FEDERAL RESERVE SYSTEM



Journal of Future Economists

Economics of Music


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Economics of Music

The Federal Reserve System is pleased to present the 2026 *Journal of Future Economists*, a publication recognizing exemplary economic research by high school students nationwide. This year's volume addresses the theme Economics of Music and marks a significant milestone: for the first time, high schools from all 12 Federal Reserve Districts participated, contributing over 200 submissions for consideration.

The works selected for publication examine the music economy across legal, industrial, and cultural dimensions, offering rigorous research, empirical analysis, and thoughtful interpretation. Topics presented include touring models and their local economic impacts, jazz clubs and the music market, the resurgence of vinyl records and consumer preferences, and the struggle over ownership rights between major record labels and artists, among others. These podcast scripts illustrate careful data analysis and communication, connecting market dynamics and policy to the experiences of artists, audiences, and



intermediaries. The breadth of research underscores the vitality of the music sector and its relevance for understanding price formation, competition, technological change, and the broader economics of the music market.

The *Journal of Future Economists* remains a publication of selected submissions to the High School Fed Challenge, an annual research and writing competition that aims to encourage students in grades 9–12 to learn more about economics and explore it as a subject for study and as the basis for a career. We extend our deep appreciation and gratitude to the educators who advised student teams and supported their engagement with this year's competition. We also welcome first-time participants and thank returning schools for their continued interest in the High School Fed Challenge. We hope the works presented here will enlighten readers about the economic forces shaping the music industry and, more broadly, encourage students to see how economics provides a framework for understanding the world and interpreting the events that affect us all.

Participating Schools

We had 207 entries in total. Thank you to all participants!

Abraham Joshua Heschel High School ..... New York, NY, Second District
Academy for Information Technology ..... Scotch Plains, NJ, Second District
Acalanes High School ..... Lafayette, CA, Twelfth District
Adlai E. Stevenson High School ..... Lincolnshire, IL, Seventh District
Allentown High School ..... Allentown, NJ, Second District
Amador Valley High School ..... Pleasanton, CA, Twelfth District
Archbishop Stepinac High School ..... White Plains, NY, Second District
Ardrey Kell High School ..... Charlotte, NC, Fifth District
Avenues: The World School ..... New York, NY, Second District
B. Reed Henderson High School ..... West Chester, PA, Third District
Barrington High School ..... Barrington, IL, Seventh District
Bellbrook High School ..... Bellbrook, OH, Fourth District
Belmont High School ..... Belmont, MA, First District
Bergen Arts and Science Charter High School ..... Hackensack, NJ, Second District
Bergen County Academies ..... Hackensack, NJ, Second District
Bergen County Technical High School–Teterboro ..... Teterboro, NJ, Second District
Bethesda-Chevy Chase High School ..... Bethesda, MD, Fifth District
Bethlehem Central High School ..... Delmar, NY, Second District
Biotechnology High School ..... Freehold, NJ, Second District
Birch Wathen Lenox School ..... New York, NY, Second District
Bridgewater-Raritan High School ..... Bridgewater, NJ, Second District
Bronxville High School ..... Bronxville, NY, Second District
Brookfield Academy ..... Brookfield, WI, Seventh District
Brookline High School ..... Brookline, MA, First District
Brooklyn Technical High School ..... Brooklyn, NY, Second District
Byram Hills High School ..... Armonk, NY, Second District
California High School ..... San Ramon, CA, Twelfth District
Cambridge Rindge and Latin School ..... Cambridge, MA, First District
Canyon Crest Academy ..... San Diego, CA, Twelfth District

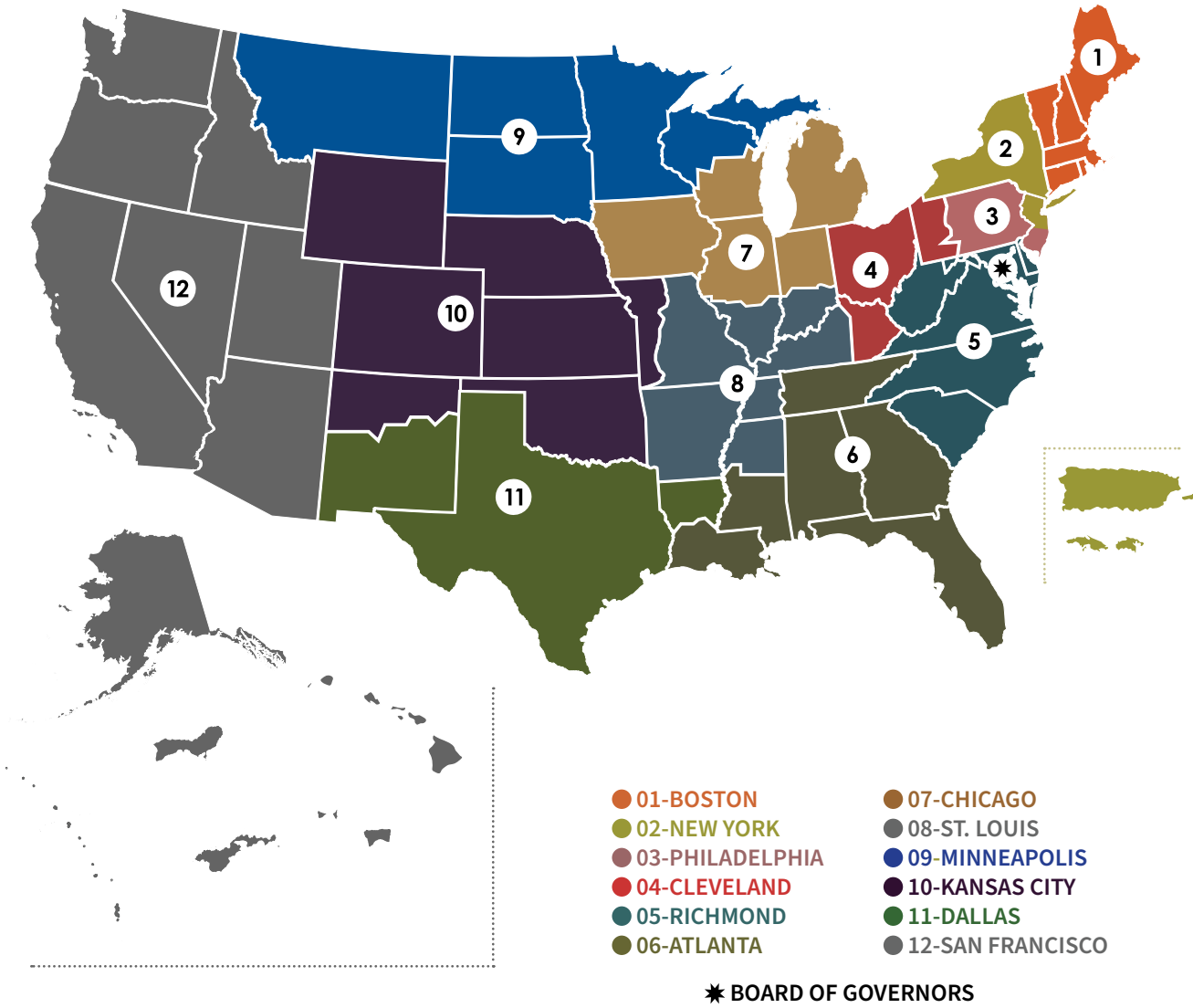
Carolina Friends School ..... Durham, NC, Fifth District
Carroll High School ..... Southlake, TX, Eleventh District
Carter G. Woodson High School ..... Fairfax, VA, Fifth District
Catalina Foothills High School ..... Tucson, AZ, Twelfth District
Centennial High School ..... Frisco, TX, Eleventh District
Chaminade High School ..... Mineola, NY, Second District
Chantilly High School ..... Chantilly, VA, Fifth District
Chatham High School ..... Chatham, NJ, Second District
Christian Brothers Academy ..... Lincroft, NJ, Second District
Cold Spring Harbor Jr./Sr. High School ..... Cold Spring Harbor, NY, Second District
Communications High School ..... Wall Township, NJ, Second District
Connetquot High School ..... Bohemia, NY, Second District
Cupeyville School ..... San Juan, PR, Second District
Douglas S. Freeman High School ..... Henrico, VA, Fifth District
Drew School ..... San Francisco, CA, Twelfth District
East Brunswick High School ..... East Brunswick, NJ, Second District
Edgemont Jr./Sr. High School ..... Scarsdale, NY, Second District
Edison Academy Magnet School ..... Edison, NJ, Second District
Edison High School ..... Edison, NJ, Second District
Evanston Township High School ..... Evanston, IL, Seventh District
Evergreen Valley High School ..... San Jose, CA, Twelfth District
Fairview High School ..... Boulder, CO, Tenth District
Farmington High School ..... Farmington, CT, First District
Fiorello H. LaGuardia High School of Music & Art and Performing Arts ..... Manhattan, NY, Second District
Fordham Preparatory School ..... Bronx, NY, Second District
Forest Hills High School ..... Forest Hills, NY, Second District
Franklin School ..... Jersey City, NJ, Second District
Friends Academy ..... Locust Valley, NY, Second District
Friendswood High School ..... Friendswood, TX, Eleventh District
Frisco High School ..... Frisco, TX, Eleventh District
Garden City High School ..... Garden City, NY, Second District
General Douglas MacArthur High School ..... Levittown, NY, Second District
George C. Marshall High School ..... Falls Church, VA, Fifth District
George W. Hewlett High School ..... Hewlett, NY, Second District
Georgetown Day School ..... Washington, DC, Fifth District
Georgetown Preparatory School ..... North Bethesda, MD, Fifth District
Germantown Friends School ..... Philadelphia, PA, Third District
Gilman School ..... Baltimore, MD, Fifth District
Glen Ridge High School ..... Glen Ridge, NJ, Second District
Glen Rock High School ..... Glen Rock, NJ, Second District
Great Neck South High School ..... Great Neck, NY, Second District
Greenhills School ..... Ann Arbor, MI, Seventh District
Greenwich High School ..... Greenwich, CT, Second District
Guilford High School ..... Guilford, CT, First District

Gulliver Preparatory School ... Miami, FL, Sixth District
Hackley School ... Tarrytown, NY, Second District
Half Hollow Hills High School West ... Dix Hills, NY, Second District
Harrison High School ... Harrison, NY, Second District
High Technology High School ... Lincroft, NJ, Second District
Hillcrest High School ... Jamaica, NY, Second District
Holmdel High School ... Holmdel, NJ, Second District
Horace Mann School ... Bronx, NY, Second District
Hunter College High School ... New York, NY, Second District
Illinois Mathematics and Science Academy ... Aurora, IL, Seventh District
Ithaca High School ... Ithaca, NY, Second District
Jackson-Reed High School ... Washington, DC, Fifth District
Jacqueline Kennedy Onassis High School ... New York, NY, Second District
James S. Rickards High School ... Tallahassee, FL, Sixth District
Jesuit High School ... Tampa, FL, Sixth District
John Randolph Tucker High School ... Henrico, VA, Fifth District
Kent School ... Kent, CT, First District
King School ... Stamford, CT, Second District
Koinonia Academy ... Plainfield, NJ, Second District
Lafayette Academy ... Lake St. Louis, MO, Eighth District
Lake Norman Charter High School ... Huntersville, NC, Fifth District
Lambert High School ... Suwanee, GA, Sixth District
Langley High School ... McLean, VA, Fifth District
Larchmont Charter School ... Los Angeles, CA, Twelfth District
Leman Manhattan Preparatory School ... New York, NY, Second District
Leonia High School ... Leonia, NJ, Second District
Lexington High School ... Lexington, MA, First District
Lightridge High School ... Aldie, VA, Fifth District
Lincoln High School ... Portland, OR, Twelfth District
Livingston High School ... Livingston, NJ, Second District
Longmeadow High School ... Longmeadow, MA, First District
Lower Merion High School ... Ardmore, PA, Third District
Lowery Freshman Center ... Allen, TX, Eleventh District
Maine South High School ... Park Ridge, IL, Seventh District
Mamaroneck High School ... Mamaroneck, NY, Second District
Manhasset High School ... Manhasset, NY, Second District
Marlboro High School ... Marlboro, NJ, Second District
Marriotts Ridge High School ... Marriottsville, MD, Fifth District
Mawuli-Williams Homeschool ... Glenn Dale, MD, Fifth District
Melissa High School ... Melissa, TX, Eleventh District
Middleton High School ... Middleton, WI, Seventh District
Mill Creek High School ... Hoschton, GA, Sixth District
Monroe Township High School ... Monroe Township, NJ, Second District
Montclair High School ... Montclair, NJ, Second District
Montgomery Blair High School ... Silver Spring, MD, Fifth District

Montville Township High School ..... Montville Township, NJ, Second District
Morris Hills High School ..... Rockaway, NJ, Second District
MOT Charter High School ..... Middletown, DE, Third District
Mount Saint Mary Academy ..... Watchung, NJ, Second District
Mt. Hebron High School ..... Ellicott City, MD, Fifth District
New Explorations into Science, Technology + Math ..... New York, NY, Second District
New Utrecht High School ..... Brooklyn, NY, Second District
Newark Academy ..... Livingston, NJ, Second District
North Oconee High School ..... Bogart, GA, Sixth District
Northern Highlands Regional High School ..... Allendale, NJ, Second District
NSU University School ..... Davie, FL, Sixth District
Oakwood Friends School ..... Poughkeepsie, NY, Second District
Oakwood High School ..... Dayton, OH, Fourth District
Old Bridge High School ..... Matawan, NJ, Second District
Orange County School of the Arts ..... Santa Ana, CA, Twelfth District
Oratory Preparatory School ..... Summit, NJ, Second District
Paramus High School ..... Paramus, NJ, Second District
Parsippany Hills High School ..... Morris Plains, NJ, Second District
Passaic County Technical Institute ..... Wayne, NJ, Second District
Phillips Academy Andover ..... Andover, MA, First District
Phillips Exeter Academy ..... Exeter, NH, First District
Pine View School ..... Osprey, FL, Sixth District
Piscataway Magnet School ..... Piscataway, NJ, Second District
Plainview-Old Bethpage John F. Kennedy High School ..... Plainview, NY, Second District
Princeton High School ..... Princeton, NJ, Third District
Providence Academy ..... Plymouth, MN, Ninth District
Providence Day School ..... Charlotte, NC, Fifth District
Regis High School ..... New York, NY, Second District
Richard Montgomery High School ..... Rockville, MD, Fifth District
Ridge High School ..... Basking Ridge, NJ, Second District
Ridgewood High School ..... Ridgewood, NJ, Second District
Riverdale Country School ..... Bronx, NY, Second District
Robbinsville High School ..... Robbinsville, NJ, Third District
Rock Ridge High School ..... Ashburn, VA, Fifth District
Rumson-Fair Haven Regional High School ..... Rumson, NJ, Second District
Rye Country Day School ..... Rye, NY, Second District
Rye High School ..... Rye, NY, Second District
Saddle River Day School ..... Saddle River, NJ, Second District
Saint Peter's Preparatory ..... Jersey City, NJ, Second District
Skyline High School ..... Sammamish, WA, Twelfth District
South Brunswick High School ..... Monmouth Junction, NJ, Second District
South Forsyth High School ..... Cumming, GA, Sixth District
St. Francis Preparatory School ..... Fresh Meadows, NY, Second District
St. John's College High School ..... Washington, DC, Fifth District
St. John's School ..... Houston, TX, Eleventh District

St. Mary's High School ..... Lancaster, NY, Second District
St. Rose High School ..... Belmar, NJ, Second District
Stanford Online High School ..... Redwood City, CA, Twelfth District
Staples High School ..... Westport, CT, Second District
The Awty International School ..... Houston, TX, Eleventh District
The Bishop's School ..... La Jolla, CA, Twelfth District
The British International School of Washington ..... Washington, DC, Fifth District
The Bronx High School of Science ..... Bronx, NY, Second District
The Davidson Academy ..... Reno, NV, Twelfth District
The Hewitt School ..... New York, NY, Second District
The High School for Math, Science and Engineering at City College of New York ..... New York, NY, Second District
The Lawrenceville School ..... Lawrenceville, NJ, Third District
The Quarry Lane School ..... Dublin, CA, Twelfth District
The Scholars' Academy ..... Rockaway Park, NY, Second District
The Spence School ..... New York, NY, Second District
The Stony Brook School ..... Stony Brook, NY, Second District
The Village School ..... Houston, TX, Eleventh District
The Wardlaw+Hartridge School ..... Edison, NJ, Second District
The Wheatley School ..... Old Westbury, NY, Second District
Timber Creek High School ..... Orlando, FL, Sixth District
Townsend Harris High School ..... Flushing, NY, Second District
Trinity School ..... New York, NY, Second District
Unionville High School ..... Kennett Square, PA, Third District
United Nations International School ..... New York, NY, Second District
University City High School ..... San Diego, CA, Twelfth District
University High School ..... Irvine, CA, Twelfth District
University School ..... Hunting Valley, OH, Fourth District
University School of Milwaukee ..... Milwaukee, WI, Seventh District
Verona High School ..... Verona, NJ, Second District
Wachusett Regional High School ..... Holden, MA, First District
Walt Whitman High School ..... Bethesda, MD, Fifth District
Walter Payton College Preparatory High School ..... Chicago, IL, Seventh District
Watchung Hills Regional High School ..... Warren, NJ, Second District
Waterford School ..... Sandy, UT, Twelfth District
West Windsor-Plainsboro High School North ..... Plainsboro, NJ, Second District
Western Albemarle High School ..... Crozet, VA, Fifth District
Westfield High School ..... Westfield, NJ, Second District
Whitney M. Young Magnet High School ..... Chicago, IL, Seventh District
William Mason High School ..... Mason, OH, Fourth District
William P. Clements High School ..... Sugar Land, TX, Eleventh District
Wilton High School ..... Wilton, CT, Second District
Winston Churchill High School ..... Potomac, MD, Fifth District
Xavier High School ..... New York, NY, Second District
Yeshivah of Flatbush Joel Braverman High School ..... Brooklyn, NY, Second District

The Federal Reserve System





Left to right: Risha Prabhu, Abigail Kim, Yair Blekher, Ayushi Sadhwani, Hans Patel, and Devin Acar.

Bergen County Technical High School – Teterboro

Teterboro, NJ

Swiftonomics: The Impact of Taylor Swift's *Eras Tour*

[*Intro Music*]

DEVIN: Hey listeners, welcome back to *Artonomics*, where the creative and economic worlds collide! I'm your host, Devin, and as always, I'm joined by my co-host, Hans. Today, we're back in the studio, ready to talk about Hans's favorite pop star: Taylor Swift!

HANS: Well, don't act like you aren't a huge "Swiftie," too! Along with being a phenomenal singer and songwriter, Swift has had a heavy macroeconomic impact with the *Eras Tour*, which we'll dive into in this episode.

DEVIN: We actually went to her performance at SoFi Stadium and spent quite a bit on the experience. Hans, do you remember how much the total came to?

HANS: Oh, my... the purchasing process... the crowds... it was utter chaos. From ticket hunting, planning, travel, hotel stays, and miscellaneous costs, the total came to around $1,500 per person.

DEVIN: Sounds about right. Interestingly, our situation seems common among many Swifties across the country.

[*Sound cue*]

DEVIN: While the *Eras Tour* did financially hit some fans, it was certainly beneficial to the economy. Can you believe that costs per concert goer, over 53 concerts, added an estimated $4.3 BILLION to U.S Gross Domestic Product (Ponsot, 2023)?!

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CITATION STYLE
APA 7th Edition

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

HANS: That's insane! Taylor Swift and her team deserve a big thanks for their economic contribution. Fortunately, we have the privilege to hear from the woman behind the tour. Everyone, give it up for our first guest, Constance Goldman!

CONSTANCE: Hello, everyone! Thank you for having me on today. Never in my "Wildest Dreams" did I think I'd have the opportunity to talk on *Artonomics*. You guys are combining two of my favorite topics!



A view of "The Official Taylor Swift | The Eras Tour Book" on display.

(Photo by Dave Kotinsky/Getty Images)

DEVIN: Ms. Goldman is the Executive Director of Tour Operations and Economic Strategy, playing a critical role in Swift's historic tour. Whether it's organizing concert logistics or staying up till dawn with the venue teams, Ms. Goldman is the "Mastermind" behind the madness.

HANS: Again, we're so glad to have you with us. Before we proceed, let's bring in our second guest! You've heard his name in your Econ 101 class, and now he's here with us today: Mr. Alfred Marshall, in the flesh! His theories have fundamentally shifted modern economics and are the foundation for any economics course you'll take. Now, his concepts of derived demand, elasticity, and consumer surplus will show us just how influential the *Eras Tour* has been on U.S. industries.

