

# THE ROLE OF RELEVANCE IN ECONOMICS EDUCATION: A SURVEY

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## Abstract

The literature on active learning and engaging pedagogy has grown since the turn of the century when William Becker challenged the economics education community to be “sexier” in order to attract more majors. While the effectiveness of teaching methods has been understudied, the available resources to an interested educator has grown substantially. We survey the literature of active teaching techniques and resources as well as provide sources for aspiring educators wishing to enhance the relevance of their coursework.

**Key Words:** economics education, introductory economics, teaching, television, movies, podcasts, teaching methods, undergraduate economics

JEL codes: A1, A2

## Introduction

The classic example in macroeconomics for the production possibilities frontier is a country’s decision between producing capital goods (guns) versus consumption goods (butter). The “Guns & Butter” model has been a staple in economics textbooks,<sup>5</sup> but the example is past the one-hundred-year mark since its initial conception. Students desire real-world applications to see the relevancy of the material they are learning (Berk, 2009; Ghosh & Rahman, 2011), but guns and butter are no longer relevant to this generation of students. Becker (2003) argued that the growth of business degrees comes partly from their ability to engage students in real-world situations with case studies or projects. However, he had the following slight against the economics discipline:

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<sup>5</sup> One early example of the Guns and Butter model occurred in Quelch (1893)

*“Professors of economics, however, are generally still delivering dry, make-believe examples that have little to do with students’ lives. Textbook-style competitive markets that may work for agricultural commodities, at least in an idealized world, do not work when imperfect information leads to the use of price as a measure of quality -- as in the used car, insurance, and labor markets.” (p. 197)*

Becker argued that economics programs need to change their approach to teaching in exchange for more interesting topics that are applicable to the real world faced by our students. The idea that there has been a decrease in enrollments across the United States seems to conform more with McMillin’s (2003) observation that the long-run average issuance of economics degrees hovers around 2% and that year-to-year differences are cyclical changes. In 2003, the National Center for Education Studies (U.S. Department Of Education, 2013) reported that 1.94% of all bachelor degrees were awarded to economics majors.<sup>6</sup> More recent data suggests that the level continues to be around 2% as recent as 2019 (Siegfried, 2020). The fear that the discipline has lost a significant number of enrollments because of its lack of appeal does not seem to hold since Becker’s proposition around the turn of the most recent century.

The scope of this paper is to highlight the input-side of producing great lectures. We focus on ways educators have developed resources to bring relevancy back into the classroom and then organize and summarize the economic literature regarding attempts to introduce relevancy to the economics curriculum. The range of examples presented in the literature and our suggestions can be used at multiple levels of economic education. As a field, the teaching of economics has grown substantially since 2001, however, there has been little work in measuring the impact of relevancy on assessments. We provide a brief overview of assessments but note that this is where the frontier of this field currently lies. As the number of resources grows, it is only a matter of time before educators begin testing their efficacy.

### **Challenging the need to be sexy**

One of Hoyt’s (2003) main suggestions to counter Becker’s criticism of the teaching community was that instructors need some hook to engage the students in the material and that a change of the actual material was not necessary. While faculty may have little room in adjusting theories they teach, they have complete control in the content they select to accompany the theories. One of Hoyt’s main arguments is that the content selected by the faculty needs to be relevant to the students. There are a variety of “hooks” to engage students and the instructor has the ability to select methods throughout an academic timeframe to bring the students into economics. Faculty may fear the level of involvement in “active learning,” but Hoyt simplifies active learning to be “anything you do in the classroom that actively engages students, physically and mentally” (p. 203). We argue that faculty should engage students with Hoyt’s “‘real’ hook”

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<sup>6</sup> The discipline divisions that were included in the calculation included majors that were categorized as agricultural economics, natural resource economics, business/managerial economics, general economics, applied economics, econometrics and quantitative economics, development economics and international development, international economics, “other” economics, and political economy.

and determine real world examples coming from current events and everyday life that students can find relatable.

Some educators wishing to appeal to students beyond guns and butter have incorporated “shock and awe” examples such as marijuana, alcohol, and sex. While these topics may garner a chuckle from students, their use is often limited in scope and is often used for shock value rather than as relevant illustrations of economics in everyday life. The examples become tiresome because they are typically not directly applicable to the concepts taught so additional references need to be used for other students in the class. These examples also tend to be less inclusive to the general classroom sample. We argue that future purveyors of active learning start smaller. We believe that educators want to be more effective in the classroom, but it takes time to connect material with students’ interest. Identifying low-cost, high-benefit activities takes time and effort that many feel they do not have (Goffe & Kauper, 2014).

