

Crime, inequality, and dating: Cohesive themes in principles of microeconomics

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Abstract: The authors describe a new, low-cost approach to increasing content relevance and student engagement in Principles of Microeconomics by organizing classes around cohesive themes. While continuing to teach standard introductory material, a themed approach uses supplementary readings, assignments, and examples related to specific topics throughout the semester. University of Richmond instructors piloted themed sections for Principles of Microeconomics in fall 2022 and spring 2023 on crime, inequality, and dating. The authors provide an overview of the themed approach, including the institutional environment in which it was implemented, examples of how the themes relate to economic principles, and instructor and student perceptions of the benefits and difficulties of themed classes. A general framework and guidance for other instructors to use when implementing themes is also included.

Keywords: Economics education; principles of microeconomics; student engagement

JEL codes: A20; A22

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Surveys and focus groups of undergraduate economics students reveal that many students want a greater focus on how economics can be applied to relevant, real-world issues (Pühringer and Bäuerle 2019). In particular, women and members of racial and ethnic minorities in introductory economics report lower levels of content relevance (Bayer et al. 2020). In response to findings that point to a lack of engagement by economics students with the content taught in their classes, economics instructors have adopted a wide range of pedagogical innovations, including active learning, flipped classrooms, metacognition exercises, and in-class experiments. However, many of these techniques are quite costly to implement. In this article, we discuss the use of cohesive, semester-long themes in Principles of Microeconomics courses as a low-cost way to increase content relevance and, thereby, student engagement, interest, and continued enrollment.

In the 2022–23 academic year, we each selected and offered sections on a different theme: (i) crime, (ii) inequality, and (iii) dating and marriage. We chose these themes to appeal to students' interests or to align more closely with their lived experiences. Following the American Economic Association's (AEA) Best Practices for Working with Students, these themes also counter stereotypes of economics and are relevant to a diverse student body. As Olney (2023, p. 170) notes, "Introductory courses that feature social issues prominently, consider ethical questions carefully, and emphasize economic intuition over rote mathematical applications, can attract more women to study economics." Fricke et al. (2018) also show that increasing students' exposure to topics not typically thought of as part of economics can increase the probability that students choose an economics major. Stock (2023) argues that issues-oriented courses improve student learning and course completion rates. Consistent with this literature, students reported high levels of interest in themed examples.

The primary goal of themed sections was to increase student engagement with course material, thus improving student learning. These goals are, in part, motivated by the decreasing student engagement and increasing absenteeism since the COVID-19 pandemic (Dee 2024). Stanca (2010) finds that time spent in the classroom is more effective than “self-study” time and adds that absenteeism is therefore a critical problem. He suggests that improving the quality of teaching will alleviate this problem, but making content more relevant to students is another way to engage students. This is in line with studies of interventions across disciplines showing that when students see content as more relevant, they are more interested and motivated, put in more effort, and perform better on assessments (Johansen, Eliassen, and Leno 2023; Rosenzweig, Wigfield, and Hulleman 2020; Hulleman et al. 2010; see Harackiewicz and Priniski 2018 for a review). In short, there is substantial evidence that students learn better when they understand how what they are learning is relevant to their lives or to things they care about. In addition, students are more likely to continue their economic coursework if they are more engaged in their courses and find those courses more relevant to their own experiences and to the problems in which they are interested (Jensen and Owen 2001).

Many pedagogical approaches for increasing student interest and engagement impose high costs on the instructor, often requiring a complete redesign of the course pedagogy or delivery method. For example, incorporating a semester-long game (Secchi and Banerjee 2019) requires the instructor to redesign an entire course; implementing a flipped classroom (Craft and Linask 2020) requires the instructor to create both video content as well as exercises for use in the classroom; using experiments to demonstrate economic concepts uses class time and may therefore reduce the amount of content that can be covered;¹ and incorporating active learning techniques

can be costly as instructors must develop both new pedagogical materials and shift some content delivery outside the classroom (Watts and Becker 2008).

We discuss a relatively low-cost intervention to increase student engagement and interest. Adding themes does not require a course redesign. Rather, it entails revising some examples and supplemental materials so that they are all related to the same topic. However, the pedagogical approach does not change to accommodate these new examples; instead, the themed examples are incorporated within existing assignments, lecture plans, and assessments. This is a key benefit of a themed approach: instructors are not required to change their teaching methods or pedagogy but instead simply replace old examples with new ones that all focus on a single theme. While this does require some preparation, it is less intensive than adopting a highly structured active learning pedagogy or flipping the classroom.

Our article is related to the extensive literature that explores approaches to increasing student engagement and interest in class content. To name just a few, Secchi and Banerjee (2019) implemented a semester-long social dilemma game related to ecology; Al-Bahrani and Patel (2015a) incorporated the use of social media; Borker (2013) introduced mindfulness practices to his classes; Das (2015) and Watts and Christopher (2012) explored economic concepts through art; Sexton (2006), Leet and Houser (2003), and Al-Bahrani and Patel (2015b) demonstrated concepts with television and movie clips. This article is most closely related to Anderton and Carter (2006), Mahar and Paul (2010), and Depro (2022). These papers describe how the authors used the study of terrorism, sports examples, and environmental quality measures, respectively, to illuminate microeconomic concepts. Our article differs by discussing themes distinct from those in these previous papers and, more importantly, by outlining an approach to incorporating any theme throughout an entire course rather than focusing on these examples related to one particular

theme. In this sense, a thematic approach can be implemented in both a liberal arts college environment, where different instructors may teach the same course, and a large university environment, where graduate students lead sections. In either setting, this approach allows for each instructor to choose a different theme.

Institutional context for themed Principles of Microeconomics classes

Curriculum requirements

Themed sections were piloted at a liberal arts college that offers 7 to 20 sections of Principles of Microeconomics each semester. Each instructor has substantial autonomy over course design, including choice of textbook and other required and supplemental materials, although all instructors cover an accepted list of core microeconomics concepts. This organizational flexibility ensures that all students will be prepared appropriately for further economics courses while simultaneously permitting the exploration of additional topics and pedagogical creativity.