MARSHALL: Pleased to be here, Hans. Never once did I imagine my theories could be applied to a pop music scene of this scale!

DEVIN: Now that we've got our stars together on one line, let's get started!

MARSHALL: Let's *Swiftly* dive into this situation, shall we? First, we must understand the law of derived demand. In simple terms, it is when the demand for one good or service increases due to the demand

for another good or service. For example, let's picture buying an *Eras Tour* ticket.

The demand for the ticket directly increases the demand for its complementary products, such as merchandise. Even transportation purchases increase when the concert is far from home.

CONSTANCE: Exactly, Mr. Marshall. Your example is the reality that many Swifties encounter! When fans travel far and wide, they look for lodgings to accommodate them. The *Eras Tour*, in particular, strengthened the hospitality industry. Across the United States, we saw hotels near stadiums booked to capacity, creating over $200 million in hotel revenue. In Chicago alone, room occupancy rates reached almost 97% during Swift's June 2023 performances (Hoff et al., 2025).

HANS: The hospitality industry certainly suffered during the COVID-19 pandemic, so I'm sure this boost was greatly appreciated. In fact, the Federal Reserve of Minneapolis noted in the July 2023 *Beige Book* that May 2023 was the strongest month for hotel revenue in Philadelphia since the pandemic, largely driven by an influx of guests arriving for Taylor Swift's concerts in the city (Federal Reserve Bank of Minneapolis, 2023).

MARSHALL: It seems Ms. Swift is following my theories, "All Too Well."

CONSTANCE: Derived demand was also seen in the labor market, with tour-related purchases increasing the demand for labor, or in other words, employment. As an example, Swift's Los Angeles concert increased area employment by 3,300 workers, with local earnings rising by $160 million (California Center for Jobs and the Economy, 2023).

Swift's Los Angeles concert increased area employment by 3,300 workers, with local earnings rising by $160 million.

MARSHALL: This is a fantastic example of derived demand! When demand for the final good—in this case, the Taylor Swift concert experience—increases, so will the demand for the labor that makes her tour a reality. I'm amazed by Ms. Swift's influence. It's not every day that a tour's ticket demand sells out hotels and creates thousands of jobs.



The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District.

HANS: Ha-ha! Ms. Swift has got our favorite economist hooked. What do we see for smaller businesses? Do they get a boost, too?

CONSTANCE: You bet! Businesses from all over the nation capitalize on the influx of Swifties, even when Swift isn't remotely near! In fact, while she was touring, a small-town Ohio skating rink hosted a "Swiftie Night" where over 300 fans flocked to purchase Swift-themed merch and glide around the rink (PCBB, 2024).

DEVIN: Hans, plan a trip to Ohio, right after this episode.

HANS: [*Laughing*] One step ahead, already searching for tickets!

DEVIN: Now, a quick word from our sponsor.

[*Sound cue*]

HANS: All right, guys, we are back! Constance just showed us how one concert can boost jobs and the hospitality industry across an entire city. But here's what got Devin and me excited: all that spending doesn't just stop at the first transaction. It keeps cycling through the economy, so we decided to measure exactly how far a single *Eras Tour* dollar travels.

DEVIN: That's right! We measured the total economic impact of that derived demand using the spending multiplier—or, as we like to call it, the "Swift Lift." This spending multiplier shows how initial spending, such as concert-ticket purchases, keeps moving throughout the economy. This first wave of cash gets recycled by businesses paying their employees, then employees spending at local shops, and so on and so forth.

HANS: In fact, Devin and I have a special treat for you all. We got so excited about derived demand that we decided to take things into our own hands.

DEVIN: Here's how we did it. The multiplier effect of spending is found by dividing the total GDP impact by the initial, or direct, spending. When the *Eras Tour* played in Kansas City, there was direct spending of $47.8 million with an impact of $72.7 million (Economic Development Corporation for Kansas City, 2023). In Cincinnati, direct spending was estimated to be $48 million, and the total impact was estimated to be $92 million (*VisitCincy, 2023*).

HANS: Averaging the multipliers of these two cities, 1.92 and 1.52, respectively, we arrive at a multiplier of 1.72[1]. A spending multiplier above one indicates that, for every dollar spent on the *Eras Tour*, the economic impact exceeds that initial spending.

DEVIN: Now, this is based on just two cities; thus, the national figure could vary. Still, it reinforces how powerful *Eras Tour* spending was and how it rippled through local economies.



Taylor Swift fans gather prior to the pop singer's concert in front of the Veltins Arena on July 17, 2024 in Gelsenkirchen, Germany.

(Photo by Hesham Elsherif/Getty Images)

HANS: The demand for "anything Taylor Swift" not only proves Marshall's theory of derived demand, but is a perfect segue into another one of his concepts.

[*Sound cue*]

DEVIN: Consumer surplus! Marshall, take it away.

MARSHALL: All right, Devin, let's get into it! We've seen how demand for Swift's concerts drove demand across entire industries, but why were fans willing to spend so much in the first place? That is where the consumer surplus kicks in. Consumer surplus is the extra satisfaction a consumer receives when they purchase a good or service at a price lower than the maximum they'd be willing to pay.

DEVIN: So, if I purchased *1989* on vinyl for $30, but I would've been willing to pay $70, then my consumer surplus is $40?

[1] We conducted a quantitative economic analysis determining total direct spending and total GDP impact using statistics taken from the Economic Development Corporation of Kansas City and the Cincinnati Regional Chamber's Center for Research and Data.



Taylor Swift fans, also known as "Swifties," take a photo of their tickets purchased for the show.

(Photo by Asanka Ratnayake/Getty Images)

CONSTANCE: That's right! In fact, Swifties spent anywhere from $1,300 to $2,000 per show. Despite these high costs, 91 percent said they'd attend another concert (*QuestionPro, 2023*). This may indicate their willingness to pay an amount well above what they actually paid, which is exactly what consumer surplus measures.

HANS: That hits close to home. Attending the Los Angeles stop was one of the best nights of my life. The cost, though, *cut deep*. Thankfully, seeing Swift herself perform "Enchanted" on stage made up for it!

DEVIN: I'm sure it did, Hans. I remember how emotional you got. The poor guy was tearing up.

HANS: I was definitely not! Anyway, the bottom line is that the *Eras Tour* resulted in lots of satisfied Swifties.

CONSTANCE: That it did! We're proud to have achieved a Net Promoter Score of 68. It means that even though the tour cost was higher than planned, the result was an experience so loved that it earned customer satisfaction scores comparable to the top three most-respected brands in the country: Costco, USAA, and Southwest Airlines, tying with Apple and Ritz-Carlton for fourth place (*QuestionPro, 2023*).

That's right! In fact, Swifties spent anywhere from $1,300 to $2,000 per show. Despite these high costs, 91 percent said they'd attend another concert.

MARSHALL: This tour reminds me of another one of my concepts—price elasticity of demand. Elasticity measures the response of the quantity demanded to a change in its price. Mathematically, it's the percentage change in quantity demanded divided by the percentage change in price. Therefore, high elasticity values, indicated by an absolute value above one, mean that quantity demanded changes significantly if prices rise. Similarly, an absolute value below one represents *inelasticity*: when consumers are less sensitive to changes in prices and are willing to pay more without a significant decrease in demand.

HANS: Once again, Devin and I got a bit too eager and made another calculation. Using secondary resale market data, we found that average

resale prices were up 2,321% from the *Reputation Tour* to the *Eras Tour*. Using that as our percent change in price, and comparing it to the change in attendance, which is our quantity demanded, we found that the price elasticity of demand for *Eras Tour* tickets was...

DEVIN: 0.108![2] That's *extremely* inelastic. Like, erring close to zero elasticity! It perfectly aligns with what we've observed: passionate fans like Hans who are willing to break the bank to see Swift on stage.

> **Fans flocked to buy second-hand tickets at as much as a 4,000% markup.**

CONSTANCE: Sounds about right! Even when last-minute ticket prices surged by 34% year over year, an additional $138.50 per ticket, all shows were sold out (Berthiaume, 2024). Demand stayed incredibly strong, so much so that fans flocked to buy second-hand tickets at as much as a 4,000% markup (Kaplan, 2023)!

DEVIN: You know, this really shows how human irrationality can triumph over economic concepts. Technically, we should have been deterred by these insane price increases, but instead, we continue to buy.

CONSTANCE: That's right! The feeling of experiencing that "once-in-a-lifetime event" can be just as important a factor for buyers as prices are. When it came to seeing Swift live, fans became consumed by the fear of missing out, or FOMO, as the kids say.

DEVIN: That reminds me, Hans...next time Swift tours, we HAVE to get tickets as soon as they drop! No more buying second-hand at inflated prices.

HANS: Ha-ha! Fine, fine! Merch, too!

DEVIN: [*Laughing*] To everyone listening, just know that Hans

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[2] We used data from *Business Insider*, determining the percentage change in ticket price comparing Taylor Swift's 2018 *Reputation Tour* to her *Eras Tour*. The percentage change in quantity demanded was calculated using statistics taken from data that Swift's team gave the *New York Times* and data reported by *Forbes*. We determined the price elasticity of demand by applying the standard elasticity formula, comparing the percentage change in quantity demanded to the percentage change in price.



A young man sells t-shirts and hats as fans make their way to Nissan Stadium.

(Photo by Seth Herald/ Getty Images)

has been wearing an oversized *Eras Tour* hoodie while recording. It's his prized possession.

HANS: All right, now, before we head out, let's do a quick recap. Today on *Artonomics*, we have shown that Constance Goldman, the *Eras Tour* team, and Taylor Swift have boosted the economy greatly, with the term "Swift Lift" earning its title as a true macroeconomic mover!

DEVIN: Exactly. The numbers directly support Alfred Marshall's theories. Our elasticity calculation of 0.108 proves that demand for *Eras Tour* tickets is highly inelastic, meaning fans were not discouraged by increasing prices.

HANS: That connects to consumer surplus because fans valued the experience far above what they paid, explaining why so many fans would attend another concert!

DEVIN: Additionally, our multiplier shows how a single dollar in *Eras Tour* spending trickles through the U.S. economy, creating financial ripples.

HANS: So each time you see your favorite artist performing live, know that your money isn't just funding the show. It's creating economic prosperity nearly everywhere!

DEVIN: On that note, we're going to "Shake It Off" and wrap up this episode of *Artonomics*. As the live music industry continues to grow, the economic forces behind the "Swift Lift" are not unique to the *Eras Tour*. Bad Bunny's world tours, the explosion of K-pop concerts, and even smaller artists selling out shows all display the derived demand, consumer surplus, and inelasticity we discussed today. The economics behind the "Swift Lift" are universal.

HANS: Ms. Goldman and Mr. Marshall, thank you so much for being on the podcast; it truly was an honor to have you on.

CONSTANCE: The pleasure was all mine. It was great meeting you guys!

MARSHALL: Same here, hearing my concepts applied to a musical phenomenon of this magnitude was quite the "Change," but very much appreciated.

HANS: Make sure to tune in next week for our episode on music streaming wars: Spotify versus Apple Music! We'll see you there.

[*Outro music*]

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Left to right: Mckenna Lafferty, Kate Hitchcock, and Elias Houssney.

Fairview High School

Boulder, CO

Time to Face the Music: Is Inequality in the Music Industry a Problem?

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CITATION STYLE
Chicago, 17th Edition

KATE: Welcome back to our podcast, *Marginally Speaking*. I'm your host, Kate, along with Mckenna and Elias. And on today's episode, we're facing the music.

ELIAS: What's your favorite song? Maybe it's the one you danced to at prom. Maybe it's the one you sing to in the car on your way to and from work.

MCKENNA: Music has a way of weaving itself into the moments in our lives: road trips, celebrations, heartbreaks, and everything in between.

KATE: But behind every song is an artist, some famous, some unknown. And while these artists may share the same stage, they don't share the same paycheck.

MCKENNA: So today we're asking the question: is income inequality in the music industry a problem? Or is it simply the sound of the market at work?

ELIAS: To answer that, we first have to rewind the clock and look at how the structure of the industry produces inequality in the first place.

KATE: Music has been around for centuries. In 500 B.C.E., it came in the form of hymns and dance songs played on Greek lyres and Mesopotamian harps.[1] In the 1500s, operas and formal concerts took

[1] Skagit Symphony Office, "Time Periods in Music History," Skagit Symphony, Michael Whitley, Music Director, accessed February 21, 2026, https://www.skagitsymphony.com/time-periods-in-music-history.

the stage, accompanied by conductors and music pieces written on manuscript paper.

ELIAS: Symphonies were the delight of the late 1800s. Composers such as Debussy and Ravel took the stage, and where they walked, applause followed. But my favorite time in all of music history? The age of The Beatles.

> Nearly 12 million artists now upload to Spotify, an increase of about 2 million in 2023 alone.

MCKENNA: I wish I could have gone to a Beatles concert!

ELIAS: The Beatles' concerts were great. Big stages and live vocals. Although large-scale rock concerts were in their infancy, the quality of the music was untouchable. But do you want to know what was touchable?

MCKENNA: What's that?

ELIAS: The records. The Beatles came before the age of streaming.[2] Music was distributed through records and radio, which meant the number of artists reaching global audiences was relatively small. The artists who succeeded still earned a lot—but the scale of the market was much smaller.

KATE: But not anymore, right? Today things are very different. Streaming platforms dominate the music industry, and artists earn only a tiny fraction per play.[3]

ELIAS: Exactly. While superstar acts still make millions, most musicians earn barely enough to cover their expenses. This concept is called income inequality, and it is extreme in the music industry.[4]

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[2] Bill Rosenblatt, "The Fifth Era of Recorded Music," *Copyright and Technology*, last modified April 20, 2018, accessed February 28, 2026, https://copyrightandtechnology.com/2018/04/20/the-fifth-era-of-recorded-music/?utm.

[3] Ashley King, "RIAA Mid-Year 2025: US-Based Premium Streaming Subs Top 105 Million; American Artists Utterly Dominating Global Streams," *Digital Music News*, last modified September 9, 2025, accessed February 28, 2026, https://www.digitalmusicnews.com/2025/09/09/riaa-mid-year-2025-report/?utm.

[4] "Income Inequality Introduction to Inequality," International Monetary Fund, accessed February 28, 2026, https://www.imf.org/en/topics/inequality/introduction-to-inequality.

MCKENNA: That doesn't make any sense. Why is there such big income inequality if accessing music through streaming is easier than ever?

ELIAS: Streaming is actually what makes the industry more unequal. Platforms like Spotify make it incredibly easy for anyone to upload music, which means the number of artists has exploded. Nearly 12 million artists now upload to Spotify, an increase of about 2 million in 2023 alone![5]

KATE: So there are more musicians than ever before?

ELIAS: Precisely! The supply of music has increased dramatically, but the number of listeners—and the time they spend listening—hasn't grown at the same rate. In fact, it has only grown by 4.7%, creating a growing surplus of music.[6] And as you know, people have preferences. Most listeners tend to focus on a small number of already popular artists.



Ariana Grande, Coachella Valley Music and Arts Festival.

(Photo by Christopher Polk/Getty Images for Coachella)

MCKENNA: So even though more people can publish music, most of the attention still goes to the same few artists?

ELIAS: Right. That's why streaming platforms often create what economists call a "winner-take most" market, where a small number of superstars capture most of the streams—and most of the income.

MCKENNA: Exactly how great is income inequality in the music industry?

ELIAS: Pretty massive. Take for example a superstar like Ariana Grande. Some of her songs have billions of streams.[7] Although streaming

[5] Spotify, "Our Annual Music Economics Report," *Loud and Clear*, last modified 2025, accessed February 23, 2026, https://loudandclear.byspotify.com/#Introduction

[6] "Spotify Crosses the 600M Monthly Active Users Mark," *Tech Crunch*, last modified February 26, 2024, accessed February 23, 2026, https://techcrunch.com/2024/02/06/spotify-crosses-the-600m-monthly-active-users-mark.

[7] "Artist Dashboard: Ariana Grande," *ChartMasters*, last modified February 26, 2026, accessed February 28, 2026, https://chartmasters.org/artist/ariana-grande.

platforms pay only a few thousandths of a dollar per play, $0.003 to be exact, one billion streams can still generate several million dollars in revenue.

> Less than one percent of artists earn more than $10,000 per year from streaming royalties.

KATE: Wow...so one artist can make millions from streaming alone?

ELIAS: Exactly. But for most musicians, the story looks very different. Spotify reports less than one percent of artists earn more than $10,000 per year from streaming royalties.[8]

MCKENNA: That's a huge gap!

ELIAS: Economists actually have a name for this. It's called the "superstar effect," a theory developed by economist Sherwin Rosen.[9] The idea is that when technology allows millions of people to follow the same performer—such as through streaming platforms—even small differences in popularity can lead to huge differences in income.

While superstar acts still make millions, most musicians earn barely enough to cover their expenses. This concept is called income inequality, and it is extreme in the music industry.

MCKENNA: So streaming doesn't just distribute music but actually directs attention?

ELIAS: You've got it. And when attention is directed towards big artists, income follows.

MCKENNA: Although the concentration of income to a small number of artists may seem like evidence of a broken system, the standard economic view sees this outcome differently.

KATE: In standard economic theory, inequality often emerges naturally in markets that reward value creation.

MCKENNA: Meaning that the people who produce the most valuable songs earn the most money?

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[8] Charlie Hellman, "22,100 Artists Generated over $50k on Spotify Last Year," *Music Business Worldwide*, last modified March 27, 2025, accessed February 28, 2026, https://www.musicbusinessworldwide.com/charlie-hellman-22100-artists-generated-over-50-meaningful/?utm.
[9] Sherwin Rosen, "The Economics of Superstars," *American Economic Review*, vol. 71, no. 5 (1981): 845–58, http://www.jstor.org/stable/1803469.

KATE: Exactly. Millions of individual decisions—streams, downloads, ticket purchases—combine to determine which artists succeed. And when technology allows one song to reach millions of listeners instantly, those rewards can scale incredibly fast.

MCKENNA: Right. In markets like music, that scalability means a small number of creators often capture a very large share of total revenue.

ELIAS: So, what you're saying is that economists will see the income inequality in the music industry and attribute it exclusively to the value of the music being made?

KATE: Yes. Most economists will see it that way. Inequality, in any market, is the natural way of things. And even with that inequality, the music industry will continue to function properly. But some economists have put up an extremely strong argument proving otherwise!

MCKENNA: Who could deny something like that: it's economic theory at its finest!

KATE: Have you ever heard of Robert Reich?

KATE: Robert Reich, along with being one of my favorite economists, is an American professor, author, lawyer, and political commentator.[10] He's written various research papers on topics ranging from capitalism to social inter-workings, but my favorite piece of all isn't actually written on paper. It's a documentary.



Former U.S. Labor Secretary Robert Reich.

(Photo by Win McNamee/Getty Images)

ELIAS: Reich narrated the 2013 documentary, *Inequality for All*, a film that focused on the widening income gap affecting the American economy.[11]

[10] "Research Bio," UC Berkeley Research, accessed February 26, 2026, https://vcresearch.berkeley.edu/faculty/robert-b-reich.

[11] Robert Reich, narr., *Inequality for All*, 2013, accessed February 27, 2026, https://www.imdb.com/title/tt2215151/.



K-shaped Recovery Graph.

(Graphic by Wildpixel)

KATE: What he described can be seen in the economic model for a "K-shaped" economy, where parts of the economy grow rapidly—usually those benefiting higher-income groups—while other parts stagnate or decline, leaving lower and middle income groups behind.

ELIAS: And Robert Reich thinks that the inequality shown by the K-shaped economy is not a healthy one.

MCKENNA: Wait...he thinks unequal economies are unhealthy ones? Didn't we just cover how economists believe inequality is simply an indicator of where value is? How is something being valued more a bad thing? The rich are rich for a reason.

ELIAS: Technically, yes, inequality is just the result of value, but too much inequality creates a whole system failure. This is what Reich argues in his documentary.

KATE: *Inequality for All* says the rich cannot buy everything.

MCKENNA: What is that supposed to mean? Don't they have all the money?

KATE: They have money, they have tons of it, so much so that the rich *could* buy everything. However, they have no desire to do so.

MCKENNA: There's no way that's true. If I were rich, I'd buy yachts, vacation homes, private jets...I'd buy everything!

ELIAS: And that's exactly the point. The rich hold all this money, but they will only spend it on certain luxury goods. Additionally, the rich won't buy those luxury goods indefinitely. After all, if you already have five private jets, do you really need to buy another one? Would you even want to?