### **Moving beyond chalk and talk**

The use of alternative media in the classroom has grown over the last two decades. Watts and Schaur (2011) summarize four major surveys of economics courses conducted through the American Economic Association. While the majority of class time is still spent doing “traditional” lectures and chalkboard work,<sup>7</sup> the average number of participants in these categories has declined since 1995. While the remaining teaching methods have stayed relatively stable, the bulk of growth has come from the use of PowerPoint and computer-generated displays.<sup>8</sup> The trends are present in principles of economics courses as well as intermediate courses, statistics and econometrics, and upper-division field courses.

A number of studies have shown that economics educators favor “chalk and talk” (Siegfried, Saunders, Stinar, & Zhang, 1996; Becker, 1997; Becker & Watts, 1996; Becker & Watts, 2001; Bligh, 1998), but there have been a series of papers written to improve the educational delivery process and move away from the “traditional” method, which we hope to display here. A large push over the last decade to increase the number of alternative media in the classroom has been met with a fear of its educational effectiveness. A series of authors have found support for various nontraditional teaching methods (Barr & Carr, 1970; Slavin, 1990; Thomas & Sherman, 1986; Meyers and Jones 1993; Koeber 2005; Yamarik 2007) while others have found no significant differences (Abu and Flowers, 1997; Bligh 1998; Marburger, 2005; Malek et al. 2014).

The most compelling use of relevant material comes from Bligh (1998) and Malek, Hall, and Hodges (2014). Bligh concluded his analysis of nontraditional teaching methods (discussion, programmed learning, reading/independent study, projects, and other—audio, TV, computer-assisted learning) by encouraging the use of mixed mediums because students do not learn to think during a traditional lecture. Most lecturers do not stimulate creative thinking and are not effective in generating enthusiasm for the subject. Malek et al. (2014) provide the impetus for

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<sup>7</sup> Roughly 73% of survey participants used traditional lectures in 1995 while only 65% of participants used traditional lecturers in 2010. The earliest survey for chalkboard/whiteboard use occurred in 2000 with 65% of respondents using this method. Chalkboard/whiteboard use fell to 57% of respondents in 2010.

<sup>8</sup> In 1995, only 5% of survey respondents used PowerPoint or computer-generated presentations (with more than half not using it at all). By 2010, 37% of survey participants were using digital presentations.

staying relevant with examples and activities for various learning styles in economics, while more recent books have focused on small teaching activities that can be done in the classroom (Lang 2016) and online (Darby and Lang 2019).

Even if some students might not benefit from a particular teaching method, “mixing it up” by addressing auditory, visual, and kinesthetic learners will not only teach to the entire class but it, at the very least, could reinforce what students already have learned via another method. If all that is different is that students enjoy and value economics and their education more when alternative teaching methods are used in the classroom, this in itself is a strong enough reason for a professor to evaluate their teaching pedagogy and make changes where necessary. If students do not come to understand the power of the economic way of thinking nor come to the realization of how interesting, applicable, and even fun economics can be in their everyday life after taking a principles class, then that is a teaching failure. Overall, these practices assist in enhancing the classroom experience for both students and teachers.

In order to bring educators and students to a more common ground, it is important for educators to stay current with student interests. This is not limited to just popular media. More relevant examples for teaching the twenty-first century student could include sharing-service providers like Uber, Lyft, Airbnb, and Zipcars when teaching about competition or digital currency like Bitcoin and Dogecoin when teaching about the function of money. Not only are these examples relevant to students, but they are also applicable to many of the topics covered in a variety of economics classes. These examples are so familiar to today’s *net generation* of students that they have been branded as *digital natives* (Prensky, 2001; 2006). Students have become “native speakers” of all things digital, including video games, the internet, social media and computer programs. In contrast, many faculty members are still referred to as *digital immigrants*. Berk (2009) notes that digital immigrants have one foot stuck in the past and struggle to become fluent in “digital” technologies.<sup>9</sup> Our goal of the following sections is to survey the available literature for resources on engaging students in the classroom using a vast amount of digital resources, some of which may help faculty assimilate.

## **Popular culture**

Economic educators and researchers have spent the past few decades collecting, organizing, and presenting their work on using popular media in the classroom in order to bring material “up to date” with student experiences. Our hope is that the lists provided here will serve as a starting point for educators interested in expanding their reach in the classroom with material that has already been developed by others. This notion of crowdsourcing will lead into the following section which focuses on identifying resources in real-time from a variety of author-endorsed resources.