Even in departments where all instructors use the same text and follow a common course schedule, it is still possible to incorporate a theme by regularly finding class examples, applications, classroom experiments, problem-set questions, accessible research, and other short articles that apply basic microeconomic concepts to the theme. While curriculum flexibility makes it easier to incorporate these materials, one could still implement a theme within stricter guidelines. However, a key to successful themed course organization is creatively finding ways to return to the course theme repeatedly throughout the term.

Class size

Although the themed Principles of Microeconomics classes were piloted at a university enrolling between 20 and 28 students per section, class size is not a limiting factor. The materials and content through which a theme is explored are not limited to small sections. The approach is not limited

to flipped classrooms, frequent discussions, or any other innovative pedagogical technique. Themed classes were piloted in both flipped and standard-format classrooms, using active-learning instructional techniques.

Approval and registration process

Whether at a liberal arts college or a large university, implementing themed courses likely does not require formal curriculum committee approval or catalog changes, since the courses still cover standard principles of microeconomics concepts. At colleges or small universities, with the department's approval, instructors can simply add a note to the class section that students can see when registering. When students use the registration system to choose among the many Principles of Microeconomics sections, they encounter messages such as “Focus on Crime Economics. This course will cover all standard ECON101 topics, but many examples, applications, and assignments will focus on the economics of crime.” This allows students the option of selecting into themed courses that capture their interest and highlights one of the benefits of a themed approach, namely, that it does not constitute a change in the curriculum. Because the course title, attributes, and general content are unchanged, it is also feasible to implement a theme without noting the theme in the official class schedule for registration purposes.

Universities with large lecture classes and smaller breakout or recitation sections could use their present system to assign students to sections; either assignments are random, or students choose from among various sections according to the desired schedule or interest in the theme. It is unlikely that either new course numbers or advertising of the various themed sections is required.

Instructor experience

We each implemented a different theme: (1) inequality and economic mobility; (2) dating, sex, and marriage; and (3) crime. Prior experience with these topics varied. One author had taught a

freshman writing-intensive seminar on the topic of inequality in recent years. Another author conducts research related to crime. However, as in the case of the author teaching the dating theme, it is also possible for instructors to use themes as opportunities to learn about new topics. This is particularly true as themes are not meant to provide a holistic view of that area of economics research but rather to use select examples within the topic to illustrate fundamental economics concepts. Another colleague in our department chose a globalization theme. There is a wide range of themes that could feasibly be added to a principles of microeconomics course. At the 2023 Conference on Teaching Research in Economic Education (CTREE), we led a workshop in which participants proposed many theme ideas, including higher education, sports, health, sustainability and climate change, discrimination, politics, and digital economics. One participant also noted the possibility of adding themes to the principles of macroeconomics by focusing the class on the study of a single country or region.

Developing the theme

As noted above, this intervention imposes a low cost on instructors when compared to other pedagogical innovations, such as a flipped classroom or the preparation of an entirely new course. It also requires little additional classroom time, unlike many in-class experiments and games. The bulk of the work is in course prep and comprises three steps: first, the instructor chooses a theme, a task that is fun and provides room for creativity; then, for each microeconomic principle, the instructor identifies an example related to the theme and locates related material that is accessible and interesting to introductory-level students; third, the instructor decides how to incorporate the example into class.

Choosing a theme

There are three main factors to consider when choosing a theme for a principles of microeconomics course: the instructor's own interest in the topic; the students' interest in the topic; and the availability of suitable examples and materials related to the theme. Prior to selecting a theme, it is helpful to compile a list of the concepts a class will cover. Table 1 is a good starting point for microeconomics courses. Prior syllabuses, a colleague's syllabus, or the table of contents of a textbook are also good resources for developing this list of economic principles and concepts. Naturally, each instructor will modify the list to fit the needs of their students and institution.

Once the list of concepts is complete, deciding on a theme requires triangulating among the instructor's interests, student interests, and the availability of suitable examples. Two of this article's authors chose a theme about which they already had significant prior knowledge, either because the theme is linked to the instructor's own research or the instructor had previously taught a related class or module. However, it is possible to choose a theme without extensive knowledge of the related academic economic literature (if such a literature even exists). In these cases, the theme might be inspired by an individual research paper or report, by personal experience or observation, or by a hobby or interest. Examples of themes motivated by personal interest, observation, or experience include sports (e.g., soccer, baseball, football), dating, volunteering, visual arts, the movie and music industries, and beekeeping. Interest in individual public figures such as Taylor Swift, Bruce Springsteen, or Simone Biles, or even fictional worlds such as those depicted in the Star Trek series, can also inspire a theme. Imagine how easily an instructor can incorporate comparative advantage, supply and demand, consumer and producer surplus from ticket sales, elasticity of demand for tickets, externalities of concerts, cost concepts (including sunk costs), and monopoly into a discussion of the economics of a music pop star. A theme can also be

motivated by one of the broader challenges facing society, such as inequality, crime, health care, literacy, higher education, immigration, housing, voting behavior and voting rights, racism, discrimination, or climate change. While some themes are easier to relate to economic concepts than others, the options are virtually endless. As long as the topic involves some kind of economic exchange and is associated with various markets, it can potentially become a theme. While not required, having some degree of personal experience or knowledge of a theme topic can be helpful when identifying applications of the theme to economic concepts.

Instructors should aim to select themes that are not only of interest to them but also appeal to a wide range of students with varying backgrounds and interests. Instructors with small class sizes often ask students to complete a student information sheet at the start of the semester, which can provide some data about the range of topics in which students are interested. One drawback of complete dependency on an early-semester survey approach is that it reduces the lead time for identifying examples and preparing materials related to those topics. Instructors could also consider conducting a formal survey of students at their institution in the year prior to offering a themed class.

However, there are other lower-cost and less formal approaches. For example, instructors can directly ask young adults they know personally about their own and their friends' passions and pursuits. Conversations with students from prior semesters can also be a source of this kind of information. Studies or news articles about how secondary and post-secondary students spend their time and money can also reveal valuable insights into students' interests and concerns.² There are some topics, such as taxation or trade, that may be of great interest to instructors but are of little interest a priori to the average student in a principles class. This does not necessarily mean that

instructors should avoid these themes, but rather that they should carefully plan how they will motivate student interest.