KATE: And, even if you did, the rich will only buy excessive amounts of luxury goods. You might buy ten private jets, but you're not going to buy ten bags of oranges. This takes away consistent income from vital industries, such as farming, which would get income from less wealthy families if those families had the money to buy just one or two bags of oranges each.

MCKENNA: So Reich basically says that the rich aren't spending enough, or even in the right places, to sustain our economy, to inject money into the system.

KATE: Exactly. And, as you know, the whole world runs on money.

ELIAS: Another element of the argument is that the poor and middle class are the ones who keep the rich, well, rich. Without consumers having the money to buy goods and services from big businesses and rich people, commerce would cease altogether. This is what can happen if the inequality gets too large, the middle and poorer class won't be able to buy anything at all!

MCKENNA: Okay, so we've established that inequality isn't a good thing when it comes to the standard economy, but what about when it's just in a single industry?

KATE: If Reich's theory about inequality holds true also at the industry level, then the music industry should experience the same kind of problems—shrinking participation, declining demand, and fewer opportunities for creators.

MCKENNA: So, do they? Is inequality in music going to be the industry's downfall? I don't know if I can survive without listening to opera solos in my car!

KATE: Lucky for us, the answer to that question is no.

KATE: While Reich's theory makes sense at the macroeconomic level,

the music industry might just be a case where the theory doesn't apply. Music holds stable even when the inequality is large.

ELIAS: How is that even possible? The people who make music, the artists, they need to pay their bills just like everyone else. Isn't music just a smaller version of the whole American economy?

KATE: The music industry is set up entirely differently. You see, the everyday consumer, like you and me, injects money into the system just by pressing play. That money is distributed to the artists, though in very different quantities, but distributed nonetheless.

MCKENNA: That sounds exactly like every other economy and industry out there.

KATE: Here's the key difference: In macroeconomic cases, workers are also the consumers of the same goods being produced. If the income becomes too concentrated, fewer people can afford to buy those goods. But in the music industry, the consumers are listeners—not the artists themselves. Even if many musicians earn very little, millions of listeners still consume music everyday.

> 78.8% of the musicians we surveyed believe the music industry to be either somewhat, or extremely, unfair when compensating artists.

ELIAS: Wow. So, even if smaller artists disappear from the market, the demand for music doesn't really change, because it's the listeners who keep the industry going.

KATE: Precisely. In the case of music, Reich's theory cannot be applied. There is no market failure: music keeps being produced, and listeners keep consuming.

MCKENNA: I get that the system is stable, but that still feels wrong. If I were an artist pouring my heart and my time into music, I'd want to be compensated.

KATE: It doesn't feel right, does it? While economics may focus primarily on the numbers and the markets, it is also concerned with overall well-being and quality of life. So we got curious—how do artists themselves

feel about this inequality?

KATE: So we decided to find out for ourselves. We surveyed more than 50 musicians nationwide on how they feel about inequality in the music industry.[12] As of February 26th, 2026, these are the results.

ELIAS: 78.8% of the musicians we surveyed believe the music industry to be either somewhat, or extremely, unfair when compensating artists. And of the more than 50 musicians surveyed, 70% had been creating music for over 5 years.

MCKENNA: These are people with a passion to make music. And yet 78.8% believe the industry they love so dearly is being unfair to them.

ELIAS: But, music is an art. It is that passion which drives them to create something new and personal. Only 6.3% of these artists make music for financial compensation, while the other 93.7% make music for creative expression, personal enjoyment, and the community-making music brings.

MCKENNA: Exactly. And that reveals something important about the economics of music. In many industries, people only participate if the financial incentives are strong enough. But music is different. The motivation to create often comes from passion rather than profit.

ELIAS: This means the supply of music continues to grow even when the financial rewards are highly unequal.

MCKENNA: So, even though most artists believe the compensation is unfair, they also aren't doing it for the money. These people, they love the craft—but is that love enough?

KATE: Yet again, we look to the artists for the answer...

ARTIST 1: "Music should always be prized, apart from being a commodity. But good work should be paid."

ARTIST 2: "Creating music is an incredible reward, but you should be able to make a living off something you are passionate about and want to share with the world."

Exactly. And that reveals something important about the economics of music. In many industries, people only participate if the financial incentives are strong enough. But music is different. The motivation to create often comes from passion rather than profit.

[12] Authors, "Survey Conducted Using Google Forms," February 26, 2026, 50+ Musicians Surveyed Nationwide.

ARTIST 3: "For me, as someone with a full-time job, the enjoyment is enough. However, the current system does not pay those who are making music for a living nearly enough compared to the value it adds to all of our lives."

ELIAS: Music is just that. It is prized. It is an art. It is life in the sound we hear. And artists, both big and small, are the ones who create it.

MCKENNA: When it comes to inequality in the music industry, the answer really isn't just a simple yes or no. Traditional economic thinking would say inequality isn't necessarily a problem, it's just a signal of which products have the most value. In other words, artists who attract the most listeners earn the most rewards.



Young musician recording music, using laptop and keyboard piano.

(Photo by Caia Image)

ELIAS: But critics like Robert Reich argue that when inequality becomes too extreme, it can destabilize the industry as a whole.

KATE: And when we look at the actual structure of the music industry—the supply and demand for artists, alongside the experiences of the musicians themselves—the reality seems to fall somewhere in between.

MCKENNA: So the next time you plug in your headphones and turn on the music, listen carefully to the beat of the drums and the strumming of the guitar. Listen to the high notes of the sopranos and the lows in the bass. Listen to the "ka-ching!" of the superstars and the breathless smiles of small artists.

KATE: And the next time you press play on your favorite song, ask yourself: is inequality in the music industry a problem—or simply the sound of the market at work?

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Left to right: Youhan Liang, Shaurya Singh, Sylvester Pecora, Gabriel Elezaj, Alex Jackson, Axel Persson, and Boden Farmer. Not pictured: Jasper Wies.

Greenwich High School

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Swinging Towards Shutdown: Why Jazz Clubs Are Losing the Market

SHAURYA: It's 11 p.m., and you've just stepped into a dimly lit jazz club. A trumpet solo cuts through the room, but something's off. The tables are half-empty. The bartender's leaning on the counter. This club, like hundreds of others across the country, is fighting to survive.

SYLVESTER: Today on *Marginally Productive*, we're tackling the question: how has a cornerstone of American culture lost its once-booming business? I'm Sylvester, and I'm joined by Shaurya.

SHAURYA: Great to be back. Before some of jazz's most prominent legends like Duke Ellington or Miles Davis were selling out arenas, they got their start at tiny clubs. But these clubs aren't what they once were (Hughes).

SYLVESTER: To find out how Americans feel about jazz clubs, we sent our correspondent Boden Farmer into the field.

BODEN: All right, I'm out here in the wild. Have you guys ever been to a jazz club?

INTERVIEWEE 1: Once, maybe six months ago. It was fun, but for the price I could've gone to a concert or stayed home and streamed something.

BODEN: Interviewees 2 and 3?

INTERVIEWEE 2: I sometimes go to see my cousin perform. But it's expensive to go regularly, even though jazz has always been part of our neighborhood's identity.

INTERVIEWEE 3: There were two clubs in my city a couple of years ago, before the pandemic hit. They're gone, and I doubt anyone I know has

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CITATION STYLE
MLA 8th Edition

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

even realized. At this point, if I wanted to go, I'd have to cross into another state to visit one, and I'm not doing that.

BODEN: And there you have it. Seems like these answers have a common trend: high costs and lots of alternatives. But why is that? Back to you guys in the studio for a deeper look!

SHAURYA: Thanks for the close-up look, Boden!

SYLVESTER: As our interviewees hinted at, the main factor behind jazz's cultural decline is it just hasn't stuck with younger generations due to the surge of newer genres. Only 0.8% of streams on music platforms in the U.S. come from jazz (Petitbon and Hitchcock 177), and as the older generation declines in number, so will that percentage. Between 1982 and 2008, the median age of jazz listeners increased by 17 years (Nichols et al.)! It's clear that jazz clubs matter culturally, but they aren't competitive in the current market.

> Only 0.8% of streams on music platforms in the U.S. come from jazz.

SHAURYA: Let's bring in our first expert, Professor of Business Economics Axel Persson, to break it down.

AXEL: Thanks for having me. Before we talk about how jazz clubs operate, it's important to understand what they're selling. Economically speaking, a night at a jazz club is a luxury good. That means its demand rises and falls with people's incomes. When the economy is strong and people have extra money, jazz clubs tend to do well. But when budgets tighten, entertainment is often one of the first things people cut. We can see this sensitivity in the numbers. A study by the Paris School of Economics estimates price elasticity of demand for jazz clubs to be about -1.25 (Bernard). Simply put, it means demand changes more than the price itself. For example, if a club increased prices by 10%, attendance would drop around 12.5%. But if prices fall, more people may show up and total revenue can actually increase.

Economically speaking, a night at a jazz club is a luxury good. That means its demand rises and falls with people's incomes.

SHAURYA: But price isn't the only thing affecting demand, right?

AXEL: Exactly. Another factor is competition from other forms of entertainment. Economists call this cross-price elasticity of demand,

which means that when the price of one service rises, people start looking for substitutes. For example, if jazz club tickets go up from $40 to $45 while a nearby comedy club keeps prices the same, the jazz club could lose a sizable amount of their audience, hurting revenue.



Ticket holders arrive for the performance at Birdland.

(Photo by Bruce Bennett/Getty Images)

SYLVESTER: Sounds like elastic industries are a pretty risky venture to go into if you don't plan ahead. So, how do jazz clubs deal with this?

SHAURYA: To answer this, we spoke to Gianni Valenti, owner of Birdland, one of the most prominent clubs in the country, over the phone. Don't worry, we recorded the call for you.

SYLVESTER: Gianni, thanks for joining us.

GIANNI: My pleasure.

SYLVESTER: To start us off, Gianni, explain your business model to us. How do you make money?

GIANNI: Most of our revenue comes from the food and beverages we sell. We don't directly make much from the music itself (Valenti).

SHAURYA: Wait... what? But doesn't your club charge for tickets?

GIANNI: We do, but ticket prices are designed to cover the artist fee. What we and a bunch of other upscale establishments do is agree to a set fee with the performing artist beforehand. We then divide that fee by the total number of seats at our venue and mark it up a bit to get the ticket price for the night. On a good night, we'll keep 70% of excess ticket revenue and give the other 30% to the musicians (Valenti).

SYLVESTER: Doesn't raising prices carry the risk of driving customers away?

Jazz has high cultural value but weak revenue streams. Ticket sales and drink margins don't reflect the broader social benefits or positive externalities it provides, so the market underprovides it.

GIANNI: Absolutely. That's the law of demand. If we raise prices too high, fewer people show up. We try to find an equilibrium, where supply and demand meet, because empty seats mean lost bar sales. Every extra customer means more food and drinks sold, as we have a $20 minimum (Valenti). That's where the returns really roll in.

SHAURYA: I'm curious. What happens if you raise prices by 10%? How many fewer people then?

GIANNI: A 10% price increase would lead to around a 13% decrease in attendance (Bernard). Our audience is price sensitive. They like the music, but they have alternatives if needed. It's the substitution effect: if our prices are too high, they'll just head to the bar next door or listen to Spotify.

SYLVESTER: And what costs push that price upwards?

GIANNI: Rent is easily our largest fixed cost, and it doesn't help that we, along with most jazz clubs, are in one of the most popular areas of a major city. No matter how many people show up, we still have to pay the same rent. On the variable-cost side, which are costs that change with how many customers we have, we have card-processing and cleaning fees. Luckily, bigger crowds help us dilute fixed costs. That's known as economies of scale.

SHAURYA: What about the salaries of bartenders? Considering how much of your revenue is from food and beverages, are they also large fixed costs?

GIANNI: Not really, as it depends on the night. Marginal factor cost, the cost of adding one more worker, plays a big role here. For example, if we expect a big crowd one night, we may add an extra bartender. That extra employee would cost us, say, $150 for the night. If bringing in the bartender helps us serve more customers and brings in $300, that's well worth it. If the bartender were projected to only bring in $50, we'd probably pass. We keep hiring as long as marginal revenue is higher than marginal cost. Once that flips around, we stop. As you can see, every decision we make is an economic calculation. We have to remain profitable without driving customers away.

SYLVESTER: One last thing before you go: what does the future hold for jazz clubs?

GIANNI: It really depends. Clubs that are focused solely on music will struggle. I think the clubs that will thrive are the ones focused on creating an experience. You know, a nice dinner date or a casual business meeting (Valenti).

SHAURYA: Mr. Gianni Valenti, glad to have you on *Marginally Productive*.

GIANNI: Thanks for having me.

SYLVESTER: From what Gianni told us, the hardest part of running a jazz club is that it's live and in person. Although live music offers a better experience than streaming services, it's much more of an occasion, which makes satisfying each marginal customer more of an uphill battle.

SHAURYA: Jazz is also a loss leader for these clubs. A loss leader is a product or service sold at little or no profit to bring in customers who will buy more expensive goods. In many clubs, the music itself plays that role, bringing people in so that drink and food sales can keep the business alive. This means that every person who decides not to go to a jazz club can be seen as costing tens to hundreds in lost bar revenue (Valenti).

In New York City, 59% of venues in the arts and entertainment sector shut down after COVID-19.

SYLVESTER: And this problem was acutely revealed during COVID-19. The pandemic reduced revenue to nil as fixed costs rose (Valenti).

SHAURYA: That seems pretty dire. Why didn't every club instantly go belly-up?

SYLVESTER: Well, the government tried to help. Policies like the Paycheck Protection Program, which funded up to eight weeks of payroll costs, were implemented ("What happened to the jazz economy in New York City during the pandemic and why does it matter now?"). Other measures like the Restaurant Revitalization Fund and Shuttered Venues Operating Grant helped, but only in the short term, as the government was already accumulating massive debt and jazz wasn't a large priority (Bruner).

SHAURYA: Hmm. These grants weren't cure-alls, and clubs were still hit

What's happening with jazz clubs is a classic market failure driven by positive externalities. For those who don't know, a positive externality is societal benefit received from an activity that isn't reflected in market price.

hard. What made clubs stay afloat during this time, and what didn't?

SYLVESTER: One of the major determinants of success was the popularity of jazz clubs. Less prominent clubs with few cash reserves didn't fare too well. In New York City, 59% of venues in the arts and entertainment sector shut down after COVID-19 ("Arts, Entertainment and Recreation in New York City: Recent Trends and Impact of COVID-19"). However, popular clubs like Birdland made it through, in part due to donations from fans, which exceeded the goal of $250,000 ("Birdland Saved By GoFundMe Campaign to Tune of $400,000"). Also, the historical significance of these clubs made it easier to find grants.

SHAURYA: What's the outlook for those smaller clubs you mentioned?

SYLVESTER: Stark, to say the least. 64% of venues in this sector still struggle with profitability, even though 91% operate year-round (Techonomy Partners). In some areas, the problem is worse. For example, in 2024, only 25% of venues in Cleveland, Ohio were profitable (Oprea). Clubs that consistently fail to reach the break-even point could be at risk of shutting down entirely.

64% of venues in this sector still struggle with profitability, even though 91% operate year-round.

SHAURYA: What is the "break-even point"?

SYLVESTER: Simply put, it's where a firm's economic profit is zero, or where its revenue and expenses are equal. For most jazz clubs in our current economy, however, expenses exceed revenue.

SHAURYA: So, in other words, jazz can't survive by itself in the free market.

SYLVESTER: Right, and this is where government intervention makes economic sense. Jazz has high cultural value but weak revenue streams. Ticket sales and drink margins don't reflect the broader social benefits or positive externalities it provides, so the market underprovides it.

SHAURYA: If that's true, then how do these interventions come into play? Joining us is public policy analyst Gabriel Elezaj to explain.

GABRIEL: Thanks for having me on. What's happening with jazz clubs is

a classic market failure driven by positive externalities. For those who don't know, a positive externality is societal benefit received from an activity that isn't reflected in market price. When you go to a jazz club, you're listening to a great band, but you're also generating benefits which can reach far beyond that transaction.

SYLVESTER: Which are?

GABRIEL: First, there's the art form preserved and curated by jazz clubs, essentially holding together American cultural history. Second, jazz clubs support musical education, helping students to learn and perform in exceptional spaces (Helm). Small clubs in tourist-filled cities are where many aspiring musicians get their start (Oliver's Jazz Bar). Third, there is economic spillover to the surrounding areas. When people go out to a show, they often have to park in local garages, spend money at restaurants, and indulge in other activities in the area (Sandy Brown Jazz). Those benefits aren't fully captured by the clubs themselves, so the market ends up producing fewer music venues than what society would actually prefer.



Modern jazz club.

(Photo by Anna Tamila/ Getty Images)

SHAURYA: So that creates a market failure?

GABRIEL: When private return falls behind social return, the market underprovides the good relative to the socially optimal quantity. So, a market failure, specifically one driven by a positive externality, exists.

SHAURYA: Some economists dislike the idea of government intervention, though. They're arguing that subsidizing a jazz club can prop up a business that should probably close.

GABRIEL: That's fair, but intervention isn't necessarily a bad thing. When the market is underproducing relative to the social optimum, intervention can help correct it. A good case study is how nonprofit models and government grants make economic sense (LIVEDMA). Jazz at Lincoln Center in New York is a good example of this. Their

nonprofit model prioritizes the artists, education and community over margins ("About Us"). Public universities and nonprofit organizations help support what the market alone cannot sustain by providing salaries, structure (including performing ensembles), and long-term stability. They help close the gap that market failures create.



A view of the dining area during the Jazz Foundation of America's Great Night Gala at Jazz at Lincoln Center in New York City.

(Photo by Roy Rochlin/ Getty Images for Jazz Foundation of America)

SYLVESTER: Another example of this is San Francisco's SFJAZZ. It began as a nonprofit cultural institution, funded almost entirely by private donations (Langlois). However, having nonprofit status allowed SFJAZZ to access grants and foundational support from the government. SFJAZZ is currently thriving, with a clear focus on education, community access, and paying artists fairly (Langlois).

SHAURYA: So if Jazz at Lincoln Center isn't worried about making a profit, then what are the organization's concerns?

SYLVESTER: Nonprofits have different worries, such as the need for constant fundraising and writing grant applications. But since they're not dependent on sales margins, they can afford to take risks and book an experimental artist every now and then. Though they may struggle to adapt, they also won't shut down overnight in an economic downturn.

SHAURYA: And what about in other countries? How are their jazz clubs supported?

SYLVESTER: Let's look at Norway as an example. Norway isn't a part of the European Union, so they don't receive the assistance that jazz powerhouses like Germany and Spain do ("Music Moves Europe—Culture and Creativity"). However, they still have a flourishing jazz

club scene. There, jazz clubs are treated as a mix of a public and private cultural good, rather than just private businesses. The Norwegian government helps jazz clubs through their first few years until they are ready to do well by themselves, gradually reducing grants (Mercer). The government also acts like a crutch in times of need for the clubs, such as the COVID-19 pandemic. This has all led to Norway having one of the best jazz club scenes in the world.

SHAURYA: Meanwhile, American jazz clubs seem to be in limbo, stuck between previous economic decline and current economic uncertainty. With COVID-19 having shut down many clubs, hitting the in-person revenue hard, and with other substitutes for going to a jazz club popping up, jazz clubs that have been focused only on the music are struggling.

SYLVESTER: Not all hope is lost, though. Those that can adapt will survive, like jazz clubs that distinguish themselves by offering live streaming of concerts, or presenting a diversity of artists and musical subgenres. Some level of demand will always be there, but the customer experience must change to match the evolving audience, digitalized streaming, and economic pressures.

SHAURYA: And, hopefully, the next dimly lit jazz club you step into will have a captivated audience sitting at the tables, all paying attention to the trumpet soloist's artistry. Maybe this time, there will be an Afrobeat act next on stage, as the club seeks to diversify its artist list. Maybe a camera will be set up in the corner, recording or live-streaming the performance. Whatever the case may be, hopefully the club is thriving as a result of making these additions, which are in response to the changing economics of jazz clubs.

SYLVESTER: That's all for today on *Marginally Productive*. Just remember, the next time you're deciding between listening to Spotify or heading out for the night...

SHAURYA: Give the place with the small stage and dim lights a shot.

SYLVESTER: See you next time!

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Left to right: Matthew Park, Siddharth Karuturi, and Pranshu Nautiyal.

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The Attention Economy of Music: How Social Media Rewired the Music Industry

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CITATION STYLE
The Chicago Manual Style

SID: Welcome to *The Flip Side*! I'm your host Sid Karuturi!

MATT: I'm his co-host, Matt Park!

