease in labor supply);
- o Apply the supply and demand model to the labor market for air traffic controllers to identify the effect of the abovementioned events on the equilibrium wage and number of air traffic controllers;
- o Analyze what must happen to the wage of air traffic controllers to alleviate the shortage in the labor market;
- o Identify barriers to entry in the market for air traffic controllers;
- o Analyze the income effect and the substitution effect of an increase in the wage of air traffic controllers.

Economics concepts: Labor market, Shortage, Wage, Labor, Equilibrium wage, Barrier to entry, Incentive, Income effect, Substitution effect, Labor supply shift, Labor demand shift

Suggested excerpts:



“Last week [January 2025], an American Airlines passenger jet collided with an Army helicopter right outside Reagan Washington National Airport, killing all 67 people involved. Two days later, a small medical plane crashed in Philadelphia, killing all six people on board and one on the ground. Both incidents left the American public confused—and terrified.”

“As it turns out, America has grappled with an air traffic controller shortage for years. There are a few key reasons as to why there aren’t enough workers on call—from costly and time-consuming training, to high churn in the coaching phases. But for those who hold out in the field, there are several upsides. Air traffic controllers make an average of six figures per year, and demand for them is growing within the labor market as the travel industry continues to thrive.”

“The recent string of deadly plane crashes has stoked fear among the American public. It’s even more disconcerting once you know how understaffed most airports are. About 91%, or 285 of 313 U.S. air traffic control facilities, operate below the FAA’s recommended staffing levels, according to data from the union representing controllers.”

“Air traffic control has historically been an understaffed profession. Experts point to a few factors, but many contend the friction lies within the onboarding process. Training a new air traffic controller can take anywhere from 16 months, like at Reagan National Airport, to several years. And when the pandemic hit, many employers paused the coaching process. During that time, many older controllers also transitioned into retirement. Training new air traffic controllers is also neither cheap nor easy.”

“The career life span for an air traffic controller is limited too. In the U.S., controllers have to retire by the age of 56.”

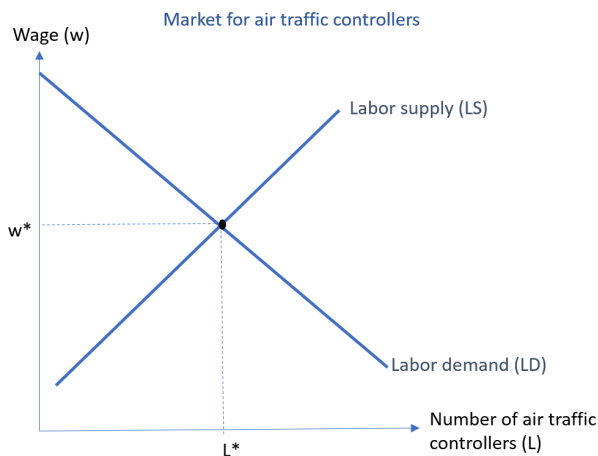
“Being an air traffic controller is no walk in the park. Workers describe long working hours to fill scheduling gaps, unaddressed mental health concerns, and unpredictable shift patterns. There is one upside to the role: financial stability. Air traffic controllers make an average of \$137,000 per year, according to a 2023 report from the U.S. Bureau of Labor Statistics (BLS). But the path to that high-paying position isn’t easy.”

“The job doesn’t require multiple degrees. The typical education level for being an air traffic controller is having an associate’s degree, according to the BLS. And while having a relevant work background isn’t essential, entry-level employees must spend months at the FAA Academy in Oklahoma City for mandatory training. After that, another two to three years of classroom studies and on-the-job experience are required before receiving a controller certification. Applicants also need to have other qualifications. To be considered as an air traffic controller, candidates must be U.S. citizens under the age of 31...”



Student Questions

1. The article mentions several reasons for the shortage of air traffic controllers. Which of the following is *not* one of these reasons?
 - a. Training air traffic controllers is costly.
 - b. The travel industry is declining.
 - c. Training and onboarding of air traffic controllers is time-taking.
 - d. The coaching process was stopped during Covid-19 and older controllers who had to train their successors retired during the pandemic.
2. According to the article, what are some “upsides” of becoming an air traffic controller? List at least one.
3. The article explains that “when the [Covid-19] pandemic hit, many employers paused the coaching process” of new air traffic controllers, and “many older controllers also transitioned into retirement” during that time. How did these events affect the market for air traffic controllers?
 - a. Labor demand shifted to the right.
 - b. Labor demand shifted to the left.
 - c. Labor supply shifted to the right.
 - d. Labor supply shifted to the left.
4. The following graph shows the supply and demand for air traffic controllers. Show the effect you identified in Question 3 on the graph below. What was the effect of the events described in Question 3 on the equilibrium wage and number of air traffic controllers?