In thinking about how a theme might appeal to students while also being of interest to the instructor, an instructor can consider both what students do daily and what they are curious or concerned about. For example, students may spend a lot of time on social media (Instagram, TikTok, etc.) or playing video games. An instructor might then choose “The Economics of Gaming” as a theme, considering both the creation and marketing of video games, but also the world of eSports and professional gamers. At the height of Taylor Swift’s popularity, a theme focused on “The Economics of Taylor Swift and the Eras Tour” might appeal to both students and instructors. Another approach is to consider the major social issues and problems that concern students. Many students are particularly interested in climate change and sustainability. This suggests a number of possible themes, from the broad (sustainability) to the narrow (the solar panel industry). In addition to interest in the topic, it is also important to consider the availability of accessible examples related to the theme, as well as materials illustrating those examples. Indeed, because the range of possible themes is so wide, the choice of theme is often driven in part by the ready availability of suitable examples and accessible materials. One way to keep the time required to develop and implement a theme to a minimum is to start with the syllabus for a topic-related course that either the instructor or someone else has taught. This will supply some ready examples, materials, and resources. Another is to start with a book written to introduce economic ideas to a general audience (see table 2 for some examples). A third is to rely on personal and practical knowledge of a theme to develop suitable examples. It can be productive to engage colleagues in conversation, even briefly, about how to interpret or apply an economic concept within the boundaries of a theme. Alternatively, reading news articles and academic papers, or listening to

podcasts related to the theme (see table 2 for suggested sources), can help identify applications of economic concepts to the theme.

Developing effective examples and materials

Table 2 presents a list of recommended press and podcast sources that are particularly suitable for illustrating a theme, as they present economic research in a way that is accessible to a general audience and can thus be assigned to introductory-level students. As mentioned above, in many cases, the instructor will select a theme because they are aware of research that would be of interest to principles students. In such cases, a good strategy for finding material to assign to students is to check authors' websites for press mentions or blog posts that summarize their research for a general audience. Alternatively, the instructor could create their own summary or slides of published research to introduce relevant research in class. Although this method of incorporating themed examples is more time-consuming, it does allow the instructor to use more technical examples (see the section on instructional implementation for a more detailed discussion).

Using a mix of media in assigning materials related to the theme may help maintain students' interest. Combining podcasts, blog posts, videos, and more formal readings can better maintain student interest and appeal to a wider range of students. Shorter materials are often better—student engagement is generally higher with 20-minute podcasts or two-page blog posts than 1-hour podcasts or multi-page research summaries. This is especially true if the instructor assigns material in addition to required textbook readings.

Just as with choosing a theme, it is advisable to keep student engagement in mind when developing examples that align with the theme and demonstrate an economic concept. Quinlan (2019, 1781) reports that “novelty, cognitive activation, cognitive incongruity, and utility value” are associated with increased student interest. Students are particularly engaged by examples that

provide new insight into themes that interest them or that are surprising or practicable in some way.

Ideally, the instructor will use examples that both clearly demonstrate the relevant economic principle and provide interesting insight into the theme itself. These kinds of examples are particularly effective because they are integral rather than tangential to the class's theme. That is, they serve to truly unify the material into something more than a set of distinct economic concepts. For example, in the inequality-themed course, shortly after the chapter on externalities, the instructor reviews income elasticities and the implications for the demand for health care and a clean environment. Those ideas are used for the rest of the class period to consider differences in environmental disamenities by race and the concept of environmental racism, as well as differences in life expectancy by race. This can lead to an open-ended discussion on the various causes of and methods to reduce differences in life expectancies and environmental amenities across racial groups, whether through reducing income and educational inequality and/or reducing discrimination.

It is also beneficial to develop examples that illuminate multiple economic concepts, as revisiting an example two or three times effectively reinforces learning, aids retention, and reveals connections between economic concepts. The market for Valentine's Day roses is one such example in the dating-themed course. Students read news articles about this market and then practice manipulating graphs when learning about supply and demand shifters. Later in the semester, the instructor references one of the readings that focuses on the production and delivery of Valentine's Day roses to illustrate the concept of increasing marginal cost. Students often remember these insights quite readily because they have personal experience with the example, and it reappears multiple times during the course. Frequent retrieval of concepts through repeated

referencing and finding an emotional connection to the material improves both long-term retention and understanding of the underlying economic principles, respectively (for example, see Miller 2011; Brown, Roediger, and McDaniel 2014; Lang 2021; Toli and Kallery 2021).

In some cases, examples used to further the theme may also serve as a vehicle for introducing ideas that are a little outside the usual topics for a principles course. Presenting empirical research on a theme may provide an ideal opportunity to introduce more advanced ideas, such as distinguishing between correlation and causality with randomized control trials or natural experiments, as in a discussion of the links between streetlights and crime rates and between geographical location and upward mobility. A discussion of efficiency may provide a setting for discussing different conceptions of fairness and reminding students of tradeoffs, that efficiency is only one of many possible valued outcomes. Such examples are useful because they introduce some more complex ideas to students, which is especially beneficial for more advanced students. It also gives all students a taste of the power of economics and asks them to think a little further, perhaps about ways in which the example does not fit so neatly into the fundamental theory they have just learned.

Theme limitations

While the best examples spark students' curiosity, themed examples are not easy to identify for all standard topics in a principles of microeconomics course. This is most often true for production costs, perfect competition, and monopoly, particularly in a class that has a social issue as a theme. Learning about production costs presumes a formal market with at least the potential for competition, which may make it more difficult to translate this concept directly into social issues. In cases where identifying a themed example is difficult, we recommend either of two courses.

First, the instructor might select a themed example that is related to the concept and will further student learning, even if it does not directly illustrate the economic principle. For example, for the unit on production costs, the instructor in the crime theme assigned a reading on the costs of public versus private prisons. This reading does not necessarily help students understand why marginal costs increase or how to calculate variable versus fixed costs, but it does help students better understand the inherent challenges in collecting high-quality data on firm costs. Alternatively, choosing a market that is peripherally related to the theme can serve to at least link the topic to the theme, even if it does not provide particular insight into the theme itself. For example, this might mean using the market for flowers on Valentine's Day to review production costs in a dating-and-marriage-themed section. While this example does not reveal insights into how people choose partners, it aptly demonstrates both fixed and rising marginal costs. The instructor can also use it to motivate a discussion about an idea more directly related to how people choose a partner, such as gifts as signals (signaling) or gifts versus cash (utility maximization and its limitations).