PRANSHU: And I'm the other co-host, Pranshu Nautiyal! On this week's episode, we dive into two things Gen Z cannot live without: music and social media, and the economic forces connecting them.

MATT: Music is woven into Gen Z's daily life. But the industry supplying that music has undergone a seismic transformation, and the economics driving that change are more powerful than most people realize.

PRANSHU: Over the latter half of the 20th century, the music industry consolidated into a textbook oligopoly, a market structure with a small number of dominant producers who control the industry. After decades of mergers and acquisitions, three companies emerged at the top: Universal Music Group (UMG), Sony Music Entertainment, and Warner Music Group.

SID: Just three companies. Why were they the most successful?

PRANSHU: These three controlled the physical distribution networks, determining which music reached store shelves and radio stations. They had the capital to fund artist advances and large-scale marketing campaigns. Smaller labels simply could not compete with that infrastructure and failed.

MATT: Are you saying Taylor Swift would not have had the same global reach without the distribution muscle of a major label?

PRANSHU: Almost certainly. Without it, getting music into stores

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

Social media is the reason why up-and-coming artists now build audiences through online platforms instead.

and onto radio playlists would have been nearly impossible for an independent act. Most of your favorite artists, including The Weeknd, Ed Sheeran, Ariana Grande, and Taylor Swift, partnered with these major labels at some point. Yet today, most emerging artists refuse to sign a deal with the "Big Three." Why?

MATT: The answer is inside your phone. Social media is the reason why up-and-coming artists now build audiences through online platforms instead.

PRANSHU: To examine this shift from every angle, we have brought in two titans of the music world. Across from me is a three-time Grammy-winning artist who fundamentally altered the industry playbook. Famously refusing to sign with a major label, he retained complete ownership of his master recordings and proved that the independent, direct-to-consumer model can work at a global scale. Welcome to the show, Chance the Rapper.



Musician Maren Morris performs live on SiriusXM.

(Photo by Jason Davis/Getty Images for SiriusXM)

CHANCE THE RAPPER: What's good, Sid, Matt, and Pranshu? It is an honor to be here. Shout-out to *The Flip Side*, by the way. Can't wait to talk about the blueprint for independent music.

SID: And next to him is the Chairman and Chief Executive Officer of Universal Music Group, the largest music company on the planet. Sir Lucian Grainge, thank you for joining us.

SIR LUCIAN GRAINGE: Thank you for the invitation, Sid. I look forward to injecting some reality into what the Internet has made a very romanticized debate. I should mention that getting here required rescheduling a call with a major client, so I do hope we get on with it.

MATT: Will do. Let us start with the disruption itself. Sir Lucian, economist Joel Waldfogel argues in his book *Digital Renaissance* that we are living through a golden age for music because the marginal cost of distribution has plummeted to near zero, meaning anyone, anywhere can record and release music for free. Why do some see that as a threat?

SIR LUCIAN GRAINGE: Because what Waldfogel calls a "golden age" is actually unstable market saturation. Between 100,000 and 120,000 tracks are uploaded to streaming platforms every single day (Stassen 2023). This massive oversupply has destroyed the monetary value of recorded music. In 1999, we sold a compact disc for ten dollars (Deseret News 2000). Today, consumers can pay a couple bucks a month for unlimited access to the entire recorded history of human audio. I have artists whose catalog generates more revenue in a single quarter than some small nations produce in a year, and yet the consumer accesses that catalog for the price of a large coffee. It is, from a business perspective, a spectacular catastrophe.

Between 100,000 and 120,000 tracks are uploaded to streaming platforms every single day.

CHANCE THE RAPPER: But Sir Lucian, that collapse is precisely why the independent model works. For the modern independent artist, the recorded song is no longer the final product. It is a loss leader, a pricing strategy where a product is priced below its market cost to stimulate demand for more profitable goods and services (Li et al. 2013). When I dropped my albums *Acid Rap* and *Coloring Book*, I gave them away for free. Those projects cost real money and real time, but pricing them at zero made my music accessible. I built a loyal fanbase, and *Coloring Book* went on to win the first Grammy ever awarded to a streaming-only release ("Grammy Rewind" 2023).

MATT: The Federal Reserve Economic Data database supports this. Since the 2000s, the Consumer Price Index for video and audio goods has risen from about 104 to roughly 119 (U.S. Bureau of Labor Statistics, 2026), while real consumer spending on live entertainment has surged from about $26.7 billion in 2010 to $60.4 billion in 2025 (U.S. Bureau of Economic Analysis, 2026). Consumers did not stop spending on music. They shifted where that spending went.

CHANCE THE RAPPER: Exactly. Give the music away as the loss leader and monetize the complementary goods: touring, exclusive merchandise, brand sponsorships. And because I do not have a label taking the lion's share of my revenue to fund a physical distribution network I no longer need, my profit margins on live shows are crazy.



Halsey, the Grammy-nominated singer-songwriter and American Music Award–winning artist.

(Photo by Christopher Polk Getty Images for MTV)

SID: That is wild to hear, Chance. However, your breakout came in the early 2010s. Is that model still viable in 2026 with the algorithm saturation Sir Lucian just described?

CHANCE THE RAPPER: It's better than ever. Look at artists like Canadian rapper and singer bbno$, running multimillion-dollar global enterprises entirely from their smartphones. They own their master recordings, act as their own CEOs, and build direct-to-consumer equity at zero marginal cost of distribution (Armstrong 2022).

SID: Compelling. Industry surveys now show TikTok is the leading music discovery tool for young adults globally. In fact, major labels are requiring even their established, multi-platinum artists to generate social media momentum ahead of official release dates.

MATT: Sir Lucian, when you withhold marketing budgets until an artist generates their own viral buzz, are you not simply shifting your corporate marketing costs onto the shoulders of the artists?

SIR LUCIAN GRAINGE: We are making better decisions under conditions of having imperfect information. The market is so fragmented that we have never been less certain about what consumers want. In the 1980s and 1990s, we invested in radio promotion and billboards, a top-down model (Huntsberger 2012). Today, the consumer tells us what's working and what isn't. If a ten-second snippet goes viral, that is real proof of demand, and only then do we deploy capital to scale that artist. Three hundred million people as a free focus group is difficult to argue with.

CHANCE THE RAPPER: You completely reversed the deal. The entire justification for a label taking a majority of an artist's royalties was absorbing all the financial risk up front. Now you make the artist do the market research through social media, and only then swoop in to take the lion's share once it is profitable.

Industry surveys now show TikTok is the leading music discovery tool for young adults globally.

MATT: In 2022, the musical artist Halsey publicly posted that her label, Capitol Records, refused to release a finished song unless it could first manufacture a viral TikTok moment (Dailey 2022). Halsey had eight years in the industry and over 50 million RIAA-certified units (Shafer 2020), and the label's answer was simply: make more TikToks. Capitol

Records, I should note, is a Universal Music Group subsidiary.

SIR LUCIAN GRAINGE: Capitol operates with considerable autonomy.

CHANCE THE RAPPER: Those are the most expensive five words I have ever heard. And what the Halsey story reveals is a structural transformation in terms of what the market demands from musicians. The qualifications required of artists have fundamentally expanded, bundling content creation and algorithmic marketing with musical craft. The opportunity cost of every hour a generational vocal talent spends engineering TikTok content is an hour not spent practicing, writing lyrics, or refining their live performance. This forces musicians to become full-time digital marketers first and artists second, which degrades the overall quality of the art being supplied to the market.

SID: Chance, that was a wonderful explanation. Both of you make valid points, but both narratives are missing the elephant in the room. Chance, you celebrate the fall of major-label gatekeepers. However, it is to be noted that out of over 100 million tracks on Spotify today, roughly 87% generate absolutely zero income, not even reaching the 1,000 streams required for a minimum payout (Bonilla 2025).

Out of over 100 million tracks on Spotify today, roughly 87% generate absolutely zero income, not even reaching the 1,000 streams required for a minimum payout.

MATT: Hey, I remember this concept from my statistics class! This is a classic power law distribution. A tiny fraction of artists at the very top capture almost all of the revenue, while the vast majority earn essentially nothing. When everyone has a megaphone, all you get is noise.

SIR LUCIAN GRAINGE: Precisely. When the algorithm is overwhelmed by sheer volume, nobody's music can break through, and the value of virality itself plummets as listener attention becomes exhausted.

SID: Which brings us to the concept tying everything together. We have established that the "Big Three" major labels form an oligopoly. But today, because human attention concentrates on a handful of social platforms, we have shifted from an oligopoly of sellers to an oligopsony

For the audience: a monopoly is a market with one dominant seller; an oligopsony is a market with only a few dominant buyers. In the modern attention economy, platforms like TikTok and Instagram Reels are the oligopsony buyers of human attention in the music industry.

of buyers (Kenton 2025).

CHANCE THE RAPPER: So basically, TikTok and Instagram have everybody in a chokehold.

MATT: That might be the most accurate one-sentence definition of oligopsony in history. For the audience: a monopoly is a market with one dominant seller; an oligopsony is a market with only a few dominant buyers. In the modern attention economy, platforms like TikTok and Instagram Reels are the oligopsony buyers of human attention in the music industry.

SID: In an oligopsony, dominant buyers hold enormous power over their suppliers. Universal Music Group and Chance's independent enterprise are no longer really competing against each other. Both are suppliers feeding the same machine. Songs are trending shorter, hooks appear within the first few seconds, all because these platforms reward engagement over artistic depth.

SIR LUCIAN GRAINGE: On this point, the independent sector and Universal Music Group are in complete agreement. These platforms have built business empires on our intellectual property, using music as their own loss leader to keep users addicted to their feeds while paying fractions in royalties to the actual creators. The risk is that music becomes engineered purely for algorithmic performance rather than artistic value. I addressed this in my January 2026 letter to UMG staff. I wrote that validating business models which promote the exponential growth of AI-generated content on streaming platforms does a grave disservice to artists, songwriters, and all of us who work in music. In fact, I used the crude phrase "AI slop" in a formal company memo. I still stand by every word (Stassen 2026).

CHANCE THE RAPPER: That is a good point, Sir Lucian, and I am also 100 percent against AI in art. The algorithm does not care about cultural impact. It only cares about screen time. But while I agree with Sir Lucian on the threat of oligopsony, I believe there is a path forward. Artists who own the direct relationship with their audience own their future, not some undecipherable algorithm. And I have said this on record, so let me say it here too. I told *Success* magazine that the music industry is not designed for the benefit of the people who produce the work. Think about that. Someone other than you owning the master recording of music that came from your mind, your

life, your experience? I called it a crazy thought. That was not a hot take. That was the conclusion of someone who sat across from three major-label executives, heard their terms, walked away, and built something anyway.

MATT: As economists, we must look past the cultural narratives and focus on the data. Has the music industry truly been democratized, or has it simply been reorganized?

CHANCE THE RAPPER: The Internet gave artists both the means of production and the means of distribution. Yes, the algorithm creates intense competition. Yes, over 100,000 tracks are uploaded every single day (Stassen 2023). But I would much rather compete in a hypercompetitive free market where I own my master recordings than sign a predatory deal with a legacy oligopoly just to be heard.



Chance the Rapper, the Grammy Award–winning Chicago-born rapper and independent artist.

(Photo by Dave Kotinsky/Getty Images for vitaminwater)

SIR LUCIAN GRAINGE: Universal Music Group believes that capital, infrastructure, and scale will always win in the long run. An algorithm can generate a fifteen-second clip, but only an institution with real capital, global relationships, and strategic vision can build a sustainable fifteen-year career. And for what it's worth, I now know what an oligopsony is, and I fully intend to use that word at our next board meeting.

SID: The gatekeepers in this industry did not disappear. They simply changed clothes, trading corner offices in Los Angeles for the algorithms which now determine what billions of listeners hear. And the choice artists face is rarely as binary as our debate suggests. Hybrid models, distribution deals, and label-services agreements sit between the two extremes, and that is where much of the industry actually operates.

MATT: Here's the ultimate lesson for anyone studying the modern digital economy: the barrier to distributing music has essentially vanished, but the barrier to sustainable, long-term success is higher than ever.

SID: A massive thank you to Chance the Rapper and Sir Lucian Grainge for joining us today.

CHANCE THE RAPPER: Thanks for having me. To every young artist out there: keep owning your masters.

SIR LUCIAN GRAINGE: Thank you, Matt. Thank you, Sid. It was a remarkably insightful conversation. And Matt, for what it's worth, Taylor Swift is one of our artists. So your loyalty is, financially speaking, also my loyalty.

MATT: I knew I liked you, Sir Lucian. That is all for this week's episode of *The Flip Side*.

SID: Where we flip the script on economics!

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Left to right: Natalie Skeeters, Colton McKinney, Christen Schweizer (faculty advisor), and Ellie Schweizer. Not pictured: Susanna Diestelkamp.

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I, Song

ELLIE: In 1958, economist Leonard E. Read published his essay "I, Pencil." Told from the perspective of a pencil—yes, an ordinary wood and graphite pencil—Leonard describes the processes necessary to get a single pencil into a store. Something seemingly simple, it requires an immense, and somewhat surprising, amount of knowledge, materials, and organization to bring a pencil into existence.

SUSANNA: It really is an amazing essay and shows us how much we take for granted! Every man-made thing we interact with was touched by many people in its creation. The essay emphasizes the lack of a central planner to coordinate everything, relying instead on the spontaneous order of the market. Today, we're going to explore how this applies to the process of creating a hit song, specifically Alex Warren's "Ordinary." This top-ten song has been popular for a while, so we're going to give you a glimpse into how he made it! Hopefully, this musical version of "I, Pencil" helps you appreciate the music you listen to just a bit more and gives you an idea of what decentralized planning has done for us.

NATALIE: As Warren says in his song, looking into this kind of topic can "take us out of the ordinary." We interact with an astonishing amount of media daily and most of us don't know or consider how it gets created.

COLTON: Today, we're going to look at the economic forces present in the writing, producing, marketing, and publishing of the song "Ordinary" and how it occurs within a market system through voluntary trade instead of with a centralized planner coordinating it.

ELLIE: So, now that we've talked about the market and how countless people and processes come together to create everyday items, let's look into the very first part of the hit song "Ordinary" by Alex Warren. Where does writing a song like this even begin?

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This kind of collaboration highlights another key economic concept called specialization. This means that each person brings their own skills to share, which allows the group as a whole to create something much stronger than any individual could alone.

NATALIE: Interestingly, the writing of "Ordinary" actually began at a professional songwriting camp in 2024, where Alex Warren spent two weeks writing this song alongside experienced songwriters Cal Shapiro, Mags Duval, and Adam Yaron. Songwriting camps connect artists, producers, and writers to come together so they can experiment and share ideas (Tingen). This kind of collaboration highlights another key economic concept called specialization. This means that each person brings their own skills to share, which allows the group as a whole to create something much stronger than any individual could alone.

ELLIE: That's a great example of how the division of labor increases productivity. Instead of one person trying to do everything, each person focuses on what they do best. In this specific case, Alex provided the personal story and the emotion, while Shapiro, Duval, and Yaron helped to shape the lyrics and the structure of the song.

NATALIE: Exactly. "Ordinary" was written for Warren's wife, Kouvr Annon (Aswad), and it reflects their marriage and the idea of finding extraordinary love in a time when genuine connections are rare. The song focuses on gratitude, devotion, and faith, which gives it an emotional depth.

What's really fascinating is that many of the lyrics actually came from spontaneous jokes and casual moments in the studio. Throughout the songwriting session, random comments unexpectedly turned into meaningful lines. For example, the lyric, "the holy waters watered down" came from a joke about watery coffee in the studio (Aswad). These everyday moments were transformed into powerful images, showing us how creativity can appear from unplanned interaction.

ELLIE: That really reminds me of the idea of spontaneous order in economics. No one planned for those jokes to become lyrics, but they ended up truly shaping the song as a whole. Small unintentional decisions added up to something meaningful and valuable.

NATALIE: Yes! The song originally started from just a simple guitar pattern, but it gradually evolved into a wonderful romantic ballad focused on true love and religious faith. What's crazy is that Alex didn't even like the song initially. It wasn't until the final product that he actually realized its potential.

ELLIE: That's super interesting! Of course, after the song has been

written, it needs to be recorded.

NATALIE: So, let's talk about the economics behind the recording process of the song "Ordinary." (Luke Combs has an excellent cover of it—check it out.) We aren't discussing the meaning of it, but more like... how money plays into making it.

COLTON: Yeah, people hear a song and think it just kind of appears online, but there's actually a lot of financial decisions behind it.

NATALIE: So, like, which steps in making the song cost money up front?

COLTON: Studio time, number one. If it was recorded in a professional studio, that can cost a lot per hour. And if they're recording for multiple days, that adds up really fast. Alex Warren never disclosed his costs for studio time and resources, but experts estimate it took anywhere between $10,000 and $50,000 to record "Ordinary" (Raksha).

> Experts estimate it took anywhere between $10,000 and $50,000 to record "Ordinary."

NATALIE: And it's not just the studio that gambles your paycheck away, right?

COLTON: Ha-ha! Nope, there are also producers and sound engineers. Producers help shape how the song sounds, and they usually get paid either up front or through royalties. So when the song makes money, they'll get a percentage of those profits! That number can depend on many factors, but it ranges between $10,000 and $100,000 (Raksha).

NATALIE: Dang! So the artist doesn't just keep everything they earn from streaming?

COLTON: Not at all. Streaming already pays really small amounts per stream. Then that money gets divided between the label, producers, and sometimes writers. So the song needs a lot of streams just to make some real dough. For example, Alex Warren's "Ordinary" had over 2 billion streams and made over $10 million (Newman).

NATALIE: So recording a song is kind of like an investment?



Sound technician operating a sound table.

(Photo by Ernesto R. Ageitos/Getty Images)

COLTON: Exactly. The artist or label spends money first, hoping the song does well enough to earn it back. It's basically risk and reward. And let me tell you, some of these artists take risks and there is no reward. This is because big artists are monopolies all by themselves, hence you hear the same big names, over and over again, instead of hearing about up-and-coming performers. Major artists bring so much revenue, the investment almost always pays off in the end!

NATALIE: When it comes to equipment, what kind of tools are we talking about?

COLTON: Good question. Microphones, software, and mixing tools cost thousands of dollars. Even if part of it was recorded at home, that equipment still costs money. So that's another economic layer on the cake.

NATALIE: So, even though "Ordinary" sounds all emotional and personal, the recording process behind it is actually really business-focused.

COLTON: Yeah. Every decision is so important, including who to hire, where to record, and how much to spend, and is based on cost and the chance of making that money back.

So, basically, music is art—but recording it is economics.

NATALIE: So, basically, music is art—but recording it is economics. We've heard about the inspiration and the process for recording the song, now I'm wondering what the publishing process looks like and what sort of legal things you have to do for royalties and owning the song, and such.

SUSANNA: Oh, that's a good question. It's a lot more than people usually realize. The two big things for this song—well, for any major song production—are master recording rights and publishing rights. The master is the actual audio file that you hear on streaming services. Whoever owns the master controls where the recording is distributed,

how it can be licensed, the collection of revenue, whether and where the song is used in media, whether remixes are allowed, and stuff like that (LegalClarity Team).

COLTON: That's a lot. You would think the creator of the song would have those rights. Why do people sell them?

SUSANNA: There are negatives and positives, there are complicated legal procedures you have to go through, with possible financial ramifications, along with loss of control over the final product. But a record label has much more resources and reach for getting the song out there and getting people to listen to it. For Alex Warren's "Ordinary," Atlantic Records was the label, a subsidiary of Warner Music Group, one of the three largest record companies which dominate the industry globally. Which means that any use of the master requires Atlantic Records' permission in the form of a master-use license. It also means that Atlantic Records collects all revenue and distributes it to collaborators based on their contracts (Unchained Music).

COLTON: That is really interesting, and it sounds like it would be a lot for all the collaborators to think about. So, what are publishing rights?

SUSANNA: So, the master-recording rights are for the audio itself, establishing who owns it, and the publishing rights belong to whomever owns the lyrics, melody, and musical structure. The publisher handles the copyright and collects and distributes publishing royalties for various uses of the song. There are three major types of royalties you can get from music publishing rights: mechanical royalties from distribution, performance royalties from public performances of the song, and synchronization royalties from use of the song in visual media. The royalties payable to the song's publisher are in tandem with master-use royalties payable to Atlantic Records, meaning that if you want to use the song in a visual format, you have to get a sync license from the publisher as well as from the label (LegalClarity Team).

There are three major types of royalties you can get from music publishing rights: mechanical royalties from distribution, performance royalties from public performances of the song, and synchronization royalties from use of the song in visual media.