The most common media presented in the classroom would cover traditional usage of television clips (Table 1) or movie clips (Table 2). The use of music (Table 3) has seen an increase since Becker’s critique, but is not as abundant as movies and television clips. Regardless of the medium, the purpose of each should be to have students think critically about why that

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<sup>9</sup> Examples that Berk (2009) gives of digital immigrants are faculty members that print out e-mails, print a document to edit it, or phone someone to see if they received an e-mail.

information is being introduced in the course. In each of the sections below, we summarize the seminal work in the area, but also provide summaries on the effective use of these resources on student learning. Each section has a more extensive table providing citations to more specific media sources.

### ***TV and movies***

Since the seminal Becker and Watts (1996) survey on teaching methods, the response has heavily emphasized the use of movie and television clips in the classroom. The perk of using videos in the classroom is that they can be engaging (Mateer & Calhoun, 2012) and students readily admit that it is their favorite way to learn (Vazquez & Chiang, 2015). For educators worried that using videos in the classroom decreases the rigor of a classroom, Sexton (2006) argues that well-selected videos can provide a more concrete framework and improve retention. Picault (2019) and Wooten (2020) outline a variety of ways that media clips can be integrated into the classroom. The value of using movies and television clips in the economics classroom boils down to the relevancy for the students. Using clips that are relevant to the topic (whether public choice or healthcare) and relevant to the student (The Simpsons or South Park) can reinforce topics and concepts that otherwise would appear abstract. Vidal, Mungenast, and Vidal (2020) went so far as to design an entire course on economic thinking centered entirely around films, while Conaway and Clark (2015) designed an entire introductory course around *Parks and Recreation*.

**Table 1: Using Television Shows in the Classroom**

Variety	Sexton (2006) Mateer, Ghent, & Stone (2011) Mateer (2012) Wooten (2018) Malek and Acchiardo (2020)
Adam Ruins Everything	Wooten & Tierney (2019)
Breaking Bad	Duncan, Muchiri, & Parschiv (2020) Muchiri, Parschiv, & Wooten (2020)
ESPN 30 for 30	Crisp & Mixon Jr. (2012) Al-Bahrani & Patel (2015b)
Have Gun -- Will Travel	Murphy, Schuler, and Wooten (2020)
Modern Family	Wooten, Staub, and Reilly (2020)
Parks and Recreation	Conaway & Clark (2015) Wooten & Staub (2019)
Seinfeld	Ghent, Grant, & Lesica (2011) Deal & Hegde (2013) Hendrickson (2017) Ghent and Grant (2020)
Shark Tank	Patel, Al-Bahrani, Acchiardo, Sheridan (2014)
South Park	Hoffer and Crowley (2015)
The Big Bang Theory	Tierney, Mateer, Geerling, Wooten, & Smith (2016) Geerling, Mateer, Smith, Tierney & Wooten (2018)
The Colbert Report	Randolph (2016)
The Office	Kuester, Mateer, & Youderian (2014) Kuester & Mateer (2018)
The Simpsons	Hall (2005) Considine (2006) Luccasen & Thomas (2010) Gillis & Hall (2010) Chu (2014) Butler, Butler, and Considine (2016)

The earliest research summarized a few popular movies and television clips that displayed a strong amount of particularly appropriate content. As web hosting prices declined and the ability to procure particular clips increased, researchers began identifying a variety of clips and posting them online. Research notes have identified websites that host clips that can be used across an economics curriculum. Websites currently exist for *Seinfeld*,<sup>10</sup> *The Big Bang Theory*,<sup>11</sup> *The Office*,<sup>12</sup> *Modern Family*,<sup>13</sup> *Parks and Rec*,<sup>14</sup> *Shark Tank*,<sup>15</sup> and *Breaking Bad*.<sup>16</sup> These websites take a broad approach to teaching with media and often rely on the educator to determine the best way to implement them in their curriculum. Because their approach is to host a wide variety of clips, some of the segments are less clear on their economic content than others. Each site does, however, include teaching guides that demonstrate ways a few of the videos can be used in the classroom and as part of assessments.