Finally, not every single concept introduced in the course needs to have a corresponding themed example; rather, the theme is consistently used throughout the semester. A theme can still be effective even if it is not referenced in every single class meeting. This keeps the cost of implementing a theme low and does not diminish the theme's effectiveness in enhancing student engagement. The benefits of implementing a theme will be realized, even if it appears only once a week rather than in every class meeting. Furthermore, if an instructor anticipates teaching a themed class in multiple semesters, they can incorporate more themed examples each time they teach the course. This approach could also be beneficial for an instructor considering a theme for a future

semester: They could test potential themed examples in their existing principles course and build a collection of examples over time before formally committing to a full-semester theme.

Progression of themed examples

In order to illustrate the development of examples across a theme, table 1 describes examples we used in our themed courses and clarifies both the continuity and relevance benefits of the theme approach.³ Table 1 also compares the progression of themed examples to those used in a popular introductory textbook, Mankiw's *Principles of Microeconomics* (2024).

Following the traditional principles textbook, Mankiw introduces new concepts with a series of unrelated markets ranging from hotels to barking dogs to cups of coffee. While these examples are well-suited to introduce concepts, their transitory use in the course can limit their effectiveness in learning retention. In contrast, consider the progression of examples for the crime-themed course described in table 1. Students begin the semester by brainstorming policies that could decrease adolescent vaping. They are then asked to consider research highlighting potential tradeoffs: would such policies increase adolescent cigarette use? This introduces the idea of substitution between drugs, which students again reference a few weeks later when considering the legalization of marijuana. Students read a news article and discuss whether marijuana and other drugs are substitutes or complements. They then illustrate the predicted demand shifts for related goods on a graph. Similarly, early on in the semester, students connect the idea of opportunity cost to how changes in wages might affect the decision to commit a crime. Later in the semester, students complete a reading about the labor market for formerly incarcerated people that emphasizes the finding that employment reduces recidivism. Students are better able to connect these topics, despite the weeks between their introduction, because the example's cohesion provides background knowledge with which to process the topic, and the topic's reappearance

promotes retrieval. Together, increased connection and frequent recall improve students' comprehension and retention (Karpicke 2012; Roediger and McDermott 2018).

Instructional implementation

After identifying relevant examples and finding materials, the instructor must decide how to incorporate them into the curriculum. While a variety of creative pedagogies is possible, we kept the cost of implementing themes low by using approaches that fell into the following categories: out-of-class reading, content presentation, in-class work, homework problems, and classroom discussion. Many themed examples incorporated two of these approaches, as when assigning an out-of-class reading and then discussing it in class, or presenting an example to students and then applying it to in-class problem-solving. We first describe how each approach works in a themed class and then discuss considerations for choosing which approaches to implement.

Supplemental readings and recordings

Assigning supplemental out-of-class reading, audio recordings, or videos is a particularly good way to incorporate themes and introduce students to economic research, as it imposes a relatively low cost on the instructor and is both engaging and accessible to students. Each of us regularly assigned a popular press article, podcast, or video clip that demonstrated a themed example of a microeconomic concept. These assigned readings or recordings were incorporated into class in various ways.

One approach is to ask students to complete a guided reading assignment prior to the first class covering an economic concept. The assignment includes both the textbook reading for the upcoming material and an additional source related to the theme. The textbook reading formally introduces the microeconomic concept, while the additional source provides an example related to the class theme. After reviewing the new economic concept in class, the instructor facilitates a

brief discussion about how the supplemental reading or recording relates to the economic concept. During this discussion, it is useful to display a summary of the main points of the reading and one or two quotations from the reading, as well as a discussion question on a slide or whiteboard. For example, when students in the crime theme read the textbook chapter on determinants of wages, they also read a blog post on employment opportunities for formerly incarcerated persons. The associated low-stakes, guided assignment prompts them to identify those wage determinants described in the textbook that are present in the blog post content. The instructor checked the assignment for completion, and a class discussion later in the week focused on the blog post and its relation to the economic theory of labor markets.

This forward-looking approach, in which supplemental readings or recordings are assigned before covering a concept in class, is particularly helpful in motivating engagement with new concepts and their real-world relevance. See Simkins and Maier (2004) for just-in-time teaching techniques, and the complete 2021 issue 52 (4) of the *Journal of Economic Education* for the literature on using outside readings in economics courses. Students also tend to develop better intuition because their first exposure to a concept includes an application. This approach also ensures that students are prepared for in-depth class discussions on the themed examples. The primary challenge is the same one every instructor faces with out-of-class work: some students do not complete the readings or read them thoroughly, so they are not prepared to engage in class discussion. To mitigate this concern, the instructor can encourage preparation by beginning each class with a handful of basic multiple choice questions that the CMS (Classroom Management System) grades automatically, combining the reading with a shortwritten assignment graded for completion as described above, or by carefully tracking class participation.

Alternatively, the instructor can assign a supplemental reading or recording after covering a concept in class. The reading can serve as the foundation for both in-class problem-solving and discussion in the next class meeting. In the dating-and-marriage-themed section, after reviewing the concepts of equilibrium and supply and demand shifters in class, the instructor assigns an article about why flowers are so expensive on Valentine's Day. In class, the students work in pairs on an in-class exercise based on the article. Since the article references multiple supply-and-demand shifters, it allows students to review and apply their understanding of what causes supply and demand to shift and how these shifts impact market equilibrium. The last question on the exercise asks about two simultaneous shifts, leading to an exploration of cases in which equilibrium impacts are ambiguous and what can resolve the ambiguity. Finally, the instructor poses a question to students: while flowers are more expensive on Valentine's Day, why are chocolates usually on sale before Valentine's Day? After first trying to answer the question in small groups, the students often engage in a lively discussion as they share their ideas and apply what they have learned about supply and demand. This discussion has the added benefit of teeing up the units on consumer choice and production.