COLTON: I'd never thought about how different parts of the song itself would need to be copyrighted. Earlier you said "all publishers," but what do you mean? There could be more than one?

SUSANNA: Yes. Often in modern song productions there are seven to twelve publishers involved. Modern songs have more writers. In the 1970s, on average, there were 1.8 songwriters accredited per song in the top one hundred. In 2010, the number was 5.3 (Dalla Riva). Collaborative songwriting is now the norm. This is significant because often each songwriter will have their own publisher, and sometimes a co-publisher or administrator. Even without that, modern legal incentives motivate people to credit people who only helped a tiny bit, in order to avoid potential lawsuits. "Ordinary" was published by Alex Warren Publishing along with nine other publishing organizations (*Discogs*).

In the 1970s, on average, there were 1.8 songwriters accredited per song in the top one hundred. In 2010, the number was 5.3.

ELLIE: Wow! Thank you so much for all that info on the legal side of things. I had no idea. Now, after the creation of the song, the artist has to get people to listen to it! They only profit from their work if other people gain from it as well, which is an example of how markets lead to mutually beneficial exchanges. In our current digital age, one major way artists go about the marketing process is by leveraging social media. The name of the game is to get people to hear your song, so they will also make deals with organizations to have their songs in commercials, on the radio, and in TV shows. The more people who hear your song, the more likely it will find an audience that enjoys it.

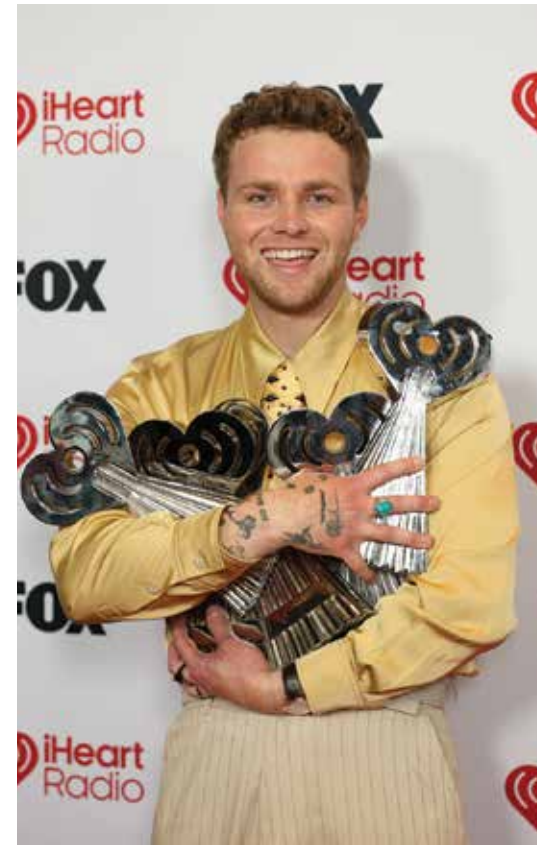
SUSANNA: Consumers have a massive amount of media available to them, at any given time. How do artists face the challenge of getting people's attention with the vast amount of competition?

ELLIE: That's an excellent question! Attracting listeners has become such an important and challenging part of the process that content creators have developed a myriad of strategies to gain their audience's attention. Many artists hire others to fulfill or help with the marketing process, but since Alex Warren had a strong background in social media himself, and already had followers, he managed much of the social-

media marketing for his song "Ordinary" himself (Aswad).

SUSANNA: I know some artists see the marketing process as inauthentic and inartistic. They want their art to speak for itself and struggle with this idea of having to convince people to give their creation a chance.

ELLIE: Artists definitely have that issue, but Alex Warren saw his marketing process as an additional form of art. There are many different methods of posting about a song or another piece of art, so it can be an interesting challenge to find the one that works for your specific song and brand. Because Alex Warren already had a social media following that wasn't necessarily associated with his music, he had to be mindful about introducing something new to his followers. He designed videos to appeal to consumers in multiple different ways. Maybe they liked the song already, but then he also included visuals and lyrics. This way, the videos were still of interest, even if the viewer wasn't focused on the song specifically (Aswad). This method helped more people discover his music and contributed to how it went viral.



Alex Warren, winner of the Best New Pop Artist award, the Breakthrough Artist of the Year award, Favorite Debut Album award, and the Song of the Year award for "Ordinary," poses in the press room during the 2026 iHeartRadio Music Awards at Dolby Theatre on March 26, 2026 in Hollywood, California.

(Photo by Frazer Harrison/ Getty Images)

SUSANNA: That's a lot of work. Imagine how much time he spent filming, refilming, and brainstorming. And that's after writing and producing the song! It's interesting that he had to consider how his audience would receive it and what they would want. Once again, his success relies on the value he provides to people. When his product matches their desires, both parties leave satisfied—a successful trade ending with a double thank-you!

ELLIE: Yep. All of these actions are motivated by the market and prices. To increase their attractiveness, Warren based his videos on what people had previously watched. These insights and incentives ultimately led to the "spontaneous order of the market" that the essay "I, Pencil" is all about.

NATALIE: Now, we've seen the overview of what it takes to create a song.

All of these actions are motivated by the market and prices. To increase their attractiveness, Warren based his videos on what people had previously watched. These insights and incentives ultimately led to the "spontaneous order of the market" that the essay "I, Pencil" is all about.

Management of resources and planning occurs at every stage, in the brainstorming, producing, marketing, and publishing of the song. The amount of work and time that goes into making even just one song is incredible—and there are millions of songs!

ELLIE: The really exciting part is that, just like with the pencil, all of this occurred with the coordination of many people and groups of people. We think of Alex Warren as the songwriter, but he didn't do all of the writing himself, much less the marketing, producing, and publishing. He signed with a record company and used supplies from studios and stores in the creation of his art. No one told those entities what to make or do; they managed resources and generated policies based on the market. Prices function both as information and incentive, telling companies what to produce and motivating them to produce it.

COLTON: The market system is what causes all of these participants to come together and create a song. What economists call the "invisible hand" guides individuals to act in such a way that things like pencils and songs can be made without centralized management. The complexity of the creation process makes the sheer amount we produce—of pencils, songs, and everything else—truly magical.

SUSANNA: We hope this podcast has given you a glimpse into the vast amount of unplanned coordination that occurs to provide consumers with the products we have. Next time you listen to a song, or any other media for that matter, think about all the things that had to come together to create it and remember—it doesn't happen with a centralized planner.

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Left to right: Tanish Gottimukkula, Arjun Krishnamurthy, Isaac Bockman, Arnav Khetarpal, Jay Khodzitsky, Cameron Wharton, and Aidan Bae.

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Symphonomics: The Economics of Copyright Laws in Music

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MLA 9th Edition

TANISH: Welcome to *Symphonomics*, the podcast where we look at economics in music. I'm your host, Tanish. Music is a classic form of creative property, and copyright law exists to protect it by giving creators a property right and a legal system to enforce it. But that system keeps breaking down: for example, AI companies training on copyrighted recordings without paying anyone. Billions of dollars lost to piracy every year. Underground markets for music that was never supposed to be released. Today, we are finding out why the system is flawed in certain ways, and what it actually costs. We do have a little special something for you guys today and, to put it lightly, it won't just be me today. This episode of *Symphonomics* is actually...[*drumroll*] a mega-podcast episode!

TANISH: Say hello to our guests of the day: Jay, a renowned economist; Isaac, a famous venue planner; Aidan, a distinguished producer; Arjun (AJ), owner of the AJ record label; Cameron, a former leaker of intellectual property without authorization; and Arnav, a music attorney!

JAY, **ISAAC**, **AIDAN**, **ARNAV**, **CAMERON**, and **AJ**: [*In unison*] Hello!

TANISH: Anyway, to kick off our discussion, I want to talk about Artificial Intelligence (AI), since I think it is the most economically interesting case, right now.

AIDAN: Why AI specifically?

TANISH: Because it exposes a fundamental breakdown. AI music-creation tools, like Suno and Udio, train on massive libraries of existing recordings to generate new music. The question is whether that creates what economists call a "Coasian bargaining problem." Ronald Coase

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.



Cover of 2024 Copyright and Artificial Intelligence Report from United States Copyright Office.

argued, in 1960, that when property rights are clear and transaction costs are low, parties can negotiate their way to an efficient outcome on their own (Coase, 1960). The music industry, right now, has neither low transaction costs nor enough clarity on intellectual property rights.

ARNAV: What makes the property rights unclear?

TANISH: Nobody has legally defined who owns AI training data. In 2024, Universal Music Group, Sony Music Entertainment, and Warner Music Group sued Suno and Udio, claiming the companies trained on copyrighted recordings without consent. The U.S. Copyright Office acknowledged in its 2024 AI report that the legal status of this kind of training remains unsettled (U.S. Copyright Office, 2024). Without clear property rights, Coase's first condition never gets met.

AJ: And even if the rights were settled, could the parties actually negotiate?

TANISH: That is the second problem. Negotiating individual licenses between AI developers and thousands of labels, session musicians, and publishers would be prohibitively expensive. A blanket licensing framework, like the performance rights organization (PRO) model, which Isaac will describe later, is one workable path. Without something like it, the costs fall entirely on artists, who never consented to any of this. Aidan, sampling is where this tension has played out for decades. Walk us through it.

Copyright law turns old catalogs into income-producing assets.

AIDAN: Sampling sits right at the intersection of copyright law and creative economics. A producer hears a drum loop or a melody from an older track and builds something new around it. But it comes with real legal friction.

CAMERON: What kind of friction?

AIDAN: Every sampled song carries two separate copyrights, one for the sound recording and one for the musical composition. To use either, a producer has to negotiate a license with the rights holder, whether that is the artist, the label, or the publisher. Those agreements usually require upfront payment or a royalty share.

TANISH: So there is a whole market built around old music because of this?

AIDAN: Exactly. Copyright law turns old catalogs into income-producing assets. Kanye West's "Gold Digger" sampling Ray Charles's "I Got a Woman" is a classic example. That sample kept generating revenue for the Ray Charles estate decades after the original recording. For rights holders, sampling is a secondary revenue stream that never really stops.

JAY: But not everyone can afford to participate in that market.



A New York University student downloads music from the Napster site, March 6, 2001 in New York City.

(Photo by Spencer Platt/Getty Images)

AIDAN: That is the real tension. Clearing a sample can cost anywhere from a few thousand dollars to well over $100,000, depending on the track. For independent artists, that is simply out of reach. Many producers skip sampling entirely and create sounds that mimic the original instead. Whether that dynamic protects creators or just limits who gets to build on existing music is a debate the industry has never resolved.

TANISH: Copyright creates markets but also raises the cost of entry. Arnav, piracy is what happens when enforcement collapses entirely.

ARNAV: It's true, copyright law gives artists sole ownership over their works, but what good are those laws if they cannot be enforced? In the last twenty years of the music business, copyright laws weren't enforced at all, so piracy filled that hole and caused major problems.

ISAAC: How bad did it get?

ARNAV: It all started with the launch of Napster in 1999. Users could download any song, free of charge. The availability of this service allowed individuals to obtain music at a much lower price than before, as they were able to download artists' songs that previously were available on CDs which cost around $14 each. As a result, the RIAA reports that total music revenue fell from $14.6 billion in 1999 down to $10.4 billion in 2007 (RIAA, 2023).

TANISH: That is nearly a third of the market gone in under a decade.

ARNAV: The problem caused by piracy is larger than simply having reduced sales. According to a report by the Institute for Policy Innovation, written by Stephen Siwek, piracy has cost the U.S. economy approximately $12.5 billion annually, with an estimated total of 71,060 lost jobs and decreased worker earnings of $2.7 billion (Siwek, 2007).

> Piracy has cost the U.S. economy approximately $12.5 billion annually.

CAMERON: Does streaming fix the problem?

ARNAV: No, not necessarily. The situation with Universal Music Group and TikTok can serve as an example of how disputes over licensing are more likely to arise on account of illegal distribution of audio content, than they would if access to legitimate distribution channels were made easier. A 2006 study conducted by Rob Rafael and Joel Waldfogel for the *Journal of Law and Economics* indicated that every illegal download of a song directly affected legitimate sales in such a way that total sales decreased by between 0.15 and 0.30 units per digital copy. (In other words, sales revenue decreased by .15% to .30%.) A problem arose because the demand for these songs (in unauthorized, "ripped" audio formats) was being redirected away from UMG, ironically resulting in an estimated 2%–3% increase in plays, but in the form of illegally downloaded "rips" of the songs, thus subverting the legal royalties system (Rob & Waldfogel). This type of activity ultimately results in billions of illegal copies of songs being downloaded each day. Ultimately, the issue affects individuals, including musicians, who have no input or control over the discussions surrounding the music-licensing issues at hand. As such, illegal downloading will continue to create negative externalities (i.e., costs to others), even as both UMG and TikTok are working collaboratively to resolve their own issues through negotiation and litigation.

TANISH: The music keeps playing. The people who made it just do not always get paid. AJ, labels exist specifically to solve the financing problem that piracy exploits. How does the system work?

AJ: Music is expensive to make. Producing and promoting a major album can cost anywhere from $500,000 to several million dollars (RIAA,

2025). Because music can be copied at almost zero cost, copyright law creates artificial scarcity, giving labels and artists property rights that let them control distribution and actually collect revenue.

ISAAC: So without copyright, the whole label model disappears?

AJ: Basically. Labels finance artists, handle promotion, and recover their investment through controlled distribution. The global music industry generated around $28 billion in revenue in 2023. Streaming now accounts for two thirds of that, with Spotify paying out between $0.003 and $0.005 per stream (*IFPI*, 2024). Copyright is what makes those payouts legally enforceable.

TANISH: But the concentration of power is a real issue.

AJ: That is the tension. The three major labels, Universal, Sony, and Warner, control 65% to 70% of the global music catalog (*IFPI*, 2024). That gives them enormous bargaining power over streaming platforms, which limits how much revenue actually reaches individual artists. Copyright makes the label system possible, but who benefits most from it is still very much an open question.

TANISH: The example of major labels shows how copyright enables investment while concentrating power. Cameron, is it true that leaks are where copyright fails before the music even reaches the market?

CAMERON: That is correct, Tanish. When unreleased music leaks, you are looking at market failure in its most direct form. Copyright gives artists exclusive rights to monetize their work, but a leak destroys that exclusivity before the artist can act on it.

JAY: Give us a concrete example.

CAMERON: Sure. Between March and August of 2023, hip-hop artist Ye saw 20 of his unreleased songs leaked on Instagram. His legal team argued it was not just infringement, it was a direct hit to his reputation and expected income (*NME*, 2023). Economically that is correct. Unreleased music is a capital asset with future market value. A leak does not just violate a right. It destroys the value of the asset before it ever hits the market.

AIDAN: And the damage keeps going from there?

CAMERON: It gets worse. According to *RapTV*, fans on Discord pool money in group buys to purchase leaked songs directly from hackers. One unreleased Jay Electronica album sold for $9,000 (*RapTV*). That is a separate economy operating entirely outside the formal music industry—a textbook allocative efficiency problem, where resources flow into illegal channels instead of back to the creators.

TANISH: So you have two market failures stacked on top of each other.

CAMERON: Exactly. The initial leak destroys the artist's property rights and expected revenue. Then a secondary black market forms around those leaks and compounds the damage. Copyright law is the obvious corrective tool, but enforcement is expensive and leakers are usually anonymous. It rarely works.

TANISH: Fascinating stuff, Cameron! While Cameron just argued how copyright laws are a way to protect artists, Jay, you have a case where they do the opposite. How is that possible?

JAY: Well, the "Blurred Lines" verdict is the clearest example I know of copyright being used to shut down competition rather than protect creativity. In 2015, the estate of Marvin Gaye sued Pharrell Williams and Robin Thicke, claiming "Blurred Lines" copied Gaye's 1977 hit "Got To Give It Up" (Niles, 2015).

Unreleased music is a capital asset with future market value. A leak does not just violate a right. It destroys the value of the asset before it ever hits the market.

ARNAV: What made that verdict so significant?

JAY: The court found infringement not of specific notes or rhythms, but of the "feel" of the song (Williams v. Gaye, 895 F.3d 1106, 9th Cir. 2018). The estate was awarded over $7.4 million (Niles, 2015).

TANISH: What does that mean economically?

JAY: By claiming ownership over a style and feel, rather than specific creative expression, the Gaye estate became the only player in the market for high-energy disco funk. Copyright, which is supposed to protect specific creative work, was used to fence off an entire genre aesthetic. That is a barrier to entry. It protects the original creator, but it deters other artists from working in the same creative space and limits competition in the market.

TANISH: Copyright can create monopolies just as easily as it creates

markets. Isaac, we have spent most of today talking about where copyright breaks down. Let's end on a case where it actually works.



The Beatles revival band Rain - The Beatles Experience at the Renaissance Theater.

(Photo by Sean Gallup/ Getty Images)

ISAAC: "Cover bands" are a great example of copyright functioning exactly as it should. A cover band performs songs originally recorded by other artists. Examples include wedding bands, bar bands and solo performers, and tribute groups who sell out theaters with impersonations of the Rolling Stones or ABBA. And the market is not small. Global live music revenue surpassed $33 billion in 2023 (*Statista*, 2023), with a significant portion coming from local and regional live music, and most of it from cover bands.

Global live music revenue surpassed $33 billion with a significant portion coming from local and regional live music, and most of it from cover bands.

TANISH: But they are playing copyrighted songs every night. How is that legal?

ISAAC: Through performance rights organizations, or PROs. ASCAP and BMI are the main ones in the United States. A venue purchases a blanket license, a flat annual fee covering over 20 million musical works (ASCAP). When a band plays "Don't Stop Believin'" at your local bar, it is the venue's blanket license that makes it legal, and the songwriter still receives a royalty.

AJ: What does that license cost?

ISAAC: According to SiriusXM Music for Business, it costs around $378

per year for smaller rooms, scaling up based on venue size (SiriuxXM for Business). That entry point is low enough that most venues find it worthwhile. Cover bands get access to an enormous precleared catalog, venues stay legally protected, and songwriters keep earning from performances they never have to attend.

TANISH: That is exactly the model that solves the problem Coase described at the top of the episode. One flat fee replaces thousands of individual negotiations.

ISAAC: Precisely. The blanket license eliminates the transaction-cost problem entirely. And on a bigger scale, a sold-out Beatles tribute show is proof that catalog music holds real economic value decades after its original release. The PRO system keeps that value circulating back to the people who created it.

TANISH: Thank you, all. Here is what today's conversation showed us. Copyright law shapes the economics of music at every level. When the system works, like blanket licensing for cover bands, transaction costs drop and markets function. When it breaks down, through piracy, leaks, AI training without consent, or copyright claims broad enough to own a genre's "feel," the costs land on the people least equipped to absorb them. The gap between what copyright promises and what it delivers is not a legal footnote, it is the economic reality of the music industry. Thanks for listening to *Symphonomics*, and we'll see you next time! [*Symphony plays*]

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Left to right: Shlok Chaubey, Parin Mandya Raghavendra, Ayan Bhardwaj, and Pramath Mandya Raghavendra.

Melissa High School

Melissa, TX

All I Want for Chri$tmas Is Revenue: The Economics of Xmas Music

SHLOK: [*Clears throat and begins to sing*] Last Christmas, I gave you my heart. But the very next day, you gave it awayyy—

PARIN: [*Cuts him off*] Shlok, I haven't even done the intro yet. Anyway, welcome back, INVESTigators, to another episode of the *Mysteries of Money*, where we take a deep dive into the market's most questioned money trends! I'm Parin and, as always, I'm joined by my co-hosts Shlok, Ayan, and my brother, Pramath. Today's topic is a little different. It's not about your next Nvidia or the latest tech stock shaking up the market. It's about something that you've probably heard a thousand times but never once thought about economically: Christmas music.

SHLOK: Yeah, wait, I see tons of people talking about the insane popularity rise of Mariah Carey whenever the holiday season rolls around! It's always that one song, "All I Want for Christmas Is You," that's just soaring in streams during December.

AYAN: Of course, I see that all over my TikTok feed! I think most of us do end up thinking about the fact that those songs make a TON of money around that time. I mean, it's got to be a seasonal source of income at this point, right?

PARIN: Actually, yeah, it kind of is. The numbers are staggering. I mean, Christmas music, as a genre, generated roughly $88 million in Spotify streaming royalties alone during a single holiday season, according to the 2024 industry forecast (Owsinski). Here's the wild part: this sort of money isn't a new phenomenon. It goes all the way back to 1942, when Irving Berlin and Bing Crosby essentially invented the modern Christmas hit with "White Christmas," which went on to become the best-selling physical single of all time, with more than 50 million

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"White Christmas"

(Left to right) Rosemary Clooney, Danny Kaye, Bing Crosby and Vera-Ellen.