**Table 2: Using Movies in the Classroom**

Variety	Bhadra (2006) Mateer (2006) Sexton (2006) Macy & Terry (2008) Parker (2009) Mateer & Stephenson (2011) Mixon (2010) Samaras (2014) Mateer, O’Roark, & Holder (2016) Carrasco-Gallego (2017) Burke, Robak, & Stumph (2018) Staley (2018)
Classic films	Leet & Houser (2003)
Harry Potter	Deyo & Podemska-Mikluch (2014) Podemska-Mikluch, Deyo, & Mitchell (2016)
The Hunger Games	Cleveland, Holder, & O’Roark (2016)
Mad Max	Mateer & Vachris (2017) Mateer & Vachris (2018)
Westerns	Braun (2011)

<sup>10</sup> <http://yadayadayadaecon.com>

<sup>11</sup> <http://bazinganomics.com>

<sup>12</sup> <http://economicsoftheoffice.com>

<sup>13</sup> <http://modernfamilyecon.com>

<sup>14</sup> <http://economicsofparksandrec.com>

<sup>15</sup> <http://econshark.com/>

<sup>16</sup> <http://breakingbadecon.com>

A more recent trend has focused on using media to teach narrow concepts rather than identifying broad concepts in the media itself. Researchers have identified relevant media that can be used to teach futures trading (Lang, 2013), voting (Hoffer and Crowley, 2015), marginal revenue product (Wooten & White, 2018), functions of markets (Kuester & Mateer, 2018; Rousu 2018), and the Coase Theorem (Murphy, Schuler, & Wooten, 2020). The benefit of these particular projects is that the focus is on a specific concept and then applies a television show or movie to that concept. For example, Murphy, Schuler, and Wooten (2020) use a single episode of the show *Have Gun – Will Travel* to demonstrate various nuances of the Coase Theorem.

### ***Music***

Second to the use of movies and television clips in teaching economics comes music. Early work focused on identifying a few key songs that could be used in the classroom to teach particular topics (Tinari & Khandke, 2010). By identifying a few key songs that correspond to particular topics, educators could play the songs before class as an introduction that day's lesson (Acchiardo & Mateer, 2015) or ask students to sing karaoke to demonstrate the supply curve (Geerling & Mateer, 2015). Songs could be played during class and students asked to summarize how the song applies to class content as part of a formative assessment. Some websites have been created, which are discussed more below, that have screened songs that contain a strong amount of content and can be used in class. Using music to convey economic concepts has been found in the past to improve some student learning (Harter, 2003; McClough and Heindfelt, 2012).

More recent projects have focused on students developing projects around music or music videos or putting the identification process in the hands of students. Some educators have assigned formative assessments that require students to identify a popular song and analyze the song for economic concepts. This assignment can be particularly effective given that new music is released regularly across the world and can help students focus on evaluating the songs for concepts rather than just identifying particular concepts. Other educators have taken much larger summative assessments that require students to create music videos that focus entirely on economics concepts (Holder, Hoffer, Al-Bahrani, & Lindalh, 2015; Al-Bahrani, Libis, Drabik, & Gibson, 2017). This approach is often used in place of a final exam because of the time requirements to identify a song, write lyrics that incorporate economic content, and produce the actual final music video. This has been found (Raehsler, 2013) to have a positive impact on attendance, evaluations, and assessment scores.

Researchers have also created websites focused on identifying economic concepts in popular music. Websites currently exist for country music (Melichar, 2018) and Broadway music (Rousu, 2016). Websites that aggregate media, like the Economics Media Library (Wooten, 2018) and Dirk's Media Library (Mateer, 2012) have music videos as well. Some websites provide more context on the particular song and the economic content, while others rely on the listener to pick up the key concepts in the music video. As with television and movie clips, most authors take the position that if an instructor does not immediately notice the application when they watch the clip, they should probably not use the clip in the classroom. Using media in the

class requires a certain level of cultural understanding that some may not be comfortable exposing to their classrooms. We cover some of the main criticisms of using media in the classroom later in the paper.

**Table 3: Using Music in the Classroom**

Variety of examples	Mateer & Rice (2007) Hall & Lawson (2008) Hall, Lawson, Mateer, & Rice (2008) Tinari & Khandke (2010) McClough & Heinfeldt (2012) Krasnozhon (2012) O’Roark, Holder, and Mateer (2018)
Pop Songs	Van Horn & Van Horn (2013) Mateer, O’Roark, & Holder (2016)
Country Music	Melichar (2018)
Student generated videos	Holder, Hoffer, Al-Bahrani, & Lindahl (2015) Al-Bahrani, Libis, Drabik, & Gibson (2017) Al-Bahrani & Thompson (2019) Geerling, Mateer, and O’Roark (2019)

### *Nontraditional media*

Although movies, music, and television are the largest source of popular media, they are not the only avenues that researchers have undertaken to parse out economics examples in everyday life. Perhaps the most consistent use of media in the classroom has been having students read newspaper articles and listen to podcasts. Many universities subsidize newspaper subscriptions for students and major newspapers also have started daily news digests that can be delivered to an inbox. Kelley (1983) proposed students create their own newspaper using articles that they identify before class, while Hall and Podemska-Mikluch (2015) emphasized using Op-Eds to teach the economic way of thinking. The prevalence of news media makes this particular form of relevancy more easily accessible, even if it were only the campus newspaper. Small-stakes assignments could require students to identify a news article each week and have them submit a short summary to a learning management system.