This approach to incorporating a theme has two benefits. First, if the instructor has already incorporated active learning techniques, such as in-class exercises, into their class, little additional class time is required. Indeed, only the additional discussion question at the end demands additional time; the themed in-class exercise simply replaces a different in-class problem. Second, the literature on active learning informs us that asking students to recall and apply a concept after it is introduced in class is beneficial for comprehension and retention (Lang 2021); doing so in the context of a real event that is familiar to students helps them with that application because they can focus on how to apply the economic concept rather than on understanding the event itself.

Combining and reviewing concepts

Still another way to incorporate out-of-class readings or recordings is to thoroughly cover one or more economic concepts over the duration of a few classes, then assign a small set of themed readings that relate to many of those concepts. The concepts can initially be taught through either a traditional lecture or using active learning techniques. The instructor then facilitates a discussion based on the readings, which lasts for the entire class meeting. For the inequality theme, after the chapters on externalities and health care, the instructor assigned selections from work by Deaton and Case (2023) (“In America Not Having a College Degree Can Take Years Off Your Life”), Einav and Finkelstein (2023) (*We’ve Got You Covered*), Opportunity Insights (2016) (“Association Between Income and Life Expectancy in the United States, 2001–14”), and Fryer (2022) (“Disparity Doesn’t Necessarily Imply Racism”).⁴ These readings prepare students to discuss the mix of factors leading to different outcomes across groups in health, environmental amenities, and earnings, incorporating the concepts of income elasticity, normal and luxury goods, and externalities, as well as introducing empirical research.

To implement this approach, the instructor does not need to change anything about how course concepts are presented during the semester but merely adds an extra day or two for discussion and develops the discussion questions, although this may require eliminating one or two topics from course coverage. Nevertheless, it requires the least modification to existing lesson plans, as all the themed applications take place during the additional discussion days, and the initial explication of concepts remains unchanged.

This approach lends itself particularly well to complex problems, such as health care markets or inequality, as it is not focused on applying just a single economic concept but rather on how multiple concepts interact. As such, it provides students with a good way to understand how

concepts learned throughout the semester are related to each other, which is precisely one of the principal benefits of incorporating a theme. In other words, this approach provides students with a broad framework on which to build and apply their understanding of economic concepts. As such, it also promotes learning through recall and active learning. The instructor can even help students connect topics from throughout the semester via a project, such as a podcast or poster, focused on the theme.

Presenting themed examples in class or on assessments

When an accessible reading or recording is unavailable, the instructor can present a themed example to the class. After introducing opportunity cost and cost-benefit analysis in class, the instructor in the crime-themed section presented students with the following two facts (with citations): one year after Italy released 22,000 incarcerated people, many of whom were non-Italian foreigners, Romania and Bulgaria joined the EU; economists subsequently found that recidivism rates among Romanian and Bulgarian immigrants were lower than among other immigrants. Students then tried to figure out how these facts are related to one another, first in small groups and then together as a class. The instructor guided the students to recognize that whether people choose to commit a crime depends on the opportunity cost of crime, which in turn depends on a person's legal status and work authorization. It is worth noting that this particular application of opportunity cost not only provides insight into the crime theme but also into other topics of interest, such as international migration. It is likely to be of particular interest to students because of its relevance to current events, specifically undocumented immigration.

The benefit of this approach is that students are not required to read academic literature that may be too advanced for an introductory class. On the other hand, unless an active learning exercise is included, students are listening but not actively applying their knowledge of economic

concepts. They are then less likely to think deeply about the example and the economic principles it relates to, and thus less likely to recall them readily in the future. To address this challenge, it is useful to either incorporate the example into a class discussion, as described above, or into an in-class or assessment exercise.

Indeed, incorporating themed examples into homework and test questions is yet another way to integrate a theme into a principles class. Such questions may be based on a themed example that the instructor reviews in class or on an assigned reading, or they may introduce a new themed example. Combining themed homework and test questions with one of the approaches described above is likely to be particularly effective, as it reinforces concepts and thus promotes long-term learning. In the crime-themed section, the instructor assesses students' understanding of marginal cost-benefit analysis by asking students what factors explain whether a driver violates the speed limit. In the inequality-themed sections, the instructor asked students to write about whether the differences in life expectancies between men and women and between Black and white people are due to sexism and racism, respectively. This example invites students to consider how differences in outcomes could be attributable to many factors, among them discrimination.

Pedagogical challenges

It is sometimes difficult to find a reading or recording that is both relevant and accessible to undergraduate students. This can be particularly true with complicated examples and applications. In such cases, the instructor can incorporate the theme by asking students to supply themed examples of their own to illustrate a new concept. Rather than simply asking students to think of general examples of monopolistically competitive markets, the instructor can ask them to think of such markets that are related to the theme of the class. Similarly, students can brainstorm examples of externalities or supply and demand shifters that are related to the theme of the class.

Modifying the examples previously used in lecture or class is a particularly low-cost way to incorporate themes and is also useful when suitable supplemental materials are hard to find. This approach may require little more than changing the product or market named on slides, handouts, or notes. For example, instead of using the market for gasoline to explicate supply and demand, an instructor who has selected “The Economics of Taylor Swift” as a theme might use the market for concert t-shirts or friendship bracelets. While simply changing the goods or markets used in the lecture may not provide much insight into the theme itself, it does still provide continuity across topics in the course and, given a suitable choice of topic, helps students to remain engaged and draw connections between concepts.

While implementing the approaches described above is straightforward in small classes or sections, instructors may well question how suitable some of them are for larger classes. In large lecture classes, discussion with the whole class is either not feasible or allows for active participation by only a small share of students. Small group discussions combined with a classroom response system (CRS) such as Kahoot!, Jotform, Socrative, or Poll Everywhere can serve as a substitute for whole-class discussions. To minimize the administrative burden, three to five students sitting next to each other can form a small group. The instructor poses a question that the small group first discusses and then uses the CRS to record their consensus response.

Narrowing choices

One might wonder about how to choose among these various pedagogical approaches. It is fine to choose a few different approaches for use in classes, although not so many as to confuse students or lead to a feeling of disjointedness or chaos. There is, of course, nothing prohibiting an instructor from implementing many different approaches for a single example or topic. However, recognizing the constraints on suitable material to assign and on students’ time, this may not be

practicable. An instructor will often need to choose one or at most two approaches for any given example.