(Photo by Paramount Pictures/Archive Photos/Getty Images)

copies sold (*Guinness World Records*). Berlin's discovery was recognizing that nostalgia had commercial value, which had not been recognized up to that time. Using this exact framework of attaching a song to an emotional memory, Christmas music became one of the most popular genres. And guess what? That's exactly what Mariah Carey did with her massive Christmas hit, 52 years later.

PRAMATH: Okay, but hold on, $88 million just from Spotify? That's not even counting radio, licensing, retail playlists, and television ads. And who's even deciding what songs get played in stores? Because it's literally the same ten songs, every single year.

SHLOK: Wait, wait, wait. We're headed all over the place, it looks like thoughts of "Jingle Bells" and Christmas got us all wrapped up in the holiday hype. Before we talk about any of this, we have to understand the effect of Christmas music on the retail economy. How does something as simple as a song change consumer behavior and spending? I suppose understanding this will answer all our other questions.

AYAN: Well, here's the thing. Think about every time you walk into a store and hear those Christmassy tunes. Research links it to changes in consumer behavior, perception of time, and product selection (Spangenberg et al.). It's really fascinating, how certain factors are used within retail stores or other corporations to increase their customer retention and gain. It's just one of a few examples of how various corporations will use a factor like Christmas music as a medium for increasing profitability.

PRAMATH: I think that's what a lot of economists call sensory congruence. When a store's jolly background audio perfectly matches its holiday displays and overall vibe, it creates a powerful psychological nudge to the customers.

SHLOK: This idea of sensory congruence goes much deeper into actual economic behavior than you might think. When that psychological nudge kicks in, consumers become way less sensitive to price, a phenomenon in modern economics often referred to as "inelastic demand." Fancying the holiday vibes, consumers are now more likely to spend more money when shopping, raising the "marginal propensity to consume." For our new INVESTigators, it's just a fancy term economists use when referring to how much money shoppers are spending versus saving (Abdolmohamad Sagha et al.).

PARIN: I actually remember reading an article a few days ago that proves this. 12% of shoppers spend more money on goods when Christmas or, rather, seasonal music is playing, and 44% are more likely to return to that same store (Bond). So this just shows how retailers are clearly both setting a vibe and moving the demand curve in order to increase customer attraction and retention.

> 12% of shoppers spend more money on goods when Christmas or, rather, seasonal music is playing.

PRAMATH: Oh, all right, so music changes behavior and behavior changes spending. And then somewhere in that process, someone is making bank because of this? Who would that be?

SHLOK: Glad you asked that question. Parin, do you think it's time?

PARIN: Never been more ready, Shlok!

SHLOK: Guess it's time for today's...

PARIN and **SHLOK:** Case Cracked: Your deep dive into today's topic.

PARIN: Today's case study delves deep into Mariah Carey's "All I Want for Christmas Is You", which is honestly one of the most fascinating commodity-and-assets stories in music economics. Carey wrote and produced the song in the summer of 1994, but it took twenty-five years to hit number one on the Billboard Hot 100. By 2017, the song had already generated upwards of $60 million in royalties (Sager). Five years later, it pulled in an all-time high of $8.5 million in a single year (Iacurci). This is real talk: the song has grossed over $100 million in

Berlin's discovery was recognizing that nostalgia had commercial value, which had not been recognized up to that time. Using this exact framework of attaching a song to an emotional memory, Christmas music became one of the most popular genres.

It is reported that "All I Want for Christmas Is You" starts gaining traction in late September every year across Google and YouTube. Over the years, it has become more important for artists to plan to capitalize on event-driven opportunities like Christmas, which can potentially be a reliable source of income for them, generating future royalties.

lifetime earnings. That's ridiculous. It doesn't just happen with a snap of the finger. Come late September, the traditional start of the annual holiday shopping season, the numbers aren't the only thing. It's also how Carey earns them.

SHLOK: Joining us today to help us with our deep dive is Dr. Clara Thompson, an economist who specializes in intellectual property and market behavior and, most importantly, enjoys listening to Christmas music in her free time. Right, Dr. Thompson?

DR. THOMPSON: Ha-ha! Yes, who doesn't? So first, let's talk about how seasonal music, especially during Christmas, takes advantage of the current "attention economy" today. One research study done on music streaming shows that examples like Mariah Carey's song prove how attention is used to make profits in the industry. It is reported that "All I Want for Christmas Is You" starts gaining traction in late September every year across Google and YouTube. Over the years, it has become more important for artists to plan to capitalize on event-driven opportunities like Christmas, which can potentially be a reliable source of income for them, generating future royalties (Maasø).

SHLOK: Okay, but how does Mariah Carey actually make money? I've heard recent news on her song and her trademarks, but I'm not entirely sure about royalties or the trademark process.

DR. THOMPSON: Here is the research my team has compiled. Mariah Carey filed a trademark application for the phrases "The Queen of Christmas," "QOC," "Princess of Christmas," and "Christmas Princess." Since her song's release in 1994, she has accumulated millions of dollars in royalties. She actually had to fight a class-action lawsuit against another songwriter, Elizabeth Chan, over trademarking those aforementioned phrases (Thakur). She has gone to great lengths to protect her trademarks, profits from which have accompanied the profits made with her royalties from the song.

PRAMATH: Wow, that's complicated stuff for, sure. Tell us the numbers, though, Dr. Thompson.

DR. THOMPSON: Sure! Carey has the rights to both the copyright of the song and the recording, and she gets profits from all who play the song. Sources say that she may have earned over $103 million since 1994, with her music surpassing two billion streams on Spotify (Eudaily).

PRAMATH: That's crazy. Specifically, how does she gain money over time, though?

DR. THOMPSON: The hit generates approximately $3.4 million annually (Iacurci). Additionally, Spotify has generated over $9.8 million, of which Carey only gets a portion (Iacurci). She gets a larger portion than most artists, as she is the sole producer, writer, and performer of the song. Let's take a deeper look at how her revenue is split up. Keep in mind that certain statistics are not available as they aren't disclosed.

AYAN: Sure, what do we have?

DR. THOMPSON: In 2022, Carey likely tabulated over $2.7 million in royalties for herself (Sager). The global revenue the song earned was $8.5 million (Sager). Carey's master recording brought in $5.3 million, and publishing royalties were $3.2 million (Sager). She made $1.9 million from the master recording, and Sony kept the other $3.4 million. She also earned $1.6 million in publishing royalties, assuming she and co-writer, co-publisher Walter Afanasieff split it 50-50 (Sager).

AYAN: 50-50? Are we sure of that?

DR. THOMPSON: Not entirely. Her final take-home pay, though, would be approximately $795,000–$1.4 million (Iacurci). All told, this gives her revenue in the range of $2.7 million to $3.3 million for the year 2022 (Iacurci).

PRAMATH: Wow, you've hit us with a ton of numbers. What does that actually mean for Carey?

DR. THOMPSON: Yup! Now that we've tackled the financial analysis behind how Carey makes so much money from her song, let's talk about the implications. Carey, as a musical artist, needs to file trademarks, protect those trademarks, sign deals with her publishers, and coordinate promotional efforts with streaming platforms before she can generate her final profit. There are a ton of variables that go into making music profitable, and it's clear that, in this case, Carey's revenue spikes seasonally, as mentioned earlier, starting around late September. Carey is able to generate reliable profits, having made such a popular song. Ultimately, she has made millions of dollars through her ownership of a Christmas classic and related trademarks—not to mention her having written the lyrics and recorded the song.

SHLOK: Wow. There's no easier way to make money than having a seasonal hit! It's just an ongoing stream of money.

DR. THOMPSON: Absolutely. Each song essentially pays her in royalties per stream on all types of platforms, with her gaining a portion of those profits while the rest goes to her record label. Additionally, her assumed 50% publisher share allows her to collect publishing revenue. It's due to the essential economics of both streaming services and music overall, but also the fact that the song and its associated intellectual property act as a fluctuating commodity, that earns her increased revenue every Christmas season. Sort of complex, but in the end it's what makes her song so lucrative (Iacurci)!

AYAN: Dr. Thompson, we just talked about Mariah making millions. But is she just one exception, or is this trend seen in other places?

DR. THOMPSON: As easy as it would be to call it an anomaly, this is actually an entire market structure.

PRAMATH: What do you mean by market structure?

DR. THOMPSON: Well, take a look at the charts every year at this time. You've got Bobby Helms with "Jingle Bell Rock," Brenda Lee's "Rockin' Around the Christmas Tree," and Wham!'s "Last Christmas" ("Official Singles Chart Top 100"). All of these artists are making millions of dollars every year from songs recorded decades ago.

Economists call it an oligopoly. It is when a few classic songs completely dominate the market because of the nostalgia that the consumers have. It's incredibly hard for new artists to break in when consumers just want to hear the hits they grew up with.

SHLOK: Ah, I see. It's basically a monopoly of the classic Christmas songs, right?

DR. THOMPSON: Economists call it an oligopoly. It is when a few classic songs completely dominate the market because of the nostalgia that the consumers have (Hennerich). It's incredibly hard for new artists to break in when consumers just want to hear the hits they grew up with.

PARIN: That makes sense for the music industry. But Dr. Thompson, how does this affect the economy in a wider sense?

DR. THOMPSON: Well, it creates a huge spike in retail spending. And that spending actually shows up in the Consumer Price Index, or what's commonly known as the CPI (U.S. Bureau of Labor Statistics).

AYAN: The CPI? Isn't that how we measure inflation?

DR. THOMPSON: It sure is! Because Christmas music triggers that psychological nudge we talked about earlier, consumers are willing to spend more. Every November and December, we see the same predictable inflation in retail prices because the overall demand spikes up a lot.



Grammy Award–winning singer Mariah Carey performs "Oh Santa" and "All I Want For Christmas is You."

(Photo by Mark Ashman/ Disney via Getty Images)

PRAMATH: It's insane to think that a holiday playlist literally helps push up retail inflation.

DR. THOMPSON: It's a big reason behind the seasonal demand shock. And because this demand is so guaranteed, Wall Street has even entered the discussion now.

SHLOK: Wall Street? Does that mean finance guys are buying Christmas songs?

DR. THOMPSON: Literally, yes. Over the past few years, private equity firms, like Hipgnosis, have been spending billions to buy up old holiday music catalogs (Szalai).

AYAN: Why would a private equity firm want Brenda Lee's catalog?

DR. THOMPSON: Because to them, it's more of a catalog asset than just music. These songs are similar to high-yield bonds that pay out a huge, predictable amount of cash every December.

PARIN: And I'm guessing it's a pretty safe investment?

DR. THOMPSON: Honestly, it's the perfect inflation-resistant asset. Think about it: when inflation goes up, platforms like Spotify eventually raise their subscription prices (Eudaily).

PRAMATH: Oh, I see! And since royalties are a percentage of the platform's overall revenue, the song's payout scales right up with inflation.

DR. THOMPSON: Yes, sir. The asset protects its own value, and when interest rates rise in the economy in general, these catalogs become highly prized by institutional investors because they offer such steady, alternative cash flows (Davies et al.). It's a durable, zero-marginal-cost asset that leverages consumer behavior every single year.

PRAMATH: Okay, my brain is officially full. So wait, if we had to boil all of this down, what's the actual real-world takeaway here?

AYAN: Next time you're celebrating Christmas with your family at the mall and hear "Jingle Bells," know that you're being hit with a calculated behavioral nudge.

SHLOK: And every time you stream a holiday classic, you're paying into a zero-marginal-cost, inflation-resistant asset. I promise I'm not a nerd.

PARIN: And on a larger scale, that nostalgia is powerful enough to drive a predictable inflation spike every single December.

SHLOK: Honestly, I need a piece of this market. [*Clears throat loudly*] Last Christmas, I gave you my heart...

AYAN: Shlok, please stop. You don't own the publishing rights to that.

PARIN: Anyway, Christmas music isn't just a festive soundtrack. It is one of the most brilliant economic engines in modern history. As always, I'm Parin. Thanks for listening to *Mysteries of Money*. Until next time, INVESTigators!

SHLOK: ...But the very next day, you gave it awayyy!

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Left to right: Penelope Ghisleni, Henry Hazelton, Lake Zhou, Drona Gaddam, Eli Orbach, David Liu, Prajna Mahaviriya Murdaya, and Sophia Balaraman.

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Polyopoly: The DOJ's Antitrust Lawsuit Against Live Nation

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CITATION STYLE

MLA 9th Edition

ALICE: Thanks for tuning in to *Polyopoly*, the show where microeconomics nerds chat about competition and its impediments. I'm your host, Alice, and joining me today are Daniella and Chip.

DANIELLA, CHIP: [*In unison*] Hello!

ALICE: Today's a special episode, because we're finally talking about Live Nation! Ever since the Department of Justice's antitrust lawsuit began, a couple of years ago, the monopoly concerns surrounding Live Nation and its subsidiary, Ticketmaster, have been rocking the top of our topic-request page. The two sides recently reached a settlement agreement, so I figure it's about time we hear and dig into the story, huh?

DANIELLA: [*Chuckles*] We've got several ideas to unpack, including vertical integration, the "flywheel" business model, and exclusivity contracts. We'll also take a look at a listener survey we sent out a few weeks ago.

CHIP: And later in the episode, we'll hear briefly from Jonathan Kanter, the head of the DOJ's Antitrust Division at the time of its 2024 legal complaint against Live Nation. You won't want to miss what he has to say, so stick around!

[*Intro jingle*]

ALICE: Before we get carried away with the details, can you two explain why everyone's so worked up about Live Nation and Ticketmaster?

DANIELLA: Of course. In 2010, the DOJ approved Live Nation's acquisition

Ticketmaster is the largest ticket seller in the United States by far, acting as an intermediary between concert venues, artists, and fans and profiting from revenue shares on ticket sales. In 2025, Livemaster sold 646 million tickets globally.

of Ticketmaster. While the combined firm is still called Live Nation, I'll call it "Livemaster" to avoid confusion. More recently, in May 2024, the DOJ reneged on its initial approval and sued Livemaster ("Justice Department Sues Live Nation–Ticketmaster"). It sought to break up Livemaster, alleging that the company was monopolizing multiple related markets and thereby raising concert ticket prices ("Justice Department Sues Live Nation–Ticketmaster").

ALICE: By how much have ticket prices risen since the merger?

CHIP: To put it bluntly, a lot. According to *Pollstar* data compiled by *USA Today*, average ticket prices increased by 102% from 2011 to 2024 (Chernikoff). Even after adjusting for inflation, real prices rose 44% ("CPI Inflation Calculator"). And our listener survey confirms that consumers are feeling this increase. Across our 74 respondents, the average reported satisfaction with ticket prices on Livemaster's platform was just 2.97 out of 5. That's certainly low enough to raise concern.

CHIP: To evaluate the claim that a Livemaster monopoly is responsible for these price increases, it's important to understand Livemaster's market positions. Ticketmaster is the largest ticket seller in the United States by far, acting as an intermediary between concert venues, artists, and fans and profiting from revenue shares on ticket sales. In 2025, Livemaster sold 646 million tickets globally (Grantham-Philips).

DANIELLA: That's right. And the other side of the business is Live Nation, which the media often portrays as solely a concert promoter. But its dominance is similarly significant in the market for venues. Live Nation controls more than 265 venues, including 60% of the amphitheaters in the United States ("Justice Department Sues Live Nation–Ticketmaster").

Live Nation controls more than 265 venues, including 60% of the amphitheaters in the United States.

ALICE: The idea that Livemaster has monopoly power sounds plausible. What share of the market does it control?

DANIELLA: That's a surprisingly difficult question to answer. The

problem goes back to one of the key issues in any antitrust dispute: market definition. In its 2024 complaint, the DOJ defined the relevant ticketing market as only including concerts at arenas and large-scale amphitheaters (Southern District Court of New York 57-59). Under this framework, Livemaster's market share in ticketing would hover around 80% (Moss). Yet Livemaster argued that the true market encapsulates all venues from mega-arenas to local clubs, giving it a market share of only 20% (Sisco et al.). The DOJ and Livemaster never agreed on the relevant ticketing market, but on February 18th, 2026, Judge Arun Subramanian did reject the DOJ's concert-promotion market definition. That was a major win for Livemaster before the settlement (Sisario and McCabe).



Taylor Swift fans demonstrate outside U.S. Capitol as ticket industry executives testify to Congress.

(Photo by Drew Angerer/Getty Images)

CHIP: I should also point out that market share and monopoly power are not interchangeable. There is another component to monopoly power: high barriers to entry. Without high barriers, Livemaster would not be able to charge monopoly prices without being undercut by new entrants to the market.

ALICE: It seems like establishing the existence of strong barriers to entry would be necessary to portray Livemaster as a true monopoly.

DANIELLA: Yep! Barriers to entry in the ticketing, venue, and concert-promotion markets lay at the heart of the DOJ's argument. Although some barriers, such as the high fixed costs of building or purchasing amphitheaters, do arise naturally, the DOJ alleged that Livemaster was purposefully creating other barriers to foreclose competitors and maintain its pricing power. Livemaster denied this and countered that it reached its present market position simply by offering superior products compared to its rivals ("Making Concerts Affordable Again").

ALICE: One phrase that repeatedly pops up in conversations surrounding Livemaster's alleged monopoly and barriers to entry is "vertical integration." What does vertical integration entail?

CHIP: Great question! Vertical integration occurs when parties on two adjacent levels of a supply chain combine. Vertical integration can enable firms to gain efficiencies through easier access to upstream inputs, downstream customers, and, especially in the modern digital world, valuable data which can be applied across markets (Hayes). By combining ticketing and venue operations into one firm, Livemaster is decreasing its average cost by removing market frictions. At the same time, it's also creating a bottleneck for potential competitors.



David Dahlquist, the Justice Department's lead trial counsel, spearheaded the landmark DOJ antitrust lawsuit against Live Nation Entertainment and Ticketmaster.

(Photo by Win McNamee/Getty Images)

ALICE: How so?

DANIELLA: Imagine you want to set up a ticketing platform. In order to sell tickets to consumers, you need to deal with venues simultaneously, and the venue-facing side of the market is where your problems will arise. Live Nation owns most of the largest amphitheaters, which deal with Ticketmaster exclusively, naturally. Without access to key venues, your aspirations of breaking Ticketmaster's dominance will be far-fetched. The only way for you to compete, the DOJ claimed, would be to engage in what economists call "multilevel entry," establishing yourself both within the ticketing and venue markets ("Justice Department Sues Live Nation–Ticketmaster").

ALICE: That's a barrier to entry if I've ever seen one.

DANIELLA: Absolutely. In fact, one of Livemaster's main concessions to the DOJ in the settlement was to stop blocking rival ticketers from using Live Nation's venues (Khorram).

ALICE: But vertical integration isn't the whole story, is it?

CHIP: Not at all. In fact, the phrase "vertical integration" wasn't even mentioned in the DOJ's opening statement. Instead, DOJ attorney David Dahlquist presented the jury with the notion of a "flywheel" ("Concert Industry is 'Broken'"), a closely related but more nuanced concept. Both vertical integration and flywheels entail a combination of complementary products or services but, crucially, the markets in a flywheel don't have to be vertically linked in a supply chain. For

example, Apple sells distinct devices that work seamlessly together, encouraging consumers to buy not just an iPhone but AirPods and an iMac as well. Similarly, the vast amount of data Livemaster collects from the ticketing market supports its efforts in the concert-promotion market.

DANIELLA: Yeah. Most flywheels revolve around a core product that serves to lure the consumer into the firm's ecosystem and support its ventures in other markets. For Apple, that's the iPhone. For Livemaster, it's concert venues ("Justice Department Sues Live Nation–Ticketmaster"). Just as in the simpler case of vertical integration, Livemaster allegedly leveraged its dominance over venues to limit competition in its other businesses. You can't run a concert promotion agency or a ticketing platform if you don't have access to venues. And thanks to the gargantuan fixed costs of building new venues, it's very challenging for any potential entrant to uproot Livemaster's position in its core markets.

ALICE: If Livemaster set up its flywheel with the intent of keeping out competitors, that could definitely constitute exclusionary conduct. Surely, though, it had a response to the DOJ's accusation?

CHIP: Livemaster was quick to remind trial onlookers that vertical integration and the flywheel don't have to be exclusionary tools ("DOJ Claims Ticketmaster Built 'Flywheel'"). Livemaster also has a highly efficient organizational structure, and and there's nothing illegal, *per se*, about being a monopoly if you achieved that position by keeping costs lower than your competitors.