Podcasts are another way to bring current issues to the classroom, rather than through hypothetical situations. Moryl (2014) created a website<sup>17</sup> dedicated to providing resources for instructors interested in integrating podcasts into their curriculum. The continuously updated library includes links to popular podcasts like *Freakonomics* or *Planet Money* and are linked to topics in a traditional principles textbook. Other researchers have looked specifically at using EconTalk with Russ Roberts (Hall, 2012) or NPR’s *Planet Money* (Luther, 2015) in teaching

<sup>17</sup> [www.audioecon.com](http://www.audioecon.com)

economics at the principles level. Similar to the introduction of student-generated music videos, student-generated podcasting assignments (Moryl, 2016) allow students to apply their economic proficiency and create some deliverable, which the American Economic Association would perhaps believe satisfies their goal of having undergraduate students be able to present and discuss economics broadly.

**Table 4: Using Non-traditional Media in the Classroom**

Art	Watts & Christopher (2012) Arriba Bueno & Vidagañ Murgui (2014) Al-Bahrani, Holder, Patel, & Wooten (2016) Vidagañ Murgui & Arriba Bueno (2016)
Fantasy Football	Nagel (2016) Collins and Hoffer (2016)
General literature	Watts & Smith (1989) Watts (2003)
Historical literature	Hartley (2001) Considine (2006) Dighe (2007) Cotti & Johnson (2012)
American Novels	Chamlee-Wright (2011) Vachris & Bohanon (2012)
Short stories	Ruder (2010)
Children's books	Miller & Watts (2011) Harter & Harter (2014) Yetter (2016)
Comic Books	O'Roark (2017) O'Roark (2018) O'Roark & Grant (2018) O'Roark (2019)
Humans of New York	Acchiardo, Al-Bahrani, Holder, and Mateer (2017)
Poetry	Ziliak (2009) Bohanon (2012) Davis (2019)
Pokémon	Al-Bahrani, Mahon, Mateer, and Murphy (2018)
Shakespeare	Kish-Goodling (1998)

Podcasts	Hall (2012) Moryl (2013) Moryl & Jiang (2013) Moryl (2014) Moryl (2016) Luther (2015)
Broadway Shows	Tinari and Khandke (2010) Rousu (2016) Rousu & Conrad (2017) Rousu (2018)
Op-Ed Articles	Hall & Podemska-Mikluch (2015)
Scrapbooking	Al-Bahrani, Dowell, & Patel (2016)

Literature has typically been readily available prior to the availability of streaming movies and music. Similar to the work in popular television shows, early research focused on a few key novels or important works that could be used to teach economics while future research has explored entire series for economics content. Researchers identifying teachable content from literature run the gamut from the Shakespeare (Kish-Goodling, 1998) to the Berenstain Bears (Yetter, 2016). While some instructors may require students read entire books as part of the curriculum, there are many books where the chapters are self-contained to the point where only a subsection of the book could be assigned for a particular topic. Wooten and Smith (2018) use popular press books like *Freakonomics* as the basis of a homework assignment which can be randomly generated for an entire class using Google scripts. A more common approach might be to have students read a book over the entire course of the semester and write a book summary or answer short response questions on an exam.

### Concerns on relevancy

There are two main concerns on using popular media in the classroom from a relevancy standpoint: preferences evolve over time and each reference won't resonate with every student. Given the vast number of media available, and the improved access to media compared to earlier in the century, there are vastly more opportunities to use media in the classroom. Hit shows and movies seemingly occur more often and it's possible that the popular culture that has been identified is not currently what students enjoy (Al-Bahrani, Holder, Patel, & Sheridan, 2016). A more pressing concern may not be whether students find the material enjoyable, but rather if they recognize the media at all. It's possible, even likely, that some students may not have seen the television show, movie, or song that an educator has chosen to play for that day. This concern, however, is true for any examples that an instructor would chose to use in class and isn't specific to using media.

