

BAM! ZAP! POW!: TEACHING MICROECONOMIC CONCEPTS WITH COMIC BOOK SUPERHEROES

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Abstract

One part of the unwritten superhero code is that heroes should not charge for their services; however, this runs contrary to the entrepreneurial spirit. Some heroes are leaving money on the table by adhering to this code. Other heroes try to get involved in a business, but their superpowers do not include basic economic knowledge. In this paper we examine some fundamental microeconomic issues by examining why comic book superheroes do not earn a higher income. We provide specific references (and links) to comics and movie clips, as well as teaching tips and questions for instructors interested in teaching about markets and business decisions using a creative, non-textbook method.

Keywords: Economic Education, Comics, Markets, Superheroes, Entrepreneurship, Free Enterprise

JEL Classifications: A20, A21, A22

Introduction

A hallmark of market economies is free enterprise, the ability to use one’s skills and abilities to make a living by providing things of value to others. Those skills can be developed through study, training, or experience of course, but in the case of superheroes, human capital development results from more unorthodox sources.³ Regardless of their origin, superheroes have special powers which means they possess human capital that exceeds that of the general population. With the combination of these amazing skills and human capital investments, we might think that superheroes should be rolling in dough. But the only ones living the high life are those who had wealth before joining the ranks of the superheroes.⁴

Many heroes must make a living through the drudgery of work-a-day life. Clark Kent (Superman) is a reporter. Barry Allen (Flash) investigates crime scenes. Wade Wilson

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³ Superpowers result most commonly from science experiments gone wrong, alien parentage, magic, and genetic mutation. In some cases, heroes have no “powers” so to speak. Rather they possess inherent intellectual and physical abilities that they hone through study and training.

⁴ Bruce Wayne (Batman), Tony Stark (Iron Man), Oliver Queen (Green Arrow), and T’Challa, king of Wakanda (Black Panther) are all incredibly rich, but this was achieved separately from their abilities. Primarily, their wealth came from the industriousness or family status.

(Deadpool) is a mercenary for hire. Diana Prince (Wonder Woman) is a fashion designer, a museum curator, or an Army lieutenant depending on who is writing the story. Peter Parker most famously takes pictures for a print newspaper, which is surely a vocation subject to Schumpeter's concept of creative destruction. Admittedly, economists do not assume that everyone is motivated solely by money, and there is nothing inherently wrong with choosing not to profit from one's unique skill. But it is certainly an anomaly to see workers with such valuable skills refrain from monetizing those talents.⁵ Superheroes are different than your average person and they are expected to play by different rules. Still, should a hero be forced to ignore their abilities when it comes to earning a living? In this note, we present resources to teach microeconomic concepts by examining the conundrum of superheroes when it comes to earning a paycheck.

This paper proceeds as follows. In the next section we provide a brief literature review. This is followed by three scenarios utilizing video clips and comic panels which explore heroes' use of their abilities to earn a living – each providing engaging examples of important economic concepts. We first explore questions of fairness and efficiency when Luke Cage and the Tick want to get paid. Second, we investigate a situation where Spider-Man tries to earn money to help his Aunt May. Finally, we deal with Deadpool, a superhero who violates the code and attempts to profit from his abilities but is so inept at business that he quickly fails. Each of these vignettes contain teaching tips and guided questions pertaining to relevant microeconomic concepts. The final section concludes.

Literature Review

The use of media resources to teach economics has proliferated in part due to Becker and Watts' (2006) call to drop "chalk and talk." Picault (2019) observed that non-traditional ways of engaging students, such as using media in the classroom, can act as transversals which promote greater learning. For example, Braun (2011) uses pop-culture to teach about capitalism using John Ford's western novels. Rousu and Conrad (2017) highlight economic ideas in the context of a song from the musical *Hamilton*. Mateer and O'Roark (2020) discuss market ideas in the video game *Animal Crossing*. Van Horn and Van Horn (2013) and Bohanon and Vacharis (2015) bring Adam Smith into the fold by talking about Smith's connection to pop music and literature. A specific outgrowth of this research on using popular media is a growing literature in economic education that utilizes comics as the cultural medium for instruction.