ALICE: There's also one additional major argument the DOJ made regarding barriers to entry. I think it's about time we talk about the exclusivity contracts!

DANIELLA: Yep, I've been waiting for this. The 69 long-term, exclusive-booking arrangements Livemaster made with third-party venues were among the most powerful pieces of evidence in the DOJ's arsenal ("Live Nation Entertainment Inc. Form 10-K" 7). When the DOJ approved Live Nation's acquisition of Ticketmaster in 2010, it didn't do so unconditionally. As a behavioral remedy, it specifically required the newly formed Livemaster to refrain from "retaliating against any venue that considers or works with another primary ticketing service" ("The Ticketmaster/Live Nation Merger Review"). In other words,

Livemaster isn't allowed to coerce venues into using the Ticketmaster platform, and the exclusive-booking agreements certainly skirted that line.

ALICE: Couldn't Livemaster contend that the existence of these long-term contracts is simply proof that venues prefer working with it over competitors?

CHIP: It argued exactly that ("Live Nation Faces Antitrust Trial"). But the problem becomes clear when we consider the available options from a venue's perspective. Livemaster has no duty to deal with venues, meaning it faces no obligation to sell products or services to venues if it doesn't want to. If a venue works with a rival ticketer, it could lose access to Livemaster's promotion services and, arguably more impactfully, the Ticketmaster platform, which sells up to 80% of tickets in the U.S. depending on market definition (Moss). It's no surprise, then, that the settlement with the DOJ required Livemaster to terminate exclusivity agreements with thirteen third-party amphitheaters (Millman).

ALICE: So far, our discussion has been largely secondhand. It's finally time to learn the DOJ's perspective straight from the horse's mouth. Now joining us is Jonathan Kanter, the Assistant Attorney General of the DOJ's Antitrust Division from 2021 to 2024. He led the agency both during its preparation for the case against Livemaster and during the initial phases of litigation. Thank you for coming on, Professor Kanter!

Markets are not two-dimensional. They are multi-dimensional. "Vertical integration" is a phrase that developed around more traditional markets, where you have a manufacturer, a distributor, a wholesaler, and a retailer in a neat vertical chain.

PROFESSOR KANTER: Oh, I'm thrilled to be with you. Thank you for having me.

ALICE: I'd like to begin by asking about how the DOJ's position reversed between 2010, when it approved the Live Nation–Ticketmaster merger, and today. Why exactly did the agency change its mind?

PROFESSOR KANTER: I think it was a recognition that the market was still experiencing problems, and that Live Nation–Ticketmaster's conduct was getting worse, not better. So, we took a step back and said, let's develop a more sophisticated understanding of how these markets function, and then determine whether there is an antitrust violation. In the process, we encountered the company's discussion of the "flywheel" in its internal documents. We came to understand their power in these various markets, and the way they used that power, was

reinforcing itself throughout the ecosystem and making competition worse (Kanter).

ALICE: On the topic of the flywheel, we've noticed how much you prioritize the phrase over the more commonly cited "vertical integration." Why is that?

PROFESSOR KANTER: This is something that is very important to me. I think "vertical" is an interesting characterization, but to me it's a little like looking at 4K video on an old, black-and-white TV. Markets are not two-dimensional. They are multidimensional. "Vertical integration" is a phrase that developed around more traditional markets, where you have a manufacturer, a distributor, a wholesaler, and a retailer in a neat vertical chain. I think that's different from the dynamics we confront in today's markets, which involve data and many different relationships. The question I always encouraged people to ask at the start of an investigation was: how does competition in this market actually work?

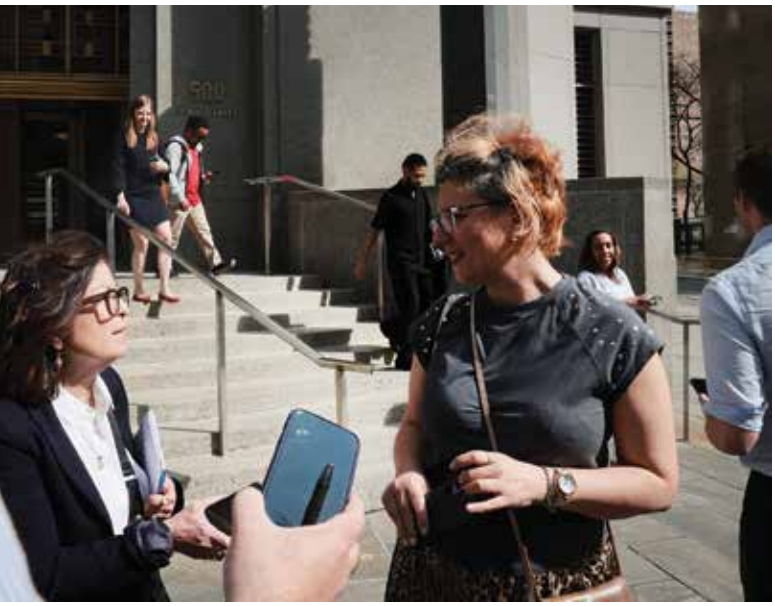
ALICE: It seems like the understanding of markets and the role of antitrust has evolved a lot over recent years.

PROFESSOR KANTER: Absolutely. Traditionally, a lot of antitrust and merger work focused on whether two companies were direct competitors. If they weren't direct competitors, agencies would often let the merger go through. But Live Nation–Ticketmaster is a great example of why that approach can be too narrow.

The question I always encouraged people to ask at the start of an investigation was: how does competition in this market actually work?

ALICE: I'm starting to see that modern antitrust litigation involves balancing some formulaic elements—market structures and types of violations, for instance—with the need to be somewhat loose and nimble. Is that fair?

PROFESSOR KANTER: Yes, exactly. It's market realities first. For a long time, antitrust was too much about fitting facts into models. To me, that is the wrong way to do it. Models can help us understand facts, but first and foremost, the objective is to understand how things work, how competition manifests itself, and whether there is harm to that



A juror speaks with reporters outside of Manhattan Federal Court following the conclusion of the Live Nation monopoly case on April 15, 2026 in New York City.

(Photo by Spencer Platt/Getty Images)

competition. To the extent you have off-the-shelf economic models that help with that, great. If you don't, you still have to roll up your sleeves and figure it out.

ALICE: That's a great line to remember. Unfortunately, that's all the time we have before we move to our concluding segment. Thank you again for joining us, Professor Kanter!

PROFESSOR KANTER: It was an absolute pleasure.

ALICE: So, the DOJ argued that Livemaster's flywheel model across ticketing, venues, and concert promotion, along with its exclusivity agreements with venues, created barriers to entry that reinforced its monopoly. With all that being said, I'll cut straight to the big question. The DOJ failed to achieve a breakup of Livemaster on legal grounds, but from an economic perspective, do you think a breakup was warranted?

DANIELLA: There's a lot of evidence that Livemaster is engaging in anticompetitive conduct, but a breakup is an extreme measure. The government has only broken up a handful of firms in the entire history of antitrust law, with the last breakup—that of AT&T—having taken place over forty years ago (Kobrick). The DOJ aimed high with Livemaster and predictably fell short.

CHIP: Agreed. And even if we accept a Livemaster monopoly as fact, we still cannot isolate Livemaster's behavior as the only cause for ticket-price increases. To name just one other factor, consider the increasing concentration of stardom among musical artists. According to one recent study (Lech et al.), over 40% of artists with songs in the Billboard Top 10 are ultra popular "hitmakers," in contrast to only 10% in the 2000s. This decrease in competition among artists also contributes to higher ticket prices. There simply isn't a smoking gun to blame it all on Livemaster.

ALICE: All good points. And while the court case is mostly over, the

economics of the situation continues to pose challenging questions. What truly is the best way for Livemaster to operate in its relevant markets? Do consumers benefit from the efficiencies of the flywheel model, even in the face of competitive harms? Most importantly, how can the story of Livemaster inform antitrust enforcers in future merger reviews and lawsuits? Thank you so much for joining us on *Polyopoly*! Remember to tune in next week for more insights into competition.

DANIELLA, CHIP: [*In unison*] Thank you! [*Outro jingle*]

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Pine View School

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Touring Economics Through Time

MELODY: Hello and welcome back to *Front Row Finance*! I'm your host, Melody, and in this episode, we will be touring economics through time. Today, we're taking a deep dive into the decades with a focus on the Beatles, Michael Jackson, and Taylor Swift. Here with us today are three experts to help us track how the most influential music artists of the last sixty years have reshaped the economy.

Please give a warm welcome to Johnny, a Liverpool City Council liaison specializing in tourism. He saw the Beatles through the rise of their career and witnessed the drastic economic changes that followed. Johnny, can you tell us more about what happened in the 1960s?

JOHNNY: Melody, it was simply groovy! From records and radios, to jukeboxes and cassettes, the Beatles took over the music industry, proving how huge youth culture is for the economy.

MELODY: For perspective, how much did concert tickets cost back then?

JOHNNY: In 1964, a Beatles concert ticket cost around $5. At the time, the United States federal minimum wage was only $1.25 (U.S. Department of Labor). That means that a fan only had to work four hours to afford a show. Today, with prices often exceeding $500, a minimum-wage worker would have to work over 60 hours to afford a show (WLRN).

CAMERAMAN: Speaking of the Beatles, why did they start a band in the first place? They had already "had a beat"! Get it? They'd "had a bit"?

MELODY: Thank you, Sean. Moving on. That wage gap is incredible! But if the tickets were that cheap, how did local businesses profit?

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CITATION STYLE

APA 7th Edition

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.

JOHNNY: That's the secret! Because the tickets were so cheap, fans walked into the stadium with more cash in their pockets. They would spend it at businesses near the concert site, like local restaurants, record shops, and department stores. In 1964 alone, Beatles-licensed merchandise brought in over $50 million in retail sales, which would be nearly $500 million today (*The Music Network*).

MELODY: The Beatles didn't just impact local economies in the '60s. Today, their legacy adds £82 million annually to Liverpool's economy and generates over 2,000 jobs (University of Liverpool).



The Beatles perform at Shea Stadium, New York on 15th August 1965.

(Photo by Michael Ochs Archives/Getty Images)

JOHNNY: Speaking of Liverpool, local reports state that one in every one hundred jobs in Liverpool is directly linked to the band's legacy (BBC News). When the Beatles played at Shea Stadium in 1965, with 55,000 in attendance, it was the first time we saw event tourism to that extent. Hotels were booked with teenagers and their parents traveling from out of state (*New York Times*).

MELODY: I've also heard the Beatles were a "secret weapon" for the United Kingdom's government during the '60s?

JOHNNY: When you put it that way, the Beatles sound like something from a spy movie, but it's true! In the mid-1960s, the UK was facing a major foreign exchange crisis and was running dangerously low on U.S. dollars. Because the Beatles toured in America and earned massive fees in dollars, they were bringing currency back to London. Prime Minister Harold Wilson recognized them as, in his words, "invisible exporters." Ultimately, the Beatles helped stabilize the British pound with their successful touring in America (*Scribd*).

MELODY: So, they were literally a national economic asset.

JOHNNY: Exactly. They were the catalyst for the British Invasion, a period in the 1960s when British rock bands had a large influence on trends and music in the U.S. The Beatles turned the movement into a money-making machine. When they went to Australia, in 1964, for their first official world tour, Beatlemania was so intense it caused a temporary labor shortage because so many students and workers cut class or work to line the streets. That kind of scale meant cities had to hire extra police, transportation staff, and stadium crews, creating a massive temporary employment spike (*Adelaide AZ*).

The HIStory Tour grossed around $330 million in today's money.

MELODY: It's remarkable that four guys from a local club in their hometown became such a prominent part of the UK's £8 billion music industry (UK Music). Thank you for all your contributions, Johnny!

As we move into the next era, we discover how the King of Pop laid the groundwork for artists today. Let's welcome our next speaker, an assistant tour manager for Michael Jackson, James.

JAMES: Thank you for having me. It's wild to hear you mention that £8 billion figure, because when I joined Michael's team for the *HIStory Tour*, we weren't just looking at local record shops. This wasn't the Motown era anymore; we were looking at a global shift in Gross Domestic Product.

MELODY: I read that the opening night in Prague had something like 120,000 people?

JAMES: Right, and with that many people needing transportation and an additional 30,000 German fans crossing the border, we sold out Prague's hotel capacity (Radio Free Europe). The King of Pop didn't just bring a show; he brought a temporary population.

MELODY: In that case, the production of the tour itself must have been a massive investment.

JAMES: The *HIStory Tour* grossed around $330 million in today's money (*UK Mix*). Costs included hiring temporary personnel such as security, tech crews, and catering, so the tour generated jobs wherever we went.

MELODY: Did Michael have other plans for making a difference in the world, apart from making music?

JAMES: Michael was always big on helping those in need. In Mumbai, for example, he donated most of his proceeds from his 1996 concert there, over a million dollars, to the Shiv Udyog Sena charity project to help create jobs for young people (*TRT World*). Wherever he went, he donated to various organizations, from orphanages in Bangkok to hospitals in Bucharest.

MELODY: An astonishing legacy, James. Sounds like he wasn't only dedicated to music, but to helping those in need.

JAMES: And he didn't just impact local economies. In the 1980s, the music industry was in a major recession until Michael released his next hit album, *Thriller*. It generated over $60 million in revenue in under a year and became the bestselling album of all time (*Radio X*). Some said that the King of Pop had singlehandedly saved the music industry.

In the 1980s, the music industry was in a major recession until Michael released his next hit album, *Thriller*. It generated over $60 million in revenue in under a year and became the bestselling album of all time.

MELODY: It's hard to imagine one person saving the day, and paving the way for such a large and diverse industry.

JAMES: It really was a monumental shift. But Michael didn't just save the industry through record sales. He reinvented how music tours earned money. The *Bad Tour,* in 1987, was the first time we saw a corporate sponsorship at that scale, when Pepsi invested $10 million to be affiliated with it. Between the *Bad*, *Dangerous*, and *HIStory Tour*s, Jackson played to over 12 million people. To put that in perspective, that's like the entire population of Belgium coming to see one man (*Billboard*).

MELODY: It's incredible to think that his influence is still being calculated decades later.

JAMES: He showed the world that a single artist could not only economically impact a city, but the entire globe. Keep in mind that this all happened in a time of cash transactions and physical tickets.

MELODY: Which brings us to the present day. James, thank you.

JAMES: My pleasure. I'll leave the "Swiftnomics" to the experts; those numbers make my head spin!

MELODY: Please welcome our final guest, Gemma, an avid "Swiftie" who has been tracking the most financially significant music tour in human history, Taylor Swift's *Eras Tour*. Gemma, James just told us about 125,000 Michael Jackson fans in Prague. But with Taylor Swift, we're talking about numbers that actually impact local inflation rates, aren't we?



Taylor Swift fans, also known as "Swifties", arrive at Wembley Stadium ahead of her opening-night performance ahead of her opening-night performance on June 21, 2024 in London, England.

(Photo by Alishia Abodunde/Getty Images)

GEMMA: Hello, and thanks for having me here! According to Bloomberg Economics, the *Eras Tour* contributed $4.3 billion to the U.S. GDP. But the real difference happens at the local level. In cities like Cincinnati, hotel occupancy hit 98%, and in Chicago, the tour set an all-time record for hotel revenue at $39 million in a single weekend (*Loop Chicago*).

MELODY: What about that "Swift-flation" I've been hearing about in Europe?

GEMMA: It's a very real phenomenon. Sweden's statistics showed that the influx of fans for her Stockholm tour dates caused a temporary spike in inflation because hotel and restaurant prices surged so drastically. Fans' money isn't just spent on tickets; it also covers the entire experience, from lodging to food to merchandise.

MELODY: I've seen *Eras Tour* outfits everywhere; it seems like even craft stores are gaining traction.

GEMMA: Absolutely! We've seen a massive spike in what we call microtrends. For example, the demand for glitter freckles and friendship-bracelet supplies, such as beads and sequins, caused a major rise in sales for the do-it-yourself crafting retail sector. This so-called

"girl economy" saw fans spending hundreds on specific costumes for the *Eras Tour*, which boosted sales for both local boutiques and global shipping companies—a far cry from a $5 Beatles ticket!

CAMERAMAN: Seems like fans aren't wasting any time and are getting to the tailor, Swift(ly)!

MELODY: Thank you, Sean. Moving on.

GEMMA: Isn't it incredible? Economists even have a word for this: the "Swift effect." It refers to the spike in local economies that follow Taylor Swift's *Eras Tour* performances. Typically, for every $100 concert going fans spend on tickets, they'll spend roughly $300 on related services, such as lodging. In Taylor Swift's case, however, fans spend around $1,300 on those services (*The Guardian*).

Economists even have a word for this: the "Swift effect." It refers to the spike in local economies that follow Taylor Swift's *Eras Tour* performances. Typically, for every $100 concertgoing fans spend on tickets, they'll spend roughly $300 on on related services, such as lodging. In Taylor Swift's case, however, fans spend around $1,300 on those services.

MELODY: That must have a big impact on local economies. How else did her concerts contribute to economic growth?

GEMMA: The *Eras Tour* generated a massive trickle-down effect, boosting local economies by an estimated $5 billion in the U.S. alone (*U.S. Travel Association*).

MELODY: Can you expand on what the trickle-down effect means for all our less economically savvy viewers?

GEMMA: Of course! The trickle-down effect occurs when people spend money on big events such as concerts, causing more money to make its way to smaller businesses and, therefore, to employees and residents.

MELODY: It's amazing to see how much not only artists, but their fans contribute to the economy, from buying a record to staying at a hotel.

GEMMA: When we look back at our journey today from the Beatles to Michael Jackson to Taylor Swift, we aren't just looking at music history; we're looking at the evolution of the global economy. In the 1960s, the Beatles showed the world just how powerful music could be economically when they pioneered the British Invasion, but they only scratched the surface. By the 1980s and '90s, Michael Jackson took things further, generating jobs with his global touring activity as well as with philanthropic donations. Recently, with the *Eras Tour*, we witnessed how a single artist can be so much in demand as to influence the inflation rate of an entire nation.



Diana, Princess of Wales (1961–1997) meets singer Michael Jackson backstage at Wembley Stadium in London, before a concert by Jackson in aid of the Prince's Trust charity, July 1988. Jackson is presenting a check for the charity.

(Photo by Princess Diana Archive/Getty Images)

MELODY: This serves as a powerful reminder that these artists are far more influential beyond being mere icons on display. Whether it's a $5 ticket to see the Beatles or the $1,300 experience for a Swiftie, the effect these artists have had on local economies and the global economy is indisputable.

GEMMA: Music certainly tends to bring people together, and where people go, money follows.

MELODY: What a fitting conclusion. I'd like to thank Sean, Johnny, James, and Gemma for guiding us through the economics behind these three iconic, touring musical artists. Thank you for joining us on *Front Row Finance*. I'm your host Melody, and we look forward to seeing you next week. Stay tuned!

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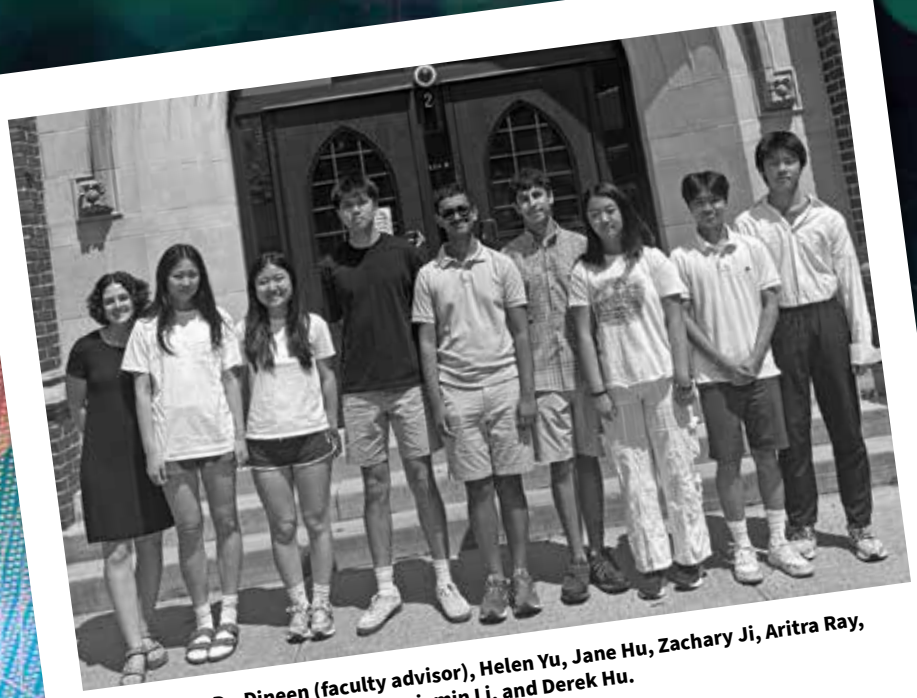
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Left to Right: Dr. Dineen (faculty advisor), Helen Yu, Jane Hu, Zachary Ji, Aritra Ray, Kanishk Mogha, Angela Zhang, Benjamin Li, and Derek Hu.