While student preferences may represent the demand side of using popular media in the classroom, we'd be remiss if we didn't also consider supply-side concerns as well. Given that it

is likely at least one student may not recognize the media that was selected, it's important that educators be comfortable with the content of the clip to be able to describe the story well enough that intimate knowledge of the show is unnecessary. This is one of the rationales for listing the resources above by media source rather than the number of materials available to an educator. The concept of opportunity costs can be found in any number of television shows, movies, or songs listed above, but an educator who is familiar with a particular show will be able to describe the backstory well enough so that students can focus on the economics rather than the media.

The final concern of using media in the classroom considers the efficacy of using popular culture to achieve learning objectives. This is an area of the literature that we believe currently is understudied but will likely grow in importance as online teaching becomes more common. One of the difficulties in testing the impact of media in the classroom is that it is difficult to randomly assign classes a particular teaching approach if the instructor believes the media is an important component of the learning process. However, there has been some work showing learning gains associated with using popular media.

In a study on the effectiveness of using episodes of *The Simpsons*, Chu (2014) finds a positive relationship between exam scores and questions using references from the show. The impact is strongest for students on the lower end of the grade distribution. McClough and Heinfeldt (2012) measure the impact of using songs in a traditional lecture format and find both positive and negative impacts of music on student performance. They argue the impact is medium-specific and that the more concrete and tangible the concept is to student, the more effective popular culture can be. Music, and they suggest other popular culture, may have negative impacts on students when the material doesn't directly relate to the class content.

We believe, especially with the growth in online and remote education, a growing number of researchers will turn their attention to studying the impact of popular culture on student learning outcomes. Using online courses, educators may be able to randomize the treatment of students exposed to movies, television clips, and music while maintaining the same exams and course content delivery. This appears to be an area ripe for further exploration.

### **Staying Relevant**

While the amount of material available is ever-growing, it is essentially already outdated once its published. Kenneth Elzinga likened the economics lecture to that of a refrigerator in that the material we cover is like the food inside of a refrigerator, "both need to be regularly emptied of items that have gone stale and to have fresh items put in" (2001, p. 251). The following section outlines popular sources of current topics for use in the economics classroom that the authors actively use in their classrooms. Note that the material here only lists sources for finding examples, and not the examples used themselves. The use of some of these alternative resources may seem daunting at first, but repeated interaction with these sources can ease anxiety. Lewis & Fabos (2005) described the process as such that, "when technology becomes 'normal'...it is no longer complicated, nor is it notable to its users. It is a fact of life, a way of being in the world, a producer of social subjects that find it unremarkable. ...[S]o unremarkable that it seems 'everybody does it'" (p. 470).

While the resources outlined below provide many non-economic related concepts, it opens the opportunity for the instructor to begin the process of identifying, utilizing, and

(hopefully) sharing those resources with others in the economics community. Each section provides a brief background of the resource and what types of examples they may provide.

### *Data journalism sites*

Data journalism is a relatively new field of journalism that specializes in numerical data as the basis for information. It incorporates work from traditional journalists, graphic designers, and computer programmers to create and disseminate information. The information available through these sources can be as varied as data visualizations, podcasts, interactive graphs, short digital films, opinion-editorials, and news pieces. Similar to the material that has been published previously, students could be asked to merely search for relevant topics and submit summaries each week or educators could select topics and discuss them in class. Three prominent data journalism sites include FiveThirtyEight, The Upshot, and Vox News.

FiveThirtyEight is a statistics-driven branch of ABC News<sup>18</sup> focusing on the emerging field of data journalism. While initially created by political pundit Nate Silver, the site has grown to encompass more than political conversations. The site creates and uses polling data on a variety of topics to create data visualization tools. The site has sections for Politics, Economics, Science, Life, and Sports and covers a broad range of national and international issues. Thus, the use of FiveThirtyEight articles works best for field courses in health, labor, or political economy courses. The site also makes some of their data publicly available through GitHub,<sup>19</sup> which may aid faculty teaching statistics, econometrics, or data analytics.

Similar to FiveThirtyEight, The Upshot (a division of The New York Times) covers a broad range of national and international topics. The Upshot occasionally provides “Everyday Economics” topics that look at economics applied in everyday situations. The goal of The Upshot was to take complicated news issues and present them in an approachable way. Students do not need a New York Times subscription to access material on The Upshot.