Pre-reading is most effective for concepts that are less engaging for the average student or topics for which students struggle to develop intuition. For certain topics, such as elasticity, efficiency, and consumer choice, students have a tendency to focus on formulas, calculations, and definitions rather than intuition. A pre-reading introduces the topic through application rather than graphs or calculations, helping students develop insight into the concept before they embark on deriving quantitative solutions. Students also have difficulty relating to certain topics, such as taxes and price controls. In these cases, a pre-reading can help motivate their interest prior to digging into the formal analysis. For some other fundamental concepts, for example, supply-and-demand analysis and externalities, students struggle less on average with either intuition or engagement. In these cases, a post-reading challenges students to think more deeply and thus enhances understanding and retention. Dedicating a full class to discussion or a small set of readings is well-suited to themes that address major challenges such as climate change, health care, inequality, or public education. These are complex themes where economic concepts are not easily separated from each other. Allowing for a wide-ranging discussion gives students the opportunity to recognize the individual concepts and think about how they relate to each other. Asking students to apply concepts to themed problems on homework or tests is especially suitable for topics where students often struggle to transfer their newfound knowledge to other contexts. This is quite common with some of the fundamental principles, including opportunity cost and comparative advantage, which often seem quite straightforward but can easily be incorrectly applied.

The availability of accessible supplemental materials is also an important consideration when deciding which pedagogical approach to use. As noted above, if accessible readings are not

readily available or if a themed application is particularly complicated, themes can be incorporated by presenting examples in class. Sometimes additional readings are unnecessary (even if they are available), as topics may lend themselves naturally to class discussions without assigned readings. For example, having studied inequality throughout the semester, students are able to recognize the limits of the concept of consumer surplus that stem from the fact that willingness to pay depends on income. After a classroom simulation of a post-hurricane ice price control, students compare consumer surplus with and without price controls. The inability of a poor single mother to buy ice to refrigerate medicine in either scenario forces students to acknowledge the imperfection of the consumer surplus concept while also providing another example of the concept of diminishing returns. More generally, good examples or discussions apply a concept in a different way and sometimes identify the concept's limitations.

When the opportunities to illuminate an especially important concept are unusually rich, it can be beneficial to employ a combination of pedagogical approaches. In the dating-and-marriage-themed class, the instructor used two different examples and three different instructional techniques to illuminate the concept of opportunity cost. Through a think-pair-share exercise, students first engaged in discussion about whether it is a good idea to meet someone virtually before going on a date. This discussion was based on a podcast about online dating that students listened to prior to class (forward-looking, out-of-class recording). This discussion provided a basis for introducing and formally defining the idea of opportunity cost. The instructor then demonstrated a complex example of cost-benefit analysis by explaining the main argument in "The Power of the Pill" (Goldin and Katz 2002). The basic claim is that when oral contraception lowered the risks of unintended pregnancy, more women were willing to engage in premarital sex. Women chose to pursue a professional degree and career since the marginal benefit (higher wages and

preferred career) now outweighed the marginal cost of delaying marriage, which no longer required delaying sex. Because the paper itself is advanced for introductory-level students, the instructor described the main idea in a mini-lecture rather than having students read it themselves. Finally, students read a short five-page section of the paper and answered three focused questions about the reading on their first problem set. The instructor thus used class discussion, lecture, and assessment (via problem set) to introduce the concept of opportunity cost through examples focused on dating, sex, and marriage.

Given all the pedagogical options, some readers might be skeptical that a themed course can be organized without an extensive time investment. One author previously implemented a flipped classroom in their principles course. Such an approach required a larger investment in time by well more than an order of magnitude in recording lectures, identifying additional class problems, creating daily quizzes to encourage class preparation, and implementing quizzes in the LMS (Learning Management System). In the switch to the themed inequality course, the instructor reduced coverage of international trade (maintaining comparative advantage), oligopoly, and game theory. Two days of notes and lecture slides on upward mobility were already available from Harvard's Opportunity Insights group, and another two days of classes came from a standard principles textbook chapter on inequality, social safety net and insurance programs, and redistribution. We imagine that instructors who desire to move to a themed course can often draw on their personal interests and knowledge of the literature about the selected theme, further reducing the time required to implement the theme. Finally, a dedicated instructor does not rework explanations of standard economic concepts each year but does regularly update examples from current events. When that regular process of seeking accessible and relatable examples becomes focused on a theme, the additional time required is relatively small. One need not even find a full

array of themed examples, discussion topics, and problem set questions in one semester when transitioning to a themed course; the instructor can instead develop these over the course of a few semesters.

Results

This section reports qualitative results from a student survey as well as instructor perceptions and experiences with themed sections. Students generally liked the theme and reported a high level of interest in the course. Instructors also enjoyed the experience of teaching themed sections and found that student engagement was higher.

Instructor experience and observations

Themes did increase student engagement in our classrooms relative to prior experiences in teaching Principles of Microeconomics. Students were more active in discussing themed examples and more likely to ask follow-up questions about the concept, the related economic research, and applications to real-world problems. Themes also seemed to increase student engagement and learning outside of class through themed readings or homework assignments.

Further, developing on-theme examples for the entire course often requires that instructors use examples that are more complex than what would be used in the absence of the theme. For example, through discussing the costs of private versus public prisons in the crime-themed sections, it becomes apparent to students that obtaining data and measuring firms' costs are often not as straightforward as textbooks present. This provides an opportunity to discuss how governments and firms can apply economic decision-making in the absence of complete information. Using these types of examples can promote students' critical thinking skills and introduce real-world complications into their study of economics. These types of examples also further serve to counter the idea that economics is solely theoretical.

Implementing a theme requires thinking more carefully about what topics to highlight during the semester. Adding a theme encourages instructors to go more in-depth on certain topics as opposed to briefly covering the full range of topics that could be included in a principles of microeconomics course. This tended to slow down the pace of the material to the benefit of student learning. Students had more opportunities for critical thinking, and classroom discussions improved. A theme also serves as a useful commitment device for instructors to incorporate economic research and news articles consistently throughout the semester. Use of these types of materials increased when we implemented themes in our courses. We also thought more carefully about how to incorporate supplemental materials as a means not only to provide students with examples but also to further their learning of economic principles.