Furthermore, instructors are turning to comics as a source for teaching economics as well. Gerde and Foster (2008) explore business ethics through the prism of superhero comics. Using the storylines in popular comics, they highlight important real-world concepts such as cultural diversity, disabilities in the workplace, gender equity, and how media shapes public opinion. O'Roark (2017, 2019) and O'Roark and Salkowitz (2018) provide examples of ways to teach diverse economic topics such as opportunity cost, externalities, feminist economics, institutions, and production functions with superheroes as a backdrop. O'Roark and Grant (2018) offer a number of examples of game theory that appear in superhero comics. Bose and Baugus (2020)

⁵ One reason for these decisions is to maintain anonymity. The secret identity is important in the hero world; however, there are some heroes who are in desperate financial straits, yet they still refuse to use their powers for financial gain.

utilize the Indian comic series Amar Chitra Katha to address topics such as trade, human capital and price systems. Fleck, Asmuth and Joufflas (2023) employ the journey of self-discovery superheroes take before they become truly super and analogize it to becoming an entrepreneur.

While articles on how to use pop-culture generally, and superheroes in particular, to teach economics are widespread, there are still great comic book examples to be mined. This paper contributes to that literature with additional examples of economic concepts evident in popular comics, complete with teaching notes and resources to aid in classroom implementation.

Teaching Notes

In this section, we discuss three scenarios where superheroes are dealing with economic queries. An appendix for each section includes questions and answers as a guide for in-class discussion or out-of-class assignments utilizing the videos and comic panels. Each lesson covers multiple topics so instructors may want to drop some of the questions we provide depending on their focus. Another approach is to use these as a tool for a general review where students are recalling multiple concepts.

A. Luke Cage and The Tick just want to get paid.

Topics: Public Goods, Compensation, Labor Markets

Superheroes have remarkable powers, but they face two significant obstacles in trying to monetize their abilities. The first is a cultural norm: the unwritten hero code dictates that you do not charge people for your services. This is not a law or regulation but rather a convention widely observed by members of the superhero community. However, without an enforcement mechanism, the possibility exists for rogue superheroes to violate the code. This possibility is reduced by the practical limitation discussed next.

The second force that makes profiting from superhero skills difficult is the nature of what they do. The services these caped crusaders provide have the unmistakable characteristics of public goods. If you save the planet from destruction or stop crime on the streets, you cannot prevent people from benefiting from your services even if they do not pay you. Superheroes are unlikely to hold off on saving the planet in order to negotiate the price Earth's governments will pay them. After the fact, collecting from the grateful citizens will be tough because the service has already been provided. In short, your services are non-excludable; that is, you cannot exclude a non-payer from benefitting from your work. Similarly, such actions can benefit many people at the same time without anyone enjoying them less. If the streets of Gotham are safer because of Batman's vigilance, that makes all law-abiding citizens better off. Batman's work is non-rival in consumption. As a result, making money from your powers is difficult, which results in some heroes who are poor.

In this lesson, we see that Luke Cage and The Tick are thinking about ways to use their abilities to earn a living. One of the problems for superheroes is that they essentially provide public goods. As a result, to earn a paycheck they have to do something other than saving the day. This lesson focuses on the public goods nature of a superhero's actions. Because superheroes are unlikely to regularly profit from their actions, we find that many must enter the labor market in some other capacity to support themselves and their crimefighting activities.

Participants in the traditional labor market are subject to the laws of supply and demand based on the needs of the employers and the skills of the employees.

Media Summary: In the Netflix series *Luke Cage*, we find Cage, the Marvel hero Power Man, looking for a way to make a living. In this clip, he tries out for the New York Jets football team (Cooper and Green, 2018). He would have been an unstoppable force on the gridiron, but he does not sign because he is not willing to accept the strings that come attached with pro athlete earnings and endorsements. The opportunity cost of his conviction on the matter is serious money from performing on the football field.

On the other hand, the offbeat comic *The Tick* offers an explicit example of successful superhero enterprise. Here we find the Tick contemplating joining a group of powered up people called the “Justly Compensated League of Superheroes” (Edlund, Griffith, and Hopkins, 1997). He is awed by their “waterfront warehouse” headquarters. The JCLS requests payment for their services, which in any other walk of life makes all the sense in the world. Tick’s sidekick, Arthur, is less optimistic about this career move saying that “heroes don’t charge people” (p. 5), but the Tick pays him no heed. Perhaps this is the chance he has been waiting for. With dollar signs in his eyes, the Tick goes off to join the JCLS.

