

Using Podcasts to Teach the New Generations About Supply and Demand

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We describe a collection of podcasts that can be used to teach various topics within the supply and demand model in a principles of microeconomics classroom. Additionally, we provide a framework for deploying the podcasts in the classroom which can be generalized for other topics and courses, as well as sample assignments which can be used as a template for adapting other podcasts in the classroom.

Keywords: microeconomics education, educational podcasts, economics education, teaching innovation, media in education, teaching the new generations

INTRODUCTION

Empirical research by Becker and Watts (1996) shows that economics instructors and professors have traditionally insisted on a “chalk and talk” approach to the teaching of economics. Becker and Watts (2001), Watts and Schaur (2011), and Onger (2017) highlight how this traditional lecture style of teaching has continued to remain the preferred teaching methodology by economists up until the present time. That being the case, it is also true that many instructors are looking for ways to move away from the traditional classroom style. Watts and Becker (1998 and 2008) emphasize the emergence of new and innovative techniques within the field of economics education. Economics educators now use literature, art, film, podcasts, documentaries and a wide array of other engaging tools to teach economics. Some of the motivations postulated in the literature for these new practices are enrollment concerns, improvements in learning outcomes or simply meeting the demands of the new generations.

This paper builds on the existing literature on the use of podcasts in economics courses, see Moryl (2014). The use of podcasts to enhance teaching and learning complements traditional approaches to learning by promoting active learning. An effective instructor should aim to build conduits between students' knowledge and the learning objectives of the course. Podcasts can be used to engage¹ students, stimulate interest in the course content, promote students' retention of knowledge, and illustrate the applicability of many theories and models.

This paper adds to the literature by describing the use of podcasts to specifically teach the supply and demand model and the contribution is threefold. First, while others have aggregated lists of podcasts corresponding to economic concepts,² we curate a set of eight podcasts related to specific concepts *within* the supply and demand model that can be used collectively as a comprehensive lesson for teaching the topic. Namely, we separate the podcasts into four sub-topics: deriving the demand curve; deriving the

supply curve; shifts in supply and demand; and equilibrium. Below we provide summaries and descriptions of each, as well as identifying some key segments within the podcasts that correspond to specific economic concepts. Second, a framework for the deployment of the podcasts in the classroom to encourage discussion and critical thinking is provided. Third, sample assignments which provide a template that can be used to adapt additional podcasts in economics, or other, classrooms are also provided.

The podcasts described below bring real-life settings, and interesting and relatable stories to the abstract concepts discussed in the introductory microeconomics classroom, which makes them attractive to the students. Further, the podcasts illustrate economic concepts (mostly) without the use of technical jargon and can be used as a starting point to allow students to apply theory to real-world applications. The podcasts are specifically chosen to be used to teach concepts related to the supply and demand model. The stories cover a broad range of topics that students likely have personal experience with, such as the secondary market for concert tickets, the pricing of parking and Uber rides, and the use of spreadsheet software. They also provide behind-the-scenes looks at different industries that students are likely less familiar with, such as the chocolate and candy industry, oil, and salmon.

One purpose of using the podcasts is to promote active learning within the classroom. Silberman (1996), Ayu et al. (2009) and McKinney (2010) emphasize the value of active learning in education. Student moderated reactions and discussions of these podcasts lead to a more enjoyable active learning experience. If students' attention spans are short, then the active learning activities associated with the use of podcasts should be able to help to keep them engaged throughout an entire class period, while creating a more enriching and transformative learning experience.

It is important to note that the instructor should be aware of specific parts of a podcast that may be hard for certain students to understand. Some of the guests or people interviewed in a particular podcast might have a thick accent or the topic at hand may be particularly ethnocentric, so care should be taken to make sure those parts of the podcast are explained to students unfamiliar with the language or culture of the guests. These issues also present an opportunity for a cultural exchange between classmates.

Utilizing media for educational purposes requires the instructor to fully understand any legal responsibilities that they or the educational institution may become liable for. Sexton (2006) provides an exhaustive analysis of this matter and the reader is strongly advised to consult this work and the legal representatives of their institution to make sure that copyrights and intellectual property rights are being respected.

THE LITERATURE

In recent times, the pedagogical toolbox available to economists has grown and become more varied and appealing to the students (Sheridan, Hoyt and Imazeki (2014) and Picault, (2019)). There are three main reasons why economics educators have become more creative in the classroom. First, making the economics major a more appealing choice to college students has become increasingly important since the dip in the number of economics majors in the 1990s (Siegfried (2007) and Okoye (2011)). The last two motivations are intertwined. The new pedagogies in economics are better teaching tools, in general; and they better suited for the new generations. New innovative approaches promote active learning which is a more engaging and superior pedagogical approach (Silberman (1996), McKinney (2010) and Brussow and Wilkinson (2010)). At the same time, and as pointed out by Carrasco-Gallego (2017), new generations of students require new teaching and learning strategies. Thus, more engaging active learning teaching of economics is more beneficial across the board but is also becoming increasingly important as it is also better suited to the idiosyncrasies of the new generations of students that faculty are sharing the classroom with, be it physical or virtual.

Economics educators are indeed using a wide variety of very creative interdisciplinary approaches to teaching economics. Al-Bahrani and Patel (2015) and Al-Bahrani et al. (2016) use social and popular media to teach economics. Watts (2002 and 2003) and Bohanon and Vachris (2012) use literature to teach economic theory. Watts and Christopher (2012), Vazquez and Chiang (2014) and Davis (2015) use the creative arts in the classroom to illustrate economic concepts and to motivate their discussion. Tierney et

al. (2015) use episodes from the popular TV show *The Big Bang Theory* to teach economics. Leet and Houser (2003) created an entire economics course using documentaries and films. Mateer et al. (2016) provide a list of ten films and highlight how specific scenes can be used to teach specific economics topics. Burke et al. (2018) use a variety of movies to teach game theory. Holder et al. (2016) highlight how economics is present in popular music and how using this relationship in the classroom is beneficial to student learning. Al-Bahrani et al. (2017) created a semester long project combining economics and music which highlights the value of interdisciplinary project-based learning. Rousu (2018) uses Show Tunes to teach about markets while Van Horn and Van Horn (2013) use music to teach the history of economic thought.

In direct reference and influence to this article, Hall (2012) uses EconTalk podcasts to teach introductory economics while Luther (2014) uses NPR's Planet Money to teach Principles of Macroeconomics. Moryl (2013, 2014) describes and studies the validity, applicability, and value of the use of podcasts to teach undergraduate economics in great detail. Moryl (2013) conducted a survey amongst students who participated in activities that included podcasts as a learning tool for economic theory. The students overwhelmingly report that podcasts helped them learn and understand economic concepts and that it helped them understand how economics pertains and is relevant to the real world.

Moryl (2013) also highlights the fact that assigning podcasts to the students allows the instructor to introduce auditory and visual pedagogical tools to out-of-the-classroom learning. Moryl (2013) goes on to emphasize the fact that students can repeatedly and actively engage with the content of the podcasts which allows them to make higher level learning experiences possible for them. The faculty member can address the podcasts in the classroom without being obliged to invest in-class time to play them and therefore efficiently facilitate higher order learning through lively, fun and engaging classroom discussions of podcasts that the students have previously listened to at home.

This paper adds to the existing literature on the use of podcasts to teach and learn economics by providing a framework for using multiple podcasts to teach a single topic within a course. Here, we look specifically at the supply and demand model. However, our framework can be adopted for any topic within the economics curriculum, or in other disciplines.

PODCASTS BY TOPIC

In the section below a catalog of podcasts which can be used to complement classroom teaching of the supply and demand model is provided. For each podcast, a summary is provided describing their relevance to important topics taught in the supply and demand model. Although there is overlap among topics in several of the podcasts, they are categorized by their main contribution. A description of several short clips for each podcast that can be played in the classroom to emphasize key points is provided below, as well as a corresponding table (Table 1) with a list of other relevant topics contained in these clips which can be found at the end of this section.

Demand Curve

Freakonomics, Ep. 258 - Why Uber is an Economist's Dream

Duration: 40:01

Hosts Stephen Dubner and Steve Levitt discuss Levitt's co-authored paper (Cohen et. al, 2016) in which Uber data is used to estimate consumers' willingness to pay for transportation. The data set allows the authors to estimate a demand curve due to the novel information about whether consumers accept or reject the ride at the offered price. In addition to estimating a demand curve, the authors also use their findings to calculate consumer and producer surplus. The episode contains detailed discussions of several other economic concepts including changes in supply, demand, and equilibrium, and the use of empirical evidence to support theoretical models.

Supply Curve

Planet Money - Oil #2: The Price of Oil

Duration: 22:22

The first half of the episode discusses the pricing of oil and the oil market in general. The hosts talk with a commodity broker and discuss the futures markets in which oil is traded. In the second half of the episode, the hosts visit an oil field and talk with an oil producer. Their discussion centers around the producer's decision of when to operate the well. The producer monitors the price of oil, and only pumps the oil when the price is sufficiently high. This discussion illustrates how the supply curve is a representation of the producers' marginal cost of production and why the supply curve slopes upward. At certain prices, only the low-cost producers are willing to supply product, while others need to be induced by higher prices. The episode also contains discussions on the role that expectations play in setting today's prices, changes in equilibrium, and opportunity costs.

Changes in Supply and Demand

Planet Money, Ep. 454 - The Lollipop War

Duration: 19:19

This episode discusses the effects of US agricultural policy toward sugar on both candy manufacturers who use sugar as an ingredient, and US sugar producers. The candy manufacturers discuss how price floors make sugar in the US substantially more expensive than sugar produced in the rest of the world. This price differential provides a perfect context to illustrate how an increase in input prices leads to a decrease in supply. It can also be used to facilitate discussion of how firms deal with changes in input prices in the long run. In this case, manufacturers are forced to either find substitutes for sugar, such as corn syrup, or move production to other countries, such as Mexico. There is specific discussion about the market for candy canes, which retailers consider a homogeneous product, and the need to compete on price. On the producer side, there is a detailed discussion on export subsidies, protectionism, and countervailing duties. There are also excellent examples of rent seeking and public choice.

Planet Money, Ep. 601 - The Chocolate Curse

Duration: 18:12

The episode begins by discussing a global shortage in cocoa. The shortage is due to an increase in demand for chocolate in China and India, as well as a change in US tastes toward darker chocolates which requires more cocoa to produce. Supply, however, has been able to keep up with the increase in demand due to the fact that the cocoa trees only grow in a small number of regions, typically have low yields, and are highly susceptible to diseases. The hosts then visit Ecuador and discuss the effects of the fungus Witches Broom on Ecuador's cocoa plantations and the life of Homerito Castro, a plant biologist who created a new super productive variety of cocoa tree called CCN-51, which is resistant to Witches Broom. However, the chocolate produced from the CCN-51 cocoa tree does not taste good, and chocolatiers refused to buy it. Eventually, growers found a method of improving the taste enough to make it acceptable to use in mass market chocolates when mixed with other flavors such as vanilla and caramel. Thus, in addition to increasing the cocoa supply, the CCN-51 tree also created a differentiated chocolate market between mass market and luxury chocolates.

Planet Money, Ep. 606 - Spreadsheets!

Duration: 20:05

The episode discusses the invention of spreadsheet software and its effect on the accounting industry. Prior to computerized spreadsheets, accounting services were written and calculated by hand. Spreadsheet software automated the majority of work that accountants perform, and significantly reduced the amount of time it took to complete individual jobs. The accounting industry worried that they would be put out of business since they charged by the hour for their services. Somewhat unexpectedly, however, the technological shock had a positive impact on the accounting industry. By reducing the amount of time it

took to perform accounting work, it dramatically reduced the price of accounting services. The subsequent increase in quantity demanded more than offset the revenue loss from previous clients.

Planet Money, Ep. 651 - The salmon taboo

Duration: 16:39

This episode discusses the efforts of Norwegian salmon producers to break into the Japanese seafood market. Historically, Japanese sushi chefs used only a few types of fish in their restaurants and Japanese consumers only ate cooked salmon. The Norwegian exporters wanted to convince the Japanese that their salmon was a high enough quality product to consume raw. The exporters embarked on a major advertising campaign to try to convince chefs and consumers to use salmon for sushi. Effectively, they were attempting to change consumers' tastes and preferences. They were largely unsuccessful for a long period of time but had a breakthrough when a major supermarket chain agreed to use their product. This "stamp of approval" helped build trust among Japanese consumers and increased demand for their product. Today, salmon is one of the most commonly consumed sushi ingredients.

Equilibrium

Planet Money, Ep. 468 - Kid Rock vs. the Scalpers

Duration: 19:05

The episode begins with a discussion of how underpriced concert tickets lead to a secondary market where scalpers buy up tickets and resell them at a premium. The hosts interview musician Kid Rock, and he describes his reasoning for wanting to set the price low and his efforts to combat the secondary market profiteers. He argues that his goal is to make tickets affordable to all fans, and not appear to be taking advantage of them and/or only making live shows accessible to wealthier fans. He describes his method of making the equilibrium price of tickets equal to the face-value of tickets, thus reducing the profitability of the secondary market. In areas where he expects high demand, he increases the supply by adding more shows. Additionally, he discusses a form of price discrimination in which he charges a much higher price for "premium seats," and ways to prevent arbitrage, as well as methods of non-price rationing, i.e. distribution by lottery. He finishes by alluding to cross-price elasticity in a discussion of the relationship between low ticket prices and merchandise sales. An updated version of the podcast describes artist Taylor Swift's (among others) method of reaching equilibrium by raising the face-value of tickets.

Freakonomics, Ep. 118 - Parking is Hell

Duration: 36:46

The episode discusses how "free" parking leads to parking shortages and imposes opportunity costs on drivers in the form of extra time spent driving around looking for parking. It also alludes to a moral hazard in which laws regulating the number of required parking spaces on certain types of businesses and residential areas, thus subsidizing parking for drivers, encourage more people to drive. There is also an allusion to the Tragedy of the Commons in which making parking free leads to the inevitable conclusion that more people drive and cause more traffic congestion. The host, Stephen Dubner, interviews transportation scholar Donald Shoup to discuss an experiment on finding the "right price" for parking. Shoup describes an equilibrium condition for parking in which at the equilibrium price there would be at least one available parking spot on every block. They then discuss an experiment conducted in San Francisco where they attempt to use dynamic pricing to reach the above described equilibrium condition. At the time of the interview, the experiment was still ongoing, however preliminary results indicated that dynamic pricing led to a decrease in the average price of parking in the city (although there was substantial variation across neighborhoods). The episode also discusses a limiting factor in this type of pricing model. Certain groups can legally park without paying, thus rendering spots free for some, but not for others, and how some people abuse this system. They discuss methods for limiting this abuse and their efficacy.

CLASSROOM USE AND ASSIGNMENTS

Although there are several effective ways to deploy podcasts in the classroom,³ we have found the following method to be particularly beneficial in engaging students. First, the students are primed by having them discuss some of the various podcast topics. Most students have experiences with many of the podcast topics, and discussion is easily facilitated with a few leading questions (e.g. How can we fix the campus parking shortage? Why do you think the price of gas has gone up/down recently? Why are Taylor Swift concert tickets so expensive? Did you know we pay more for sugar in the US than the rest of the world pays? Why do you think that is?). This gets the students thinking about the real-world examples based on the knowledge they are bringing into the classroom from their own personal experience. Students are then introduced to the course theoretical content. Ideally, students will begin making connections between the theory and their personal experience from the priming examples. Finally, podcasts are used to enhance the learning experience by promoting in-class discussions and assignments relating the theory to the podcast. This sequence helps to promote Ambrose's (2010) definition of learning as a process of change in one's perspectives, ideas, and ways of looking at the world, which should be the aim of the instructor. In-class discussions of relevant podcasts help the student comprehend that the issue at hand is relevant, that it is worth forming an educated opinion about, and it also aids them to understand the value of theory and of empirical work to validate those theories. Further, this process helps the student understand the value of using theory and evidence to update their prior beliefs.

The podcast episodes described above range in length from 16 minutes 39 seconds to 40 minutes 1 second. Depending on instructor preference, students can be assigned to listen to the episodes before class or some of the shorter episodes can be played in class. If the podcast is played in class, discussion can be motivated by having students do a version of the one-minute paper to identify important concepts/examples and create discussion questions. If the students are assigned to listen to the podcast before class, they can be assigned to write a short summary and create a list of clips where class-related concepts are discussed and/or alluded to. To help facilitate discussion, instructors can give prompts and play clips from Table 1 (or other self-identified clips) to highlight important points.

The podcasts also lend themselves well to think-pair-share activities. Students can be asked to illustrate some of the concepts graphically on their own, then discuss their ideas with a partner or small group, then share with the class by presenting their graph on the whiteboard. Think-pair-share can also be used to facilitate classroom discussion with the use of prompt questions. The idea is to ask open, higher order questions that the students cannot directly remember or look up in their notes, but that allow them to apply the theories and concepts previously taught in class to the context described in the podcast.

TABLE 1
KEY SEGMENTS

Podcast	Time	Topics
<i>Freakonomics - Why Uber is an economist's dream</i>	1:19-1:46	Markets, Supply, Demand, Equilibrium
	4:08-7:34	Theoretical models and empirical evidence
	8:30-9:47	Consumer Surplus
	11:25-12:00	Willingness to pay
	13:45-14:40	Changes in demand, change in quantity supplied, equilibrium price

<i>Planet Money - Oil #2: The price of oil</i>	14:29-15:00	Expectations of future, change in equilibrium
	16:30-17:37	Increasing opportunity cost
	18:01-20:15	Upward sloping supply curve, increase in quantity supplied
<i>Planet Money - Spreadsheets!</i>	9:18-9:55	Technological improvement
	10:30-11:08	Increase in supply, change in equilibrium
<i>Planet Money - The salmon taboo</i>	3:54-4:20	Subsidies
	7:09-8:20	Advertising, changes in tastes and preferences
	12:55-14:35	Increase in demand
<i>Planet Money - The Lollipop War</i>	2:16-2:52	Substitutes
	2:53-3:13	Production Costs
	3:14-3:36	Perfect competition, homogenous goods
	6:50-8:12	Non-price determinants of supply (input prices), variable inputs, price floors
	9:25-11:18	International trade, protectionism, tariffs
	11:30-14:11	Rent seeking, lobbying, public choice
<i>Planet Money - The Chocolate Curse</i>	0:16-1:14	Increase in demand (income, tastes and preferences), increase in quantity supplied, supply shocks, shortages
	4:40-4:53	Substitutes in production
	5:24-8:09	Innovation, increase in supply (technology)
	9:14-10:50	Inferior goods
	11:11-12:00	Innovation
	12:01-14:03	Product differentiation
<i>Planet Money - Kid Rock vs. the scalpers</i>	1:55-3:00	Disequilibrium, shortages, non-price rationing (first-come, first-served), secondary markets, willingness to pay
	6:19-6:58	Marketing/brand reputation
	13:00-13:47	Increase in supply, equilibrium
	13:50-15:21	Price discrimination, arbitrage prevention
	15:45-15:57	Non-price distribution (lottery)
	16:47-17:20	Cross-price elasticity

<i>Freakonomics - Parking is Hell</i>	3:40-4:41	Free, shortages, opportunity cost, moral hazard, subsidies
	5:12-6:50	Non-price rationing (first-come, first-served)
	10:00-10:17	Equilibrium
	21:00-23:15	Dynamic pricing
	23:17-29:26	Non-price rationing (favored customers), underground economy, price discrimination
	29:26-31:25	Equilibrium

Sample Assignments

Sample Think-Pair-Share Prompts

Q1: In “Kid Rock vs. the Scalpers,” Kid Rock discusses his use of adding shows in cities with high demand for concerts to maintain his desired equilibrium price and eliminate the market for scalpers. Use a supply and demand graph to show a shortage when there is one show and the scalpers’ arbitrage opportunity. Then show how increasing the number of shows eliminates that opportunity. (Note: Instructors may or may not want to remind students the supply is perfectly inelastic, depending on discussion goals. If elasticity has already been covered in class, this is a good opportunity to facilitate discussion around determinants of elasticity of supply. If not, it can serve as a lead-in to future lessons.)

Q2: Use the following scenarios from “The Chocolate Curse” to illustrate how changes in supply and/or demand affect the equilibrium price and quantity of cocoa.

- a) Witches broom fungus attacks Ecuadorian cocoa plantations.
- b) Incomes rise sharply in China and India.
- c) Homero Castro develops the hybrid cocoa plant CCN-51.
- d) The new hybrid CCN-51 tastes like rusty nails.
- e) Farmers discover that covering the plants for a few days significantly improves the taste.

(Note: Instructors can combine a) and b) to show a simultaneous increase in demand and decrease in supply, while combining c) and d) can be used to show a simultaneous increase in supply and decrease in demand or c) and e) to show increases in both supply and demand.)

Q3: In “Oil #2,” an oil producer discusses how he monitors the price of oil on a daily basis to determine whether he should turn on his well, indicating that he only pumps oil if the price goes above a minimum threshold. Discuss the relationship between this decision and the market supply of oil.

(Note: This can be used to facilitate a discussion of the difference between an increase in supply and an increase in quantity supplied, increasing opportunity costs, and the reason for upward sloping supply curves. In later chapters, this can be recalled to facilitate discussions of short-run production decisions and the shut-down rule.)

Q4: In “The Lollipop War,” they mention that the government sets a price floor of 22.9 cents per pound. It does not describe how that price is maintained. What are some methods of maintaining a price at, or above, the minimum, and what are some of the additional consequences associated with each method?

Sample Minute Paper Prompts

- Q1: Describe how this podcast relates to some of the economic concepts discussed in class.
- Q2: Which parts of this podcast did you find most interesting?
- Q3: Which parts of this podcast did you find least interesting?
- Q4: What are some parts of the podcast that you found unclear, or would like to know more about?
- Q5: Summarize the podcast in one sentence.
- Q6: What information in the podcast surprised you the most?

Sample Homework Assignment

Q1: In “The Lollipop Wars,” there is a discussion of the sugar industry’s influence on policy through lobbyists and campaign contributions. Go to the website www.opensecrets.org and use the search tool to find out how much members of the sugar industry contributed in the last campaign cycle, as well as the ratio of contributions to Democrat and Republican candidates. How does that compare to political spending by the dairy industry (also available in Open Secrets)?

CONCLUSION

Everyday human life is changing at an increasingly fast pace and this is reflected both in the content that is discussed in economics classrooms and also in the way economics is taught and learned. Economics instructors seek new and innovative pedagogical approaches that will harness the technological opportunities that the 21st century presents them with and, also, that will be better suited to the minds of the newer generations of students. In this sense, the use of pop-culture and multimedia in the economics classroom has been growing in recent years as a method to increase the modern student’s level of engagement and understanding of economic concepts. This article presents an innovative framework for integrating podcasts into an economics course to complement the text reading and lectures. The paper presents a series of curated podcasts centered specifically around the supply and demand model. However, this framework can be easily adopted for other economic topics and models, as well as other academic disciplines. The podcasts presented above are neither an exhaustive list, nor need all be used to achieve the desired learning objectives. The primary aim of adding this type of activity into the classroom is to bridge the gap between theory and application, and relate the course material to students’ life experiences. The use of podcasts as described above provides a simple method of doing so without putting too extensive of a burden on the instructor and not diverting too much class time away from other course material.

ENDNOTES

1. Spiker (2020) provides a pragmatic discussion of the importance of student engagement in education and therefore in course design.
2. Most notably, www.audioecon.com, (Moryl, 2014), provides a substantial list of podcasts aligned with samples aligned to chapters of popular principles texts as well as tags that group podcasts by topic.
3. For example, Moryl (2014) suggests having students listen to the podcasts and writing memos describing the economic concepts described in them, having students give “executive summary” presentations, and having students write quiz questions based on the assigned podcasts.

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