In addition to increases in student engagement and interest levels, there are several benefits for the instructor. First, as already described, adding a theme to an existing principles of microeconomics course is low-cost relative to the time needed to prepare a new course. Themes can also be added and changed without a formal curriculum review and approval required for a new course. Second, adding a theme can serve as an opportunity for the instructor to learn more about an area of economics that may be outside their main research area. Third, refreshing themed examples or adopting a new theme every few years could be a fun and low-cost way to keep course material updated and add variety into the instructor's teaching experience over time. Finally, the higher level of student engagement and interest in the themed sections created a more enjoyable classroom experience for instructors as well as students.

Student survey analysis

Before the first class of the semester, all Principles of Microeconomics instructors shared a link to a voluntary survey with their students. This survey included both qualitative and quantitative

questions regarding students' interest in economics and their intended majors and minors. Students answered questions about the factors that influenced them to enroll in a Principles of Microeconomics class and why they selected their specific section of the course. The survey was repeated in the second-to-last week of the semester. The end-of-semester survey asked students to share their perceptions of the theme and whether it was helpful to their learning. Pre- and post-survey questionnaires are available from the authors upon request.

Table 3 describes the enrollment and response rates to the student surveys in themed sections. Response rates were high, with 93.8 percent of students completing either the pre- or post-survey and 65.8 percent completing both. Response rates were low in control sections, with only one student completing both the pre- and post-surveys. Differential response rates were likely due to differences in how individual instructors shared and promoted the survey link, as well as low interest in completing the survey for students in control sections. In comparison, students in themed sections may have been more motivated to provide feedback on the themes.

While the low response rate in control sections prevents an analysis of the effects of themes relative to a counterfactual, non-themed class, it should be noted that this analysis would have had substantial limitations regardless. One key characteristic of the themed approach is that students can select into themed sections based on topical interests. Thus, even with a higher response rate in control sections, it would not be possible to analyze the causal effects of themes on outcomes such as student major, as these effects could be driven by selection. Further, different sets of instructors taught themed and control sections. Nonetheless, qualitative analysis of student responses in themed sections can provide additional insight into the benefits and costs of offering themed Principles of Microeconomics sections, particularly in understanding how students

respond to themed sections and why they might impact student learning (Bosshardt, Jennings, and Davies 2024).

In the post-survey, students responded to the question, “Do you feel the theme was helpful to your learning this semester? Explain why or why not.” About two-thirds of students responded positively to this question. Students generally found the theme helpful as it provided a “real-world focus” and “real life examples” that made the concepts more relatable and easier to understand. It helped them develop a better understanding of economics, gain perspective, and engage in discussions about real-world problems. About a quarter of the students stated that they found the theme interesting, but did not elaborate further or say whether it helped their learning. The remaining students indicated that they did not think the theme helped their learning. Among these students, some said they found the examples interesting but unrelated to their learning. However, although students may not have perceived that themes helped their learning (“I do not think it really helped me process and retain the concepts”), their higher interest in the topic (“the most interesting parts of the course to me and I enjoyed it”) likely aided with learning regardless of whether the students themselves identified this. Others commented that the theme could be used more consistently throughout the semester. This indicates that students liked the theme enough to want more themed examples in the course, e.g., “I think they could be [helpful] if there were more of an emphasis put on them.” This comment is relevant to implementation of themes and the importance of incorporating themed examples regularly. Table 4 shows a selection of student responses to illustrate these three common pieces of feedback.

An important aspect of the themed classes was that students could select into courses with themes (i.e., they could observe when they registered that a section had a theme). As such, the positive response to themes may be due to selection, and perceptions of themes would be less

positive if students were randomly assigned to courses. However, in the pre-survey, students were asked about their motivation for registering for their particular Principles section. In their responses, 54.3 percent chose their section because it fit well with their schedule, 26.3 percent chose the section based on the instructor, and only 10.9 percent chose a section because they were interested in the theme. Further, many students were unaware of the themes at the beginning of the semester despite the registration note. However, in subsequent semesters, word spread among students about the themes and led to increased selection into themes over time. Thus, it seems unlikely that the positive student response in the initial pilot year was due to differential selection into themed sections.

Conclusion

An instructor for a principles of microeconomics course has the responsibility to introduce students to a certain number of key economic concepts and conclusions (e.g., how buyers and sellers interact in a market, when markets work well and when they don't, the effects of government intervention, and how firms make decisions). Students in an introductory course are often focused on mastering individual concepts and may have difficulty seeing how these concepts relate to each other; a course with a coherent story or theme can be both more inviting and more effective. Consider, as an example, the case of introductory-level history classes. These courses would likely look quite different if students were taught key methods, tools, and generally accepted conclusions of historians without any focus on a particular region, era, or group of people. Instead, most introductory history courses choose a specific area of focus, while still conveying foundational tools for historical analysis. Students are then free to select into history classes that match their interests. A similar approach in economics might better attract students to the field.

We have described one such approach that connects topics in principles of microeconomics by using a cohesive set of themed examples throughout the semester. This approach is low-cost to the instructor and can be fun to implement. Existing evidence on the importance of long-term learning suggests that consistently themed examples throughout the semester may improve students' retention of economic principles. Students in themed sections were more engaged and better able to connect economics to their lives, policy issues, and social questions.

Notes

¹ For example, Cartwright and Stepanova (2012) report that each experiment in their class takes about 30 minutes.

² The Pew Research Center, for example, provides analysis by generation and also for young adults (see <https://www.pewresearch.org/topic/generations-age/>). Examples of news sources and reports, found through a single search on the internet, are “Budget Breakdown: How College Students Spend Their Money” (Sandberg 2024) and “Consumption and Spending Patterns at St. Olaf College” (study conducted by an undergraduate student with guidance of faculty member Caroline Anderson, St. Olaf College [2014]).

³ A full description of examples we use in our themed classes and relevant sources can also be found online at <https://melissakspencer.com/resources/>.