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Spinning Back: The Resurgence of Vinyl

HELEN: Welcome back to our newest episode of *Off the Record*, where we talk about the hottest topics in the music industry! My name is Helen, and I am joined by my co-hosts, Zach, Jane, and Ben.

JANE: Today we are diving into the rapid resurgence of vinyl records. Ben, what are your thoughts on it?

BEN: Hmm...I know that my dad collects a lot of vinyl, but I thought vinyl was more of an old-timer fad. It is really interesting that even though we have free access to music streaming services now we still choose to buy physical music formats such as vinyl.

ZACH: What's even more interesting is that, in 2023, almost 50% of the people who buy vinyl don't even have a vinyl record player (*Luminate*)! Back in our parents' generation, they had to buy vinyl because that was their only way to enjoy recorded music, but it seems like nowadays we choose to buy vinyl mainly for a collector's item.

HELEN: I like how you mentioned collecting. I feel like the current vinyl market best serves music lovers who are devoted to a particular artist they like.

BEN: So, what exactly about the vinyl market will we be talking about today?

HELEN: We will be looking into how this resurgence has affected the music industry both socially and economically.

JANE: Let's start off with what caused the vinyl resurgence.

HELEN: Sure! During the early 2000s, digital online music sales took off, following the introduction of Apple's iPod and iPhone. Our

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In 2022, vinyl sales surpassed CD sales for the first time since 1987. In 2024, physical music products generated a total revenue of $2 billion, with vinyl sales accounting for $1.4 billion of that and making up three-quarters of physical music sales.

consumption of music shifted from removable media (vinyl, tapes, CDs) to selecting music to listen to within an entirely digitalized space. Nonetheless, technological progress also led to a growing "retro" movement, nostalgic for past eras from the 1970s to 1990s, and opposed or resistant to adapting to digital music in favor of upholding older styles ("Retro Revival: Embracing Vintage Style in the Modern World").

JANE: Let's break this down. In 1987, the vinyl market was valued at $2.5 billion, but by 1993 it had dropped all the way down to $10.6 million, and it stayed at approximately the same valuation until 2008 (Mall). However, with the influence of the retro movement, vinyl has made an incredible comeback. During the COVID-19 pandemic, vinyl sales increased by 55%, reaching $1 billion for the first time since 1985. With fewer live concerts by artists whose heyday was decades ago, fans found another way to support their favorite legacy artists: purchasing their reissued vinyl (Jordan).

ZACH: Wow! "Incredible comeback" is an understatement there.

BEN: The resurgence didn't end there. In 2022, vinyl sales surpassed CD sales for the first time since 1987. In 2024, physical music products generated a total revenue of $2 billion, with vinyl sales accounting for $1.4 billion of that and making up three-quarters of physical music sales (RIAA and Bass). In the upcoming years, the market for vinyl records is projected to triple by 2032, with an annual growth rate of 14.4% (Phapale).

HELEN: Interestingly, the rise in vinyl's popularity occurred concurrently with the rise in streaming. As streaming became more popular, vinyl sales simultaneously increased. This is in part due to people's tendency to buy on vinyl songs and albums they first listened to on a streaming platform such as Spotify or Apple Music.

> 50% of vinyl record buyers don't even own a record player.

BEN: Let's go back to that key statistic: that 50% of vinyl record buyers don't even own a record player. So why are they buying records in the first place?

JANE: The reason for this hints at the crux of the record boom: buying records is seen as a status symbol, not a good in itself with maximum utility for consuming music.

ZACH: These consumer behaviors pertaining to vinyl allow vinyl records to be categorized as "Veblen goods": higher-value goods sought out simply because of their exclusivity and price.



Record enthusiasts rapidly search through boxes of vinyl records on the opening day of the annual WFMU Record Fair.

(Photo by Spencer Platt/ Getty Images)

JANE: In effect, the high prices of these records are not due to their inherent value, but rather, simply based on how much people who want to own them are willing to pay. When we pay upwards of $50 for a Taylor Swift record rather than streaming her for free, we see this in action. What's more, demand for a certain good by individuals of a higher income level appears inversely related to demand by those of a lower income level who may find the high price tag a little out of reach.

ZACH: The reason why vinyl records can be considered a Veblen good is because the behavior you just described leads to an upward-sloping demand curve. As the price goes up, the demand actually increases. This concept was named after the economist Thorstein Veblen, who wrote *The Theory of the Leisure Class* back in 1899, in which he analyzed the reasons for luxury-goods consumption patterns.

JANE: At the heart of the vinyl-collecting trend, then, is Veblen's idea of "conspicuous consumption."

HELEN: And nowhere is the idea of conspicuous consumption more clear than the social-media-ridden world of Gen Z. Perhaps unsurprisingly, it's not just Ben's dad who collects vinyl—the resurgence is actually driven by Gen Z.

JANE: It's true. The proportion of people listening to physical musical

formats such as vinyl, cassettes and CDs is greatest amongst 18-to-24-year-olds (*MusicWeek*). According to a report by International Audio Tech Lifestyle, 60% of Gen Z have bought vinyl records, with nearly two-thirds buying them in the past year (Futuresource Consulting). A global survey of 2,500 fans found that 76% of Gen Z vinyl listeners buy records at least once a month, and they're not quiet about it—there are 252 million posts on TikTok relating to "vinyl" or "vinyl records" alone (Vinyl Alliance; *MusicWeek*).



(L-R) Sam Calagione, Kosmo Vinyl, Todd Barry, Kate Pierson, and Annie Clark attend The 2015 Record Store Day Press Conference at Rough Trade Records, on March 10, 2015 in the Brooklyn borough of New York City.

(Photo by Stephen Lovekin/Getty Images)

HELEN: Though you'd think Gen-Zers would be attracted to the latest technology—with unlimited streaming at their fingertips—they've actually learned to embrace so-called "outdated" vinyl.

BEN: Chalk one up for the oldies!

JANE: Yet, Gen Z's love of vinyl is a direct result of the social media landscape fueling it: 50% of Gen Z vinyl buyers said they collect vinyl records to take a break from digital life. They're also more likely to replace streaming with vinyl-only listening breaks to improve mental well-being (Vinyl Alliance; *MusicWeek*).

BEN: I find it so interesting that Gen Z's leading this return to physical media. They're longing for a music era they never got to experience: authentic, physical, tangible connection in contrast to the increased digitalization of society today. The pursuit and acquisition of vinyl records represents an escape from this digitalization.

HELEN: This stronger connection to music that Gen Z is seeking with vinyl can be explained by the "endowment effect." Simply put, the endowment effect is the cognitive bias that people have towards objects they own rather than objects they do not (Kahneman et al.).

BEN: That makes sense, right?

JANE: Well, let me take a step back. The endowment effect was popularized by the famous "mug experiment" done by Daniel Kahneman and his colleagues, in 1990. Random participants were given a coffee mug and given the choice of whether or not to sell it. The study found that the price for which participants were willing to sell the mug about doubled when they had ownership ($5.25) as compared to how much participants would be willing to pay to buy the mug, having never previously owned it ($2.25-$2.75) (Kahneman, Knetsch, et al.).

ZACH: Physical ownership creates psychological attachment and thus a willingness to assign a higher value to something. The owner of the mug had formed a cognitive bias, thus he felt the mug was worth twice as much as a prospective buyer would be willing to pay.

HELEN: Hmm...So, applying this to music, does this explain the rise in vinyl collecting?

JANE: Indeed! With streaming services, you can access millions of tracks for pretty much zero cost. Now, think about vinyl: buying a physical, tangible vinyl record, you can see and feel the grooves. That one vinyl copy belongs to you. It's like a way to own the music you listen to and experience a stronger personal connection with the music. Streaming democratized access to all music, but vinyl lets us define what is truly our music.

This stronger connection to music that Gen Z is seeking with vinyl can be explained by the "endowment effect." Simply put, the endowment effect is the cognitive bias that people have towards objects they own rather than objects they do not.

BEN: This hasn't gone unseen by artists. In releasing limited-edition vinyl, artists cater to diehard fans in a more direct fashion.

ZACH: In 2025, Taylor Swift's *The Life of a Showgirl* sold 1.334 million vinyl copies in its first week of release and featured eight different limited-edition versions (Caulfield). One limited-edition variant of this album, the "Shiny Bug Collection," was launched on her website and sold out within an hour (Campbell).

JANE: This is the scarcity effect of commodity theory in practice: people tend to assign higher values to goods that are seen as scarce (Brehm et al.). When fans see limited-edition vinyl records from their favorite artists, they are willing and eager to pay the higher price, even if they could listen to the same music for a lower cost through streaming.

HELEN: That makes so much sense. No wonder Record Store Day is so popular!

BEN: That's right. Record Store Day is a prime example of how scarcity drives demand and drives the "hype cycle" along with it. It is a blueprint of how to create excitement that successfully reshapes consumer demand.

ZACH: The premise of Record Store Day is to create artificial scarcity, with labels releasing limited editions just for that day. This practice creates both immediate demand and long-term demand for secondhand versions, as supplies are extremely limited.

JANE: And that's important because these releases have a very real impact on store sales numbers: stores saw a more than 600% increase in sales on Record Store Day, compared to other Saturdays, and 43 of the 50 top-selling vinyl titles were released on Record Store Day itself (Palm).

[*Jazz music plays*]

Stores saw a more than 600% increase in sales on Record Store Day, compared to other Saturdays, and 43 of the 50 top-selling vinyl titles were released on Record Store Day itself.

The supply side of vinyl is just as important as the demand side, especially as demand has increased exponentially.

JANE: We've discussed the reasons why people want music on vinyl, but what about the production process itself?

ZACH: The supply side of vinyl is just as important as the demand side, especially as demand has increased exponentially. Vinyl production is expensive and slow, which also contributes to its status as a Veblen good, as we discussed earlier.

BEN: The production system for vinyl records relies on machines and infrastructure that became defunct with the rise of CDs in the early 1980s. Vinyl's resurgence has meant many companies still rely on outdated and refurbished machines from the 1970s (Sisario).

ZACH: A foundational issue with vinyl production is that there are not enough plants with skilled workers to use the machines. Making

vinyl records is not a fully automated process; operators must understand the temperature and pressure required so that the vinyl is cut properly and doesn't warp (Palm). Training those workers takes time, and there's no pool of experienced operators waiting to be put to work.



Factory worker Martin Frings peels apart a finished master and positive copy of a vinyl record, also known as a "stamper" used to press vinyl records, at The Vinyl Factory in London, UK.

(Photo by Chris J. Ratcliffe/ Getty Images)

BEN: This leads to overwhelming bottlenecks. When artists decide to release three variants of an album, plants can't increase their output overnight to cater to the increased demand.

JANE: What about the Apollo Masters fire in 2020? How did that change the industry?

HELEN: Unfortunately, the Apollo Masters Corporation was one of two major producers of lacquer discs used in manufacturing vinyl records, making 70–85% of market supply (Blistein). Moreover, it was the *only* U.S.-based producer of the discs, which are crucial to the process of translating music from its source to the vinyl grooves.

BEN: The resulting delays and shortages have caused both reckoning and renovation with the industry. But this event goes to show how fragile the supply chain for vinyl is. Just one factory fire threatened worldwide vinyl production and put the music industry, loved by so many, on notice.

JANE: In light of the supply-chain shortages you just mentioned, it makes sense that a new market has evolved for vinyl: the secondary market. Burgeoning demand, artificial scarcity, and supply-chain shortages all have helped grow a robust secondary market for vinyl.

HELEN: Normally, when you purchase a good, its resale value immediately falls. Vinyl records—being Veblen goods—actually exhibit the opposite behavior, where resales and private market sales can fetch thousands of dollars.

ZACH: That's right. This has led to the rise of the "flipper economy," with its root cause being the artificial scarcity created by limited editions. People are buying vinyl releases not to listen to them but sometimes sell them down the line, creating an investment value for these goods.

BEN: When resales go for over 400% of retail value, it also acts as a driver of the primary market. It tells record companies there is continuous unmet demand, which in turn can lead to re-presses—reproducing a previously issued record—allowing labels to capture the surplus value that the secondary market has identified. Demand is even catalogued and tracked through online vinyl marketplaces. For instance, in early 2024, a rare 1966 promotional copy of The Velvet Underground's debut single sold on Discogs for a staggering $30,000 ("The Most Valuable Releases Sold on Discogs in 2024").



Fans wait in line to meet Wayne Coyne during *Wayne Coyne's Record Store Tour,* at Grimey's New and Preloved Music on December 19, 2013 in Nashville, Tennessee.

(Photo by Terry Wyatt/ Getty Images)

JANE: In this way, the real importance of the secondary market for vinyl is that it creates a positive feedback loop to reinforce primary demand. This trend partly can help explain why demand for vinyl continues to thrive.

HELEN: So let's return to the central question: why would people ever want to buy records, if streaming services offer so much more variety and convenience?

BEN: Records act as a way to form a direct relationship between the listener and the artist. Listeners feel as though they are truly supporting their favorite artists, and being able to own their music on vinyl is like receiving a token of gratitude.

JANE: But this feeling of support is actually more than just a feeling. Profit margins for vinyl records are around 40% to 60% ("Can You Make a Profit Selling Vinyl and CDs?"), much higher than per-song income from streaming platforms. Vinyl records are becoming an

increasingly important part of artists' bottom lines.

BEN: Absolutely. For example, the streaming revenue of the popular rock band Twenty-One Pilots was roughly estimated to be equivalent to the revenue obtainable from the sale of 10,000 to 30,000 vinyl album copies. However, the band went on to sell 170,000 vinyl copies in reality, far surpassing those numbers (Stassen).

JANE: Rather than competing with vinyl sellers, streaming services like Spotify and Apple Music actually work hand in hand with the vinyl market. While those apps are a place for listeners to discover new music, records create a more tangible connection to the artist.

HELEN: Moreover, people have stopped buying vinyl records simply for their collector value, they buy them also for the connection and community that being a fan of vinyl records brings. In doing so, record stores have become important cultural hubs again.

> Profit margins for vinyl records are around 40% to 60%, much higher than per-song income from streaming platforms.

BEN: In fact, some record shops practically turn themselves into festivals with live performances and DJ sets. This creates more of the kind of connection we've been talking about, where the store becomes a community for people who enjoy music.

JANE: Honestly, this really mirrors what's been happening in other industries as well. We're shifting from a disposable era towards things that have genuine meaning. For fans, vinyl records serve as a way to support artists directly rather than by patronizing the fraction-of-a-cent streaming services.

BEN: Definitely. Whether it's the sound quality, the status of a Veblen good, or just the idea of disconnecting from a screen, the vinyl resurgence proves that the "old" way of doing things sometimes has the most value.

HELEN: So old really is gold! Well then, that's a wrap for today's episode. Thanks for tuning into *Off the Record*, and we'll see you all in the next one.

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Left to right: Kruthik Ankam, Anna Dineen (faculty advisor), Ayush Agarwal, and Sourya Jaladi.

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The Economics of Music Catalogs: Why Yesterday's Hits Have a Discount Rate

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CITATION STYLE

MLA 9th Edition

SOURYA: Welcome back to *B-Side Economics*, the podcast where we break down the economics they didn't teach you in school. I'm your host, Sourya, joined today by my co-hosts, Kruthik and Ayush.

KRUTHIK: All right, here's a fact to ponder. In January 2023, a private equity–backed fund paid $200 million dollars for Justin Bieber's music catalog, which contained 290 songs that had already been released, already been streamed billions of times, and weren't climbing any new charts (Spangler; Award). Why would anyone pay that much for yesterday's music?

AYUSH: And here's what makes it even more interesting. If that same catalog had been sold two years earlier, when interest rates were near zero, it might have been worth even more. If it had been sold a year later, with rates above 5%, it might have been worth significantly less. Same Bieber hits, but at a completely different price.

SOURYA: That's because the price wasn't really about the music. It was about the discount rate, which is the rate at which investors translate future income into present-day value. And the discount rate is anchored, ultimately, to the decisions made by the Federal Reserve. That's the story at the center of today's episode, "The Economics of Music Catalogs: Why Yesterday's Hits Have a Discount Rate."

KRUTHIK: Let's start off by understanding how music catalogs are worth money. First, we need a solid definition. A music catalog is the bundle of intellectual property rights attached to an artist's recorded music and songwriting. There are several different types of rights and each generates income in different ways. There are publishing royalties when someone covers or samples a song, performance royalties when

The interview portrayed in this submission is a product of the authors' imagination. While the interview may reference actual people, the subject matter and language attributed to those people is entirely fictitious.



On a sunny winter day in Manhattan's Times Square, an advertisement for Spotify and a new Justin Bieber album towers over pedestrians.

(Photo by Joel Carillet)

it plays on the radio or in a store, sync-licensing fees when it appears in a film or advertisement, and mechanical royalties every time it gets "reproduced" (American Society of Composers; Broadcast Music, Inc.). These mechanical royalties are actually the one that most people think about and they include physical sales of vinyl records and CDs, but also streaming.

SOURYA: Oh, yeah. My Spotify "Wrapped" said I listened for 25,000 minutes this year. That must be so much money made for the artists that I streamed. There were so many different artists and albums, all for a better price than if I'd purchased vinyl or CDs.

AYUSH: I can't even imagine how people in the 1990s got their music before streaming changed everything. Nowadays, the majority of the money made from songs comes from streaming. It is estimated that around 67% of total music revenue flows from platforms like Spotify and Apple Music. In fact, total streaming revenue reached an estimated $28.6 billion in 2023, up from $6.6 billion in 2016. So we're looking at a roughly three-fold increase in seven years (International Federation of the Phonographic Industry).

SOURYA: Before streaming, catalog revenue was volatile. Catalogs had value when a song was being played on the radio, used in an ad, or ended up in a movie. This meant if a song wasn't getting played anymore, it couldn't get as many royalties and that volatility made catalogs almost impossible for institutional investors to consider. If you can't model a cash flow, you can't price it, which means no one can buy it. But subscription-based streaming changed the structure of the revenue itself. Now, millions of paying users play songs on a daily basis, and each of those songs generates revenue from thousands of streams. For the catalog, this creates payouts that are recurring, predictable, and growing. That's the kind of cash-flow profile that Wall Street knows how to value, and it's what turned music rights from a creative asset into a financial one.

AYUSH: Why does the cash flow of a music catalog need to be so predictable though? I mean, as long as it's making a profit, wouldn't someone be interested in buying it?

KRUTHIK: Well, think about it this way. The valuation of any income-producing asset depends on how much money it makes annually and for how many years it actually provides revenue. For the artists, they're protected under U.S. copyright law, which extends for the life of the creator plus seventy years. That's an extraordinarily long runway, but the longer the duration of an asset's cash flow, the more sensitive its price becomes to changes in interest rates. Even a small change in the rate economists use to discount future income can shift the present value by tens of millions of dollars, even though the underlying music remains exactly the same (World Intellectual Property Organization).

A music catalog is the bundle of intellectual property rights attached to an artist's recorded music and songwriting.

SOURYA: Here's the math that will make the sensitive nature of music catalogs more concrete. To find the present value of any income stream, you just need to take each of the future payments and divide it by the discount rate plus one, and then you raise to the power of how many years away that payment is. Just do this for every year, add them all up and you'll get today's valuation. Essentially, it's just a way to account for future returns, while taking into account the intrinsic value of the asset itself.

AYUSH: Yeah. For example, a dollar arriving thirty years from now, at a three percent discount rate, is worth about forty-one cents today. Raise that rate to six percent and now that same dollar is worth only seventeen cents. The further out the cash flows, the more that a higher rate tanks the value.

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KRUTHIK: Let's bring this to life. In January 2023, Blackstone-backed Hipgnosis Songs Capital acquired Justin Bieber's publishing and recorded music catalog for a reported $200 million dollars (Spangler; Aswad).

AYUSH: At the time, Bieber had amassed roughly 72 billion streams, with hits like "Sorry," "Ghost," and "Peaches," each exceeding $2 billion

individually (Spangler; Aswad). He was just twenty-eight years old at the time, meaning that Hipgnosis could theoretically collect royalties on that catalog for decades to come, before copyright expired. But why would an artist trade that kind of long-term income, and passive income at that, for a lump sum?

SOURYA