In-Class Application: The video of Luke Cage and the comic panels of the Tick can be shown or given to students prior to any instruction on the topics. The video clip is less than a minute long, and the Tick comic can be read in less than two minutes. Ask students whether they would use their powers freely to benefit society, or would they, like the Tick, seek compensation? Also ask if they can think of similar advantages in the economy that some people may possess, but that we do not call superpowers. Appendix 1 provides further questions related to heroes using their powers to earn a living.

Insights: Students may reach the conclusion that in some cases heroes could use their powers to enrich themselves. But many superheroes, like Arthur from *The Tick*, will find this idea uncomfortable. Students may question the fairness of allowing superpowered people to participate in activities with normal people. When asked if this is fair to the hero, most students will agree that it is not, but that “with great power comes great responsibility.”⁶ In other words, heroes have a duty, imposed on them by society, to do good deeds. This becomes even more uncomfortable for students when they are asked if there are non-heroes in our society who might also be called upon to perform acts of benevolence. An easy target would be pharmaceutical companies. If they develop a life-saving medicine, or a Covid vaccine, should they be compelled to offer it to the public for free?

B. Spider-Man tries to make a living, in the movie and the comics.

Topics: Human capital, Comparative advantage, Specialization, Economic surplus

⁶ This is the admonition given to Peter Parker by his uncle Ben, but it applies here.

Using superpowers to make money would be a temptation for anyone, especially someone who is really in financial straits, like Peter Parker. When his uncle Ben is murdered, Peter and his Aunt May constantly find themselves in financial difficulties. Bills are overdue, the bank is threatening to repossess the house, and Peter's dream of going to college is going up in smoke. Peter has to get a job to help make ends meet. He could rely on his powers to help out, but in following the code he chooses not to, at least not until it is too late.

In this lesson, we see that the decision not to use powers to complete a job has spillover effects. Because Peter does not utilize his human capital to its fullest potential, trying to complete a job as Peter Parker rather than as Spider-Man, the economic benefits to all parties are reduced, causing economic surplus to shrink. This is what we expect to see when individuals do not specialize in production based upon their comparative advantage. Production is less efficient and society is poorer, but the superhero code is honored.

Media Summary: In the 2004 movie *Spider-Man 2*, we find Peter working as a pizza delivery boy, with an impossible task set before him: he must go 42 New York City blocks in under eight minutes or he's fired. He could use his Spider-Man skills to deliver the deep-dish pies on time, but does he (Ziskin and Arad, 2004)?

A similar challenge appears in a variation on the theme very early on in the *Spider-Man* comic, before he becomes the friendly neighborhood Spider-Man. Peter Parker, fresh off the radioactive spider bite that gave him his powers and desperate for money, enters a wrestling ring with Crusher Hogan (Lee and Ditko, 1963). If he can remain in the ring for three minutes, he can win \$100 (which adjusted for inflation is about \$1,000). Of course, this is no problem for the petite but specially enabled Parker. Afterwards he is approached by a promoter promising him riches and a television contract. It looks like Pete is on Easy Street. Unfortunately, circumstances change for Peter, and he decides to use his powers for good rather than personal enrichment.⁷

In-Class Application: Show the video clip in class or as an out of class prompt. The clip is just under five minutes long. Prior to asking students about the specific economic issues at play here, ask them to consider whether they would use their powers to get the job done. Now, follow this up with the comic panel about Spider-Man. Here, Peter Parker makes a few bucks using his abilities. Ask students to think about how these two scenarios differ.

Insights: Students will have different opinions about whether using powers on the job is OK. Some will say that superheroes should not use powers because it would be unfair to the non-powered workers. Others will say that a superpower is a way of being more productive. You can guide the conversation away from superpowers and toward the comparative advantages and human capital differences we see in the workplace today. Some people's "superpower" is quick thinking, others are creative, while still others are exceptionally organized. In other arenas, workers can dunk a basketball or hurdle a defensive line in nearly superhero fashion. In a well-

⁷ One of those circumstances is that he cannot cash the check without revealing his secret identity!

functioning market, people use their human capital and comparative advantages to earn a living. Now, ask students some of the questions in Appendix 2.

C. Deadpool fails at business.

Topics: Shut-down decision, Fixed costs, Variable costs

Deadpool is another character who tries to make a living using his powers, but he does not find success in his efforts. In this case, Deadpool is willing to use his abilities for financial gain, but he turns out to be a terrible businessman. Free enterprise means that not only can you reap rewards for innovative and beneficial activities but also bear the burden of poor decisions. This is exactly what happens with Deadpool.