⁴ Note that assigning an article for student reading does not imply that the instructor agrees with all of its viewpoints. Presenting contrasting arguments to an assigned reading can engage students in thoughtful discussion and encourage critical thinking.

Acknowledgments

The authors are grateful to Tom Zylkin, Allison Luedtke, and Josh Staveley-O'Carroll for helpful feedback on this project. They thank participants at the Conference for Teaching and Research on Economics Education and the Southern Economic Association Annual Meeting for their helpful feedback, and acknowledge financial support from the Robins School of Business Pedagogy Grant. They also thank Ethan Vest for excellent research assistance, and thank Tom Zylkin for implementing a globalization theme in his classroom. This project received IRB approval, project number URIRB 220726.

Declaration of interest statement

The authors declare no conflict of interest.

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TABLES

TABLE 1: Themed example of microeconomic principles

Concept	Mankiw	Crime	Inequality	Dating
Tradeoffs	Essentially definition: society cannot produce everything people want	Policies to address adolescent tobacco use: vaping vs cigarettes	Parking spots for disabled and unemployment comp. to contrast fairness versus efficiency	Skewed sex ratios in China induce families with sons to increase savings, decrease consumption
Opportunity Cost	What is given up by going to college	Forgone wages and rational crime theory	What is given up by having a child	“The Power of the Pill” (Goldin and Katz 2002), contraception reduces cost of premarital sex
Trade	Imagine a family grows its food, sews its clothes, and builds its home	Specialization in online crime	Household tasks (including childcare) and household earnings	Specialization in housework within a household and happy marriages
Supply/Demand	Weather and Caribbean hotels; war, gasoline, and SUVs; ice cream cones	Supply and demand effects of legalizing marijuana	Demand for BMWs with constant per capita GDP but rising inequality	Bride prices and dowries; Valentine’s Day roses
Elasticity	Elasticity of gasoline	The market for cocaine and illegal drugs	Cigarettes (young versus old); income elasticity of different fast foods	The price of wedding venues varies based on weekday and time of year
Externalities	Pollution, historic buildings, barking dogs, research, and education	Externalities associated with over- and under-policing	Environmental disamenities by race and income disparities	Apps that make it less risky to report a sexual assault
Production/Costs	Cookies and cups of coffee; cars for long run	Cost structures of public vs. private prisons	AI radiology services as new technology and effect on costs and incomes?	Increasing marginal cost is apparent when stores procure flowers for Valentine’s Day
Labor Markets	Cooks, teachers, physicians, CEOs; earnings by education and race	Labor market for formerly incarcerated people	Goldin’s greedy work; economic mobility affected by location and historical discrimination	The motherhood penalty

TABLE 2: Recommended sources for themed examples

Popular Press

The Economist, The Financial Times, The Wall Street Journal, The New York Times, The Atlantic. We also recommend checking authors' websites for press mentions if there is a specific academic research paper the instructor would like to incorporate in class.

Podcasts and Videos

Planet Money, Think Like an Economist, Marketplace, Econimate, Freakonomics Radio, Economics Detective Radio, Economics in 10, VoxTalks, Pitchfork Economics, Probable Causation, Marginal Revolution University. In the authors' experience, students prefer podcasts and videos that are 20 minutes or shorter.

Blogs and Websites

AEA Research Highlights, Council of Economic Advisors blog, IZA World of Labor, World Bank blogs, blogs of specific economists who have written about the chosen theme

Other Sources

Opportunity Insights, think tank websites such as The Brookings Institution and many others, individual chapters from books written by economists for a general audience, e.g., Goldin's (2021) *Career and Family*, Einav and Finkelstein's (2023), *We've Got You Covered*, Oyer's (2013), *Everything I Ever Needed to Know about Economics I Learned from Online Dating*, Miller et al.'s (2021) *Economics of Public Issues*, Oyer's (2022) *An Economist Goes to the Game*

TABLE 3: Survey response rates

Number of students	Themed Sections	(% of enrollment)
Enrolled at end of semester	193	
Completed survey at any point	181	93.8
Completed both pre- and post-surveys	127	65.8
Completed pre-survey only	30	15.5
Completed post-survey only	24	12.4

Notes: Response rates to a pre- and post-survey given to students to elicit perceptions of themes, interest in economics, and intended major.

TABLE 4: Student perceptions of themes

Do you feel the theme was helpful to your learning this semester? Explain why or why not.

Positive

“Yes, I do, for sure. I think it was helpful because it turned the class which was filled with theoretical problems into a real-world ones. It made it relatable. I think the real-world focus was great at making the class easier to understand.”

“Yes, I thought this theme was helpful in understanding the economic concepts because it brought them into perspective. I had an easier time learning about these topics when I could visualize how they would be applied in real life.”

“Yes. I thoroughly enjoyed this theme because it related to real world issues to help deepen the concept that economics is not just about money.”

“Yes, it kept class interesting and made it easier to be engaged to do problems on topics I was interested in.”

“Yes, because it provided real life examples which helped me to understand concepts that are hard to understand just through theory.”

“Yes! The theme made it easy for me to apply the concepts to the real world, and be able to understand them more personally.”

“I do feel it was helpful because it gave more consistency to my learning.”

Theme interesting, but unhelpful

“Not really here nor there. Thought the examples were interesting, but they didn’t necessarily help my learning.”

“I think it made it more fun to put it in a relatable context, but I don’t know if it helped me learn that much more about economics.”

“I do not think the theme was particularly impactful to my learning in either direction, while it helped me understand material presented I do not think it did so any better than any other topic would have.”

“I do not think it really helped me process and retain the concepts of Microeconomics, but it was the most interesting part of the course to me and I enjoyed it.”

Theme inconsistent

“Not really because we didn’t talk about it much.”

“I feel like this topic is very interesting, however besides articles we did not discuss this in class very much. Using more real-world examples surrounding this topic may have actually helped me to understand the topics more.”

“No, I felt that the theme was not consistently used, so I was unable to apply it to a variety of different economic concepts/topics.”

“I wish we spoke more on the articles that we read that connected economics more to the real world (I know that economics is already heavily connected to the real world, but I would like to talk more about the interesting articles). So because of that I don’t think the themes were that helpful, I think they could be if there were more of an emphasis put on them.”