5. Given that “there’s an air traffic controller shortage in the U.S.,” the wage of these workers must be:
 - a. At the equilibrium wage level of air traffic controllers.
 - b. Above the equilibrium wage of air traffic controllers.
 - c. Below the equilibrium wage of air traffic controllers.
 - d. Ambiguous.



6. Given that “there’s an air traffic controller shortage in the U.S.,” what must happen to the wages of these workers for the labor market to reach equilibrium?
- Increase.
 - Decrease.
 - Remain the same.
 - It cannot be determined.
7. According to the article, to be considered as an air traffic controller, job applicants for an entry-level position must spend months of mandatory training, and “another two to three years of classroom studies and on-the-job experience.” They must receive a controller certification, obtain other qualifications, and be U.S. citizens under the age of 31. These requirements serve as _____ in the market for air traffic controllers.
- Barriers to entry.
 - Incentives.
 - Opportunity cost.
 - Economies of scale.
8. Given the information in Question 7, which of the following changes is likely to increase the supply of air traffic controllers and to alleviate the shortage of these workers, *without* sacrificing the safety of the passengers?
- Drop the requirement that new air traffic controllers need to obtain a controller certification.
 - Allow applicants above the age of 31 to be eligible for becoming air traffic controllers.
 - Require that job applicants possess a master’s degree to be considered for the job.
 - Introduce more flights.
9. According to 2023 data from the U.S. Bureau of Labor Statistics (BLS), “air traffic controllers make an average of \$137,000 per year.” In your opinion, would a higher salary necessarily be an incentive for air traffic controllers to agree to work more hours? Why or why not?
10. Which of the following statements about the income and the substitution effect of a higher wage for air traffic controllers is correct?
- According to both effects, as the wage increases, workers would be willing to work more hours.
 - According to the substitution effect, if the wage of air traffic controllers increases, they would be willing to work less because leisure is more valuable.
 - According to the income effect, if the wage of air traffic controllers increases, they would give up leisure to work more.
 - If the income effect dominates the substitution effect, an increase in the wage of air traffic controllers would mean that workers would choose to work fewer hours.



Answer Key

1. The article mentions several reasons for the shortage of air traffic controllers. Which of the following is *not* one of these reasons?

- Training air traffic controllers is costly.
- The travel industry is declining.***
- Training and onboarding of air traffic controllers is time-taking.
- The coaching process was stopped during Covid-19 and older controllers who had to train their successors retired during the pandemic.

Answer: B. The travel industry is thriving. However, the article explains that “there are a few key reasons as to why there aren’t enough workers on call—from costly and time-consuming training, to high churn in the coaching phases.” In addition, “when the pandemic hit, many employers paused the coaching process. During that time, many older controllers also transitioned into retirement.”

2. According to the article, what are some “upsides” of becoming an air traffic controller? List at least one.

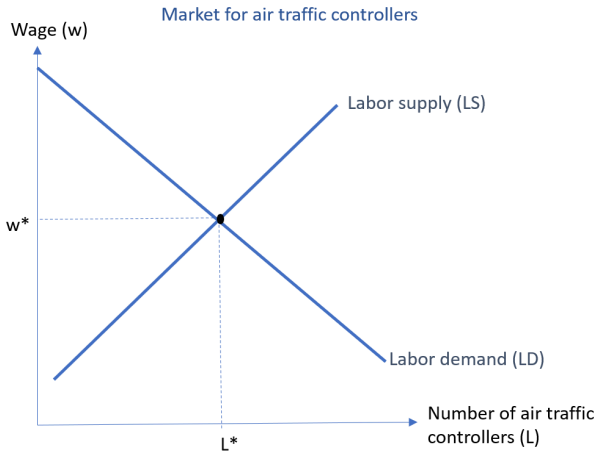
Answer: The article explains that the benefits for “those who hold out in the field” include a high salary with “an average of six figures per year,” and high demand for these workers “as the travel industry continues to thrive.”

3. The article explains that “when the [Covid-19] pandemic hit, many employers paused the coaching process” of new air traffic controllers, and “many older controllers also transitioned into retirement” during that time. How did these events affect the market for air traffic controllers?