Vox Media has a significant presence in data journalism but provides additional analysis through nontraditional techniques. Major news topics are digested frequently with a frequently asked questions article in an attempt to consolidate frequent news updates. The site’s signature feature is the use of wiki-like “card stacks” that can be updated as news changes. The card stacks include relevant data, definitions, and context to news articles. Vox cards can be used as initial resources for students writing papers on recent events because the information is condensed to a manageable list of known facts. Vox also produces short videos illustrating important debates or relevant news. These videos are usually less than three minutes in length and can often be safe to show in class. Vox also produces listicles, which are articles of lists, such as “37 Maps That Explain How America is a Nation of Immigrants.”<sup>20</sup> Listicle articles contain data visualizations and charts that may be relevant in principles and upper-division classes.

Another strong resource is the EconoFact Network<sup>21</sup> which summarizes major economic and social policies. The analysis is provided in a form of a short memo through data and historical experience. Contributors are primarily academic economists from a variety of

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<sup>18</sup> FiveThirtyEight was formerly a branch of the New York Times.

<sup>19</sup> <https://github.com/fivethirtyeight>

<sup>20</sup> <http://www.vox.com/2015/1/12/7474897/immigration-america-maps>

<sup>21</sup> <https://econofact.org/>

institutions who focus on using non-technical language and attempt to separate themselves from political views. This particular site provides good review material for students who may be asked to present projects on particular topics or who may be required to participate in a class debate.

### ***Reddit***

Reddit is a community where individuals can submit, share, and discuss content from around the Internet. The power of reddit lies in sheer size of its user base (approximately 170 million unique monthly visitors) and the vast array of information posted in over 8,000 different categories (known as subreddits). There are a few very popular subreddits that contain information that can be used to teach economics, which are detailed below. Subreddits are denoted in shorthand as the portion of the URL following reddit.com. For example, the subreddit for economics is denoted as /r/economics.

For valuable infographics and data visualization sources, the *Data is Beautiful* subreddit (/r/DataIsBeautiful) has with more than 14 million subscribers. This subreddit contains visual representations of various data sources, and often feature graphs, charts and maps. This subreddit is a great source of information for courses that utilize a lot of data, particularly in upper-division courses like labor, development, health, and trade. Posters are required to include links to their datasets, which can be a good source for students looking to analyze unique data sets. For a course focused on data analytics or econometrics, the subreddit Data is Ugly (/r/DataIsUgly) can provide some often-humorous examples of how not to represent data. Other, similar, subreddits include /r/MapPorn, /r/Infographics, /r/WordCloud, and /r/MathPics.

Reddit hosts an active economics community at /r/Economics. The focus of the subreddit is the dissemination and discussion of research and news from the perspective of economists. The 800,000+ subscribers tend to focus primarily on macroeconomic related topics. There are occasional conversations of microeconomic topics that come from various news outlets like The Economist or FiveThirtyEight. Thus, the Economics subreddit is ideal for infusing current events into a principles or upper-division class.

Many larger universities (as well as cities and states) have subreddits that can be used to find news that students may find relevant to their personal lives. While many university subreddits focus on posts about degree information and sports results, many city and state subreddits have local news that could have some economic implications. In the past, the authors have used information about local businesses closing or relocating to discuss operating costs or monopolistic competition. The use of familiar establishments helps students see economics occurring around campus or town.

### ***Satirical news***

Satire has become a popular source of news for many online. Based on surveys conducted by the Pew Research Center<sup>22</sup> of people's media habits, more adults had heard of the Colbert Report (62%), a former cable satirical news show, than NPR (53%), The Economist (34%), and

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<sup>22</sup> <https://www.pewresearch.org/fact-tank/2014/12/12/for-some-the-satiric-colbert-report-is-a-trusted-source-of-political-news/>

Buzzfeed (31%). Satirical news productions like Saturday Night Live's Weekend Update, The Daily Show with Trevor Noah (formerly Jon Stewart), Stephen Colbert's former show The Colbert Report, and John Oliver's Last Week Tonight have become common method of introducing sensitive subjects with a humorous twist. All three of standalone shows focus on current events, and John Oliver has even been accused of being a "real journalist" even though he considers himself a satirist.<sup>23</sup>

Satirical video clips are typically under 8 minutes in length and can provide poignant economic arguments without coming across as academic. While many of the sites mentioned earlier were developed around the practice of showing short clips demonstrating economic principles, many of the satirical shows take very complex economic issues and present them in an easy to understand way in a relatively short amount of time. For example, John Oliver works through the most relevant issues of the gender pay gap in a seven-minute video.<sup>24</sup> Oliver works through wage inequality in the United States in a fourteen-minute video.<sup>25</sup> Thomas Piketty, author of *Capital in the Twenty-First Century*, has appeared as a guest on The Colbert Report<sup>26</sup> to discuss his book, while Daniel Hamermesh appeared on a segment of The Daily Show<sup>27</sup> to discuss his research on the discrimination for ugly people.