This lesson looks at a business owner who is having trouble making ends meet. It provides an illustration of a number of questions with which students often struggle. Maximizing profits also means minimizing losses when things are not going well. When costs exceed revenue, it sometimes makes sense to continue operating rather than exiting the industry altogether. Even if a business ultimately decides to exit, what should it do in the short run until exit is possible?

Media Summary: In these comic panels, Deadpool has set up a company called “Heroes for Hire” and is employing people dressed like him to go and do jobs that he is too busy to complete. When it comes time for payment, Deadpool has arranged with many of his clients to repay him with positive comments on social media. His employees are not pleased by this and confront Deadpool, complaining that they cannot pay their bills with positive social media. Deadpool simply says that they will be profitable soon, while his accountant (yes, an accountant shows up in the actual comic) tells Deadpool that his costs are exceeding his revenues and that he will be unable to stay in business if he cannot turn things around (Duggan and Hawthorne, 2016). It is a lesson of poor business management worthy of the Merc with the Mouth.⁸

In-Class Application: Provide students the panels of the Deadpool comic. Reading time should be less than three minutes. Prior to asking students to answer specific questions about this scenario, ask them to consider what is preventing Deadpool from being successful?

Many students will assert that Deadpool’s business is losing money because he is not earning profit. This is a good place to correct their use of terminology. Deadpool sustains losses because his costs exceed his revenues. Because of this, as the accountant correctly notes, Deadpool will soon be out of business. But he need not leave the market yet. His employees have not quit, and Deadpool still has jobs on which to send them. This means that Heroes for Hire is losing money in the short run, but it is not necessarily optimal to shut down. These panels are not a substitute for teaching about losses in the short-run and the long-run under

⁸ The Merc with the Mouth is a nickname for Deadpool.

various market structures but provide an interesting and unconventional application to facilitate student understanding of a topic that many find to be theoretical and dry.

Appendix 3 provides questions based on the storyline from the comic panels that can be used to assess student understanding of the shut-down decision. Furthermore, there are questions that address how these private decisions affect others in the market. Deadpool bears the burden of his poor decisions and will have to cover the losses out of his own pocket. His business decisions also directly affect his employees, who may soon be unemployed. The potential gain as well as the risk of loss accrue to various stakeholders in the enterprise, and Heroes for Hire is no exception.

Insights: Many students will correctly identify that Deadpool will not make any money offering up his services for social media likes. Decisions about shutdown and exit, however, involve another layer of thinking. Deadpool is failing at business because his costs exceed his revenues. The accountant tells him this point blank. Having students apply the terminology correctly in this setting reinforces the decision-making process for a business deciding whether to remain open or close the doors. Furthermore, by connecting this to a traditional graph, students are applying the theory of the shut-down decision to an actual, non-textbook scenario. Finally, by emphasizing the fact that Deadpool bears the burden of his losses, rather than his customers or taxpayers, and then passes this in part on to his employees, students can see that accountability in a market system incentivizes the efficient use of resources.

Conclusion

So why do heroes not get rich using their special skills? In this brief survey of several superhero tales, we have encountered reasons why heroes may not maximize their earnings. Expectations and social norms for heroes act as a limit on turning their special skills into a remunerative operation. Arthur from *The Tick* is the voice of hero conscience here. That is not what heroes do. Additionally, the basic theory of public goods suggests that charging the ultimate beneficiaries of good deeds may be an impossible proposition. Finally, running a business is hard work and involves risk. Many new businesses fail in a matter of years. Superhuman speed or the ability to fly does not necessarily increase one's business acumen or guarantee that businesses succeed.

Comics and movies about superheroes offer a common canon of relatable tales for students. These storylines make excellent examples for discussion of basic microeconomic principles through the prism of why superheroes do not earn more money. The examples and teaching suggestions provided here are the proverbial tip of the iceberg and are offered to encourage the use and development of additional engaging teaching resources for the superheroes of economics education.

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Appendix 1: Luke Cage and The Tick

Comic Panel: The Tick: <https://criticalcommons.org/view?m=QSPNGgcKg>

Video: Luke Cage: <https://criticalcommons.org/view?m=mTeSaEu9f>

As noted above, this lesson focuses on public goods, as reflected in questions 1-2. Questions 3-5 focus more on the labor market for superheroes. The instructor can select the questions that align with the topics they intend to cover.

1. What kind of good best describes superhero services?
 - a. A private good
 - b. A public good
 - c. A common good
 - d. A club good
2. How do football and providing superhero services differ?
 - a. Football is entertainment while being a superhero is a serious business.
 - b. Football is not a public good while superhero services are a public good.
 - c. Football is a product and superhero activities are a service.
 - d. Football is not a right, but being saved by a superhero is a right.
3. If Luke Cage was signed by a team to play in the NFL, how much money would he make?
 - a. The league minimum.
 - b. It depends on whether he can actually play football.
 - c. He would not take the money because he is a superhero.
 - d. As much as possible and still allow the team to field a complete roster of players.
4. How should superheroes be compensated for their services?
5. How much would a superhero charge for their services? In a fully labeled graph, show the equilibrium wage. How would this wage rise if there were an alien invasion of Earth? Who would pay the higher wage?

Answers:

1. (b) Because it is difficult to charge people for using or benefitting from superhero services (they are non-excludable) and they tend to be of benefit to many people at the same time (they are non-rival), superhero services are best described as public goods.
2. (b) Football is a form of entertainment, but it is something from which sellers can exclude non-payers. It is very difficult to sneak into a football stadium to watch a game without paying. More importantly, it is illegal for a broadcast company to show football games without paying

the NFL for those rights. When a superhero saves a city, they cannot exclude people from benefitting if those people choose not to pay.

3. (d) Luke Cage has a higher level of physical aptitude than any NFL player. In a free market, he would be able to name his price. The only restriction would be the NFL salary cap. This is a limit on how much teams can spend on players. By rule, teams must field a roster of 53 players. As long as the team that signs Cage can pay 52 other players, he can earn the rest of the budget.

4. One approach would be to compensate them as government employees. This is often how communities cover the provision of public goods. The government taxes citizens to provide services subject to the free rider problem. However, superheroes are unique. Is this fair? Follow up by asking if heroes should be rich?⁹

In the Amazon series, “The Boys,” some heroes are very wealthy. They are employed by a private firm that monetizes heroes through movies, toys, sponsorship deals, and contracts with the government. Ignoring the utter lack of scruples or morality possessed by the characters of the show, is this a better way to compensate heroes? Why or why not?

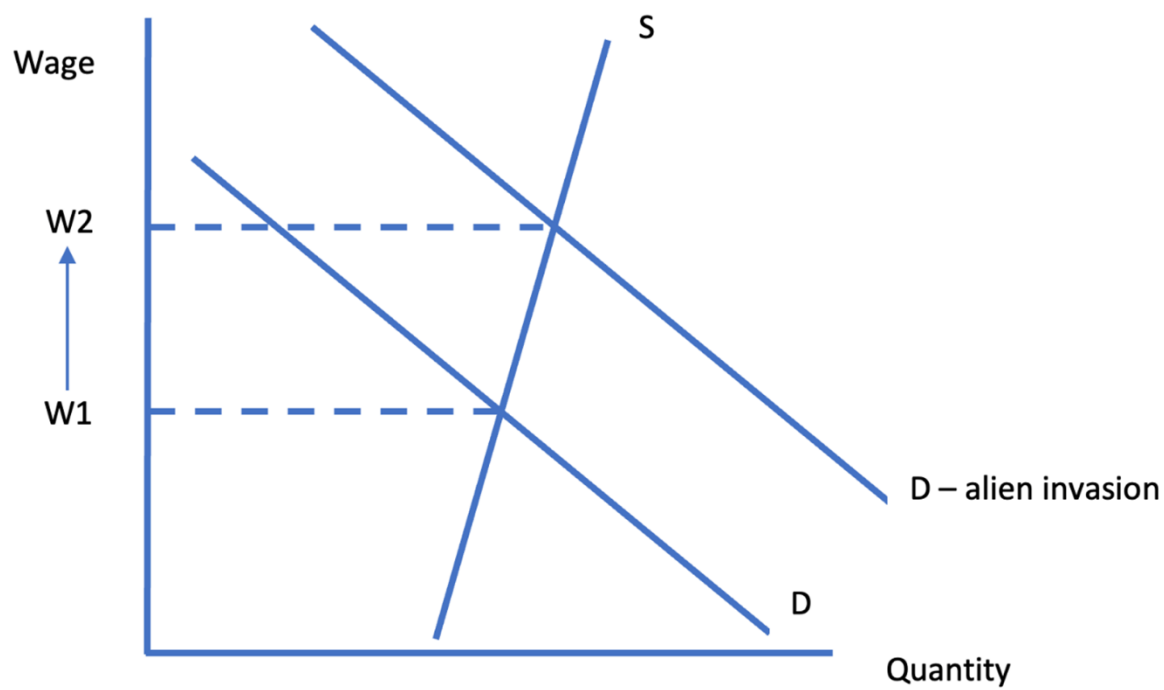
5. This is a question about the labor market. The wage a superhero earns is determined by the demand for their services. The equilibrium rate is found where quantity demanded equals quantity supplied. This is W1 in Figure 1 below. The supply curve is relatively inelastic in this case because we assume superheroes on the whole do not respond much to a change in wages. Most of them adhere to the hero code.

Presumably, an alien invasion would increase demand for hero services. If demand increases, the equilibrium wage goes up to W2. Of course, if the heroes are living by the hero code, they may not accept payment regardless of the resulting equilibrium.

Now, the question is who will pay the wage? It could be done by government. To avoid free riders, the government could levy a tax on all citizens. Another option would be for a rich philanthropist to pay for the services.

⁹ If government becomes the sole employer of superheroes, the issue of monopsony power could be raised. This further interferes with the functioning of a free market, and while heroes could collect a paycheck, their pay would be below what they could earn in a free labor market. Thank you for a referee for this suggestion.

Figure 1: Market for Superhero Services



Appendix 2: Spider-Man

Comic Panel: Spider-Man: <https://criticalcommons.org/view?m=S14uGISDr>

Video: Spiderman 2: <https://criticalcommons.org/view?m=DMocgd5uB>

1. Who bears the burden of Peter's decision not to use his powers to make money?
 - a. The pizza shop owner
 - b. Peter Parker
 - c. The pizza customer
 - d. All of the above

2. How does being a superhero interfere with Peter's ability to make a living?
 - a. It does not. Superheroes do not have to make a choice between saving people and working.
 - b. Being a superhero is more fun than working a regular job.
 - c. Being a superhero makes it hard to do your job because everyone recognizes you.
 - d. Stopping crime and saving lives takes time and attention away from doing your job.

3. How do economists demonstrate that a market is performing below its potential?
 - a. Consumer surplus decreases
 - b. Producer surplus decreases
 - c. Total economic surplus decreases
 - d. Producer surplus decreases but consumer surplus increases.

4. In two fully labelled graphs, show how the total economic surplus of a transaction is reduced when a hero doesn't use their powers to do a job. In the first graph show the market when heroes use their powers for productive activity. In the second, show how the market changes from the original equilibrium to a new equilibrium when heroes do not use their powers for productive activity. HINT: Think about this as a decrease in supply as a result of inefficient (non-powered) labor resources.

5. Why isn't pizza delivery a good job for a superhero?
 - a. The job is too hectic.
 - b. The pay is too low.
 - c. Superheroes need more flexibility in their jobs because people need to be saved at a moment's notice.
 - d. The rate of return on using heroes to deliver pizzas is too low.

6. How are the video and the comic panel different?

Answers:

1. (d) While Peter bears the largest burden, everyone is made worse off when Peter does not use his powers. Peter gets fired, but the pizza owner could have gotten pizzas to his customers much

more quickly, and the customers would not have to wait so long to eat. When anyone, especially a superhero, does not use their abilities to their potential, the entire market misses out on potential economic surplus. As a result, failure to utilize superpowers because they are not being duly compensated harms everyone.

2. (d) Like most heroes, Peter is perpetually having to skip out on work to save someone. This interferes with his ability to perform tasks at work. As shown in the video clip, Peter is not able to complete the simple job of delivering pizza on time because he takes a detour to save two little kids. In the workplace, it would be very difficult if an employee were constantly leaving the office. Thus, it would be more efficient for heroes to do hero work, and earn a living, and let the non-powered deliver pizza.

3. (c) When the output produced is below the efficient level, the overall economic surplus falls. There is a decrease in consumer surplus, and a decrease in producer surplus, but overall, the total surplus is lower.

4. In Figure 2a, the economy is optimized at the equilibrium of Demand (D) and Supply 1 (S1). S1 reflects production when heroes use their powers to increase supply. If heroes do not use their powers, the ability to produce falls and supply shifts leftward to S2 as shown in Figure 2b. Comparing the original equilibrium (E1) to the new equilibrium (E2) we see that the quantity falls from q_1 to q_2 . The economic surplus decreases from the green shaded triangle in figure 2a to the red shaded triangle in Figure 2b. (The red triangle overlays the green one in Figure 2b to make the comparison more obvious.) This loss in surplus occurs because, when workers are not using their superpowers, suppliers are less productive resulting in a lower equilibrium quantity. The superhero code may say that it is wrong to use one's powers to make money, but this reduces productivity and results in less economic activity for all.

Figure 2a: Superheroes using their powers for productive activity.

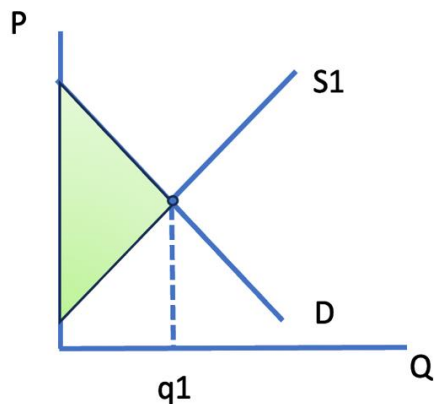
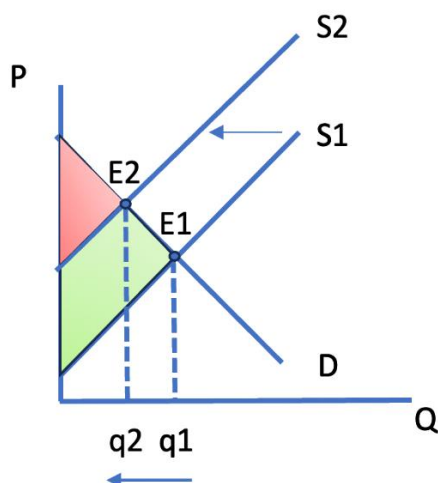


Figure 2b: Superheroes do not use powers for productive activity.



5. (c) Unfortunately, a job where time is of the essence is a bad choice for a superhero. He needs something where the hours are more flexible, like taking pictures for a newspaper, which is the job most closely associated with Peter Parker.

6. In contrast to his failure as a pizza delivery boy, Peter does make it big in the ring. The comic panel provides a starkly different outcome as Peter takes home \$100. There are two important differences between these two situations. First, Peter only has to remain in the ring for three minutes. This limited engagement means he most likely will not be called on to save someone before the job gets done. Second, despite the unwritten superhero code to the contrary, in the case of the fight, Peter is willing to use his powers to make money

Appendix 3: Deadpool's Failed Business

Comic Panel: Deadpool: <https://criticalcommons.org/view?m=Y0q0X0Dx4>

For context: Deadpool has started a business providing superhero services. He is so busy with running the business and helping raise money for the Avengers (that's a long story) that he hires some C-list heroes to dress like him and engage in hero work.

1. Who bears the burden of Deadpool's poor business practices?
 - a. His customers
 - b. His employees
 - c. Deadpool
 - d. Deadpool and his employees
2. How is the service Deadpool provides different from the superhero activity of keeping the world safe from evil doers?
 - a. Deadpool's activity is excludable. If you don't pay, he won't help you.
 - b. Deadpool's activity is a public good while fending off the bad guys is a private good.
 - c. Deadpool does not need to be paid while other heroes do.
 - d. There really isn't any difference between the two.
3. If Deadpool is losing money overall but is earning enough revenue to cover his employees' wages, what is his optimal short-run decision? How is your answer different if Deadpool cannot even cover wages for his employees?
4. In a fully labelled graph, show Deadpool's business in terms of the shut-down decision. Assume he is currently covering his variable costs and can stay in business for the short run.

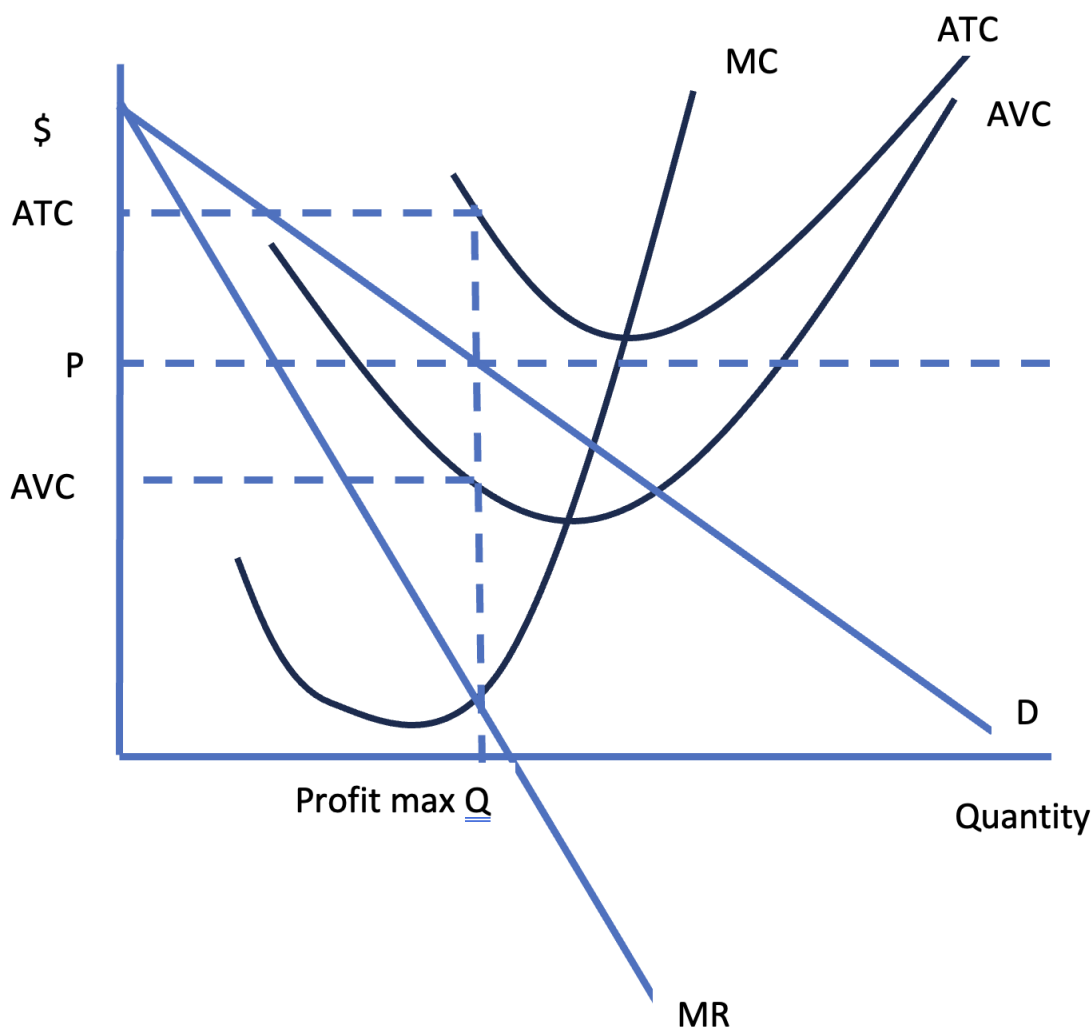
Answers:

1. (d) Deadpool is losing money and his employees are not being paid. This means that both he and his employees are bearing the burden of his bad decisions.
2. (a) Performing small, specific jobs like the one seen in these panels (clearing a house of deadbeat tenants) is a service that lacks the public good nature of wide scale crime fighting. In this case it is relatively easy to exclude non-payers, even if Deadpool agrees to accept a non-monetary form of payment. The job itself is less savory from a hero perspective than saving the world though – a job perfectly fitted for Deadpool.
3. If Deadpool is able to cover wages to his employees, we can infer that he is covering his variable costs and should continue to operate in the short run. During this time, he can try to increase revenue or prepare to exit the industry completely. In the second case, where Deadpool

cannot even cover payroll, the optimal short-run decision is to shut down and pay only his fixed costs until such time as he can exit the industry or reopen with a profit.

4. Assuming Deadpool has some degree of market power, and he follows the profit maximizing rule ($MR = MC$), the graph below shows that the price he charges falls between the average variable costs and the average total cost curves. He is covering his average variable costs (presumably because his employees have not quit) so he can remain open for the short run; however, if this continues, he will be forced out of business.¹⁰

Figure 3: Deadpool and the shutdown decision



¹⁰ Another approach to this graph would be for students to show Deadpool's profit maximizing price, but then to acknowledge that by trading for social media likes instead of money, he is not actually charging the appropriate price.