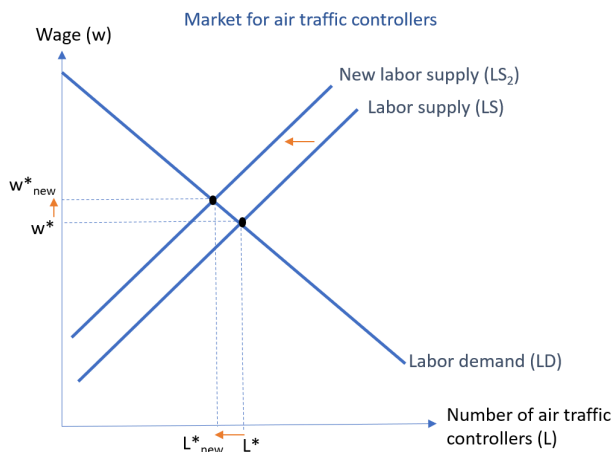
- Labor demand shifted to the right.
- Labor demand shifted to the left.
- Labor supply shifted to the right.
- Labor supply shifted to the left.***

Answer: D. Both the pausing of the coaching process of new air traffic controllers and the retirement of elder controllers decreased the supply of these workers. A decrease in the supply of controllers is associated with a shift of the labor supply to the left.

4. The following graph shows the supply and demand for air traffic controllers. Show the effect you identified in Question 3 on the graph below. What was the effect of the events described in Question 3 on the equilibrium wage and number of air traffic controllers?



Answer: The following graph shows the shift of the labor supply curve to the left identified in Question 3. As a result of this shift, the equilibrium wage of air traffic controllers is expected to increase whereas the equilibrium number of these workers is expected to decrease.



5. Given that “there’s an air traffic controller shortage in the U.S.,” the wage of these workers must be:

- At the equilibrium wage level of air traffic controllers.
- Above the equilibrium wage of air traffic controllers.
- Below the equilibrium wage of air traffic controllers.***
- Ambiguous.

Answer: C. When the wage is below the equilibrium level, the quantity of labor demanded exceeds the quantity of labor supplied. This implies a shortage of workers.

6. Given that “there’s an air traffic controller shortage in the U.S.,” what must happen to the wages of these workers for the labor market to reach equilibrium?

- Increase.***
- Decrease.
- Remain the same.
- It cannot be determined.



Answer: A. There is a labor shortage when the wage is below the equilibrium level. To reach equilibrium, the wage should increase.

7. According to the article, to be considered as an air traffic controller, job applicants for an entry-level position must spend months of mandatory training, and “another two to three years of classroom studies and on-the-job experience.” They must receive a controller certification, obtain other qualifications, and be U.S. citizens under the age of 31. These requirements serve as _____ in the market for air traffic controllers.

- a. **Barriers to entry.***
- b. Incentives.
- c. Opportunity cost.
- d. Economies of scale.

Answer: A. The requirements mentioned above prevent entry in the market for air traffic controllers.

8. Given the information in Question 7, which of the following changes is likely to increase the supply of air traffic controllers and to alleviate the shortage of these workers, *without* sacrificing the safety of the passengers?

- a. Drop the requirement that new air traffic controllers need to obtain a controller certification.
- b. **Allow applicants above the age of 31 to be eligible for becoming air traffic controllers.***
- c. Require that job applicants possess a master’s degree to be considered for the job.
- d. Introduce more flights.

Answer: B. Increasing the age range of eligible job candidates could increase the supply of air traffic controllers. Lowering the requirements for the position could increase labor supply, but may sacrifice safety if the air controllers have not been trained sufficiently. Requiring higher education is likely to decrease the number of eligible candidates for the position, that is, decrease labor supply. Introducing more flights is likely to increase the demand for air traffic controllers.

9. According to 2023 data from the U.S. Bureau of Labor Statistics (BLS), “air traffic controllers make an average of \$137,000 per year.” In your opinion, would a higher salary necessarily be an incentive for air traffic controllers to agree to work more hours? Why or why not?

Answer: Answers may vary. However, a higher wage may not lead to air traffic controllers working more hours, because a higher salary would make it easier to reach a given target level of income through fewer hours of work. Instructors could relate the discussion to the income and the substitution effects of a higher wage.

10. Which of the following statements about the income and the substitution effect of a higher wage for air traffic controllers is correct?

- a. According to both effects, as the wage increases, workers would be willing to work more hours.
- b. According to the substitution effect, if the wage of air traffic controllers increases, they would be willing to work less because leisure is more valuable.
- c. According to the income effect, if the wage of air traffic controllers increases, they would give up leisure to work more.



- d. **If the income effect dominates the substitution effect, an increase in the wage of air traffic controllers would mean that workers would choose to work fewer hours.***

Answer: D. The substitution effect of a higher wage means that the higher wage would be an incentive for the workers to give up leisure to work more because of the higher pay. According to the income effect, if the wage increases, workers would work less because they can reach a given income target through working fewer hours.