It is important to discuss the satirical nature of the video or news with students, especially if using a video from a heavily satirical site like The Onion. Most students seem to understand the nature of these shows and many can see through the satirical veil to the underlying concepts being discussed, but for students whom English is a second language this may not be as easy. It is also important to watch the clip in its entirety before showing to students because these are shown on cable networks, which means some adult language can slip into the video.

### ***Social media***

Over the past decade, social media has grown as a place that all people can gather, share experiences, and learn from each other. Social media can be used by economics educators to collect relevant information to share with their students, either online or in the classroom. As social media has grown, some instructors have moved to place social media prominently in their classrooms, while others have shown some reluctance (Al-Bahrani, Patel, & Sheridan, 2017a). Social media can be used for communicating directly with students (Al-Bahrani & Patel, 2015a; Al-Bahrani, Patel, & Sheridan, 2015, Al-Bahrani, Patel, & Sheridan, 2017b), operating as a discussion forum for sharing ideas (Jones & Baltzersen, 2017; Harmon, Alpert & Histen, 2014; George 2019), or actually used as part of an assessment (Dowell & Duncan, 2016; Kassens, 2014).

While there are a variety (and growing) number of social media sites, Al-Bahrani & Patel (2015a) suggest that Twitter is a better communication tool than Instagram or Facebook. Twitter is a social media platform that allows for one-way or two-way communication with students, colleagues, experts, political figures, and the general population. Each of the authors of this

<sup>23</sup> <https://time.com/3589285/unfortunately-john-oliver-you-are-a-journalist/>

<sup>24</sup> <https://econ.video/2015/01/13/last-week-tonight-gender-pay-gap/>

<sup>25</sup> <https://econ.video/2020/05/14/last-week-tonight-wealth-gap/>

<sup>26</sup> <https://econ.video/2020/05/14/the-colbert-report-piketty/>

<sup>27</sup> <https://econ.video/2017/11/27/the-daily-show-ugly-people-discrimination/>

paper is an active Twitter user along with significantly more notable economists. Many universities and academic departments are active on Twitter as well and provide the opportunity for local or university news to be presented in class as relevant examples for students.

Nearly 330 million active monthly users, compose tweets, which are snippets of information.<sup>28</sup> Many tweets are of updates or commentary, but certain accounts provide links to news articles and graphics. Users can follow the tweets of anyone with a public profile or request access to someone's private tweets. The use of hashtags (#) allow for the grouping of tweets under a certain topic which acts almost like a filing system.

There is an active group of economic educators that share news articles, images, and podcasts under the hashtag #TeachEcon and #EconTwitter. A wider audience of educators from a variety of disciplines follow with the hashtag #AcademicChatter and #AcademicTwitter. Using hashtags and connecting with fellow educators increases the availability of high-quality sources that Twitter can provide. By following popular websites, including some of the sources listed above, educators can create a stream of sources with little upfront cost. The use of Twitter as a teaching tool, however, has been shown to have mixed results on student learning outcomes (Enz & Kassens, 2016; Al-Bahrani, Patel, & Sheridan, 2017a). Similar to a previous conjecture from before, if students enjoy the class more and the teaching method does not hinder performance, it may still be worth the investment by faculty members.

## Conclusion

Staying relevant is a struggle for many economic educators, but it doesn't have to be. Call it status quo bias or a comfort, but many educators are hesitant to introduce new material and methods in class. This explains why more than half of instructors report using 85% of class time in traditional lecture mode. For many educators, it can be uncomfortable to introduce new teaching methods or teaching examples that are not familiar to them.

Elzinga (2001) once remarked, "I have the reputation as teaching tough courses but caring for my students. Part of my reputation for care comes from expenditure of time; part comes from simply signaling a willingness to care" (p. 256). While some, or maybe most, of the resources provided here may seem irrelevant, the goal is to motivate readers to continue to find relevant examples. A lot of work has been completed to show that finding the material can be done, but it is up to the educator to continue that work and connect economics to relevant examples facing their student population.

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<sup>28</sup> One of the novelties of Twitter is that tweets must be less than 280 characters. More information on Twitter user demographics can be found at <https://www.pewresearch.org/internet/2019/04/24/sizing-up-twitter-users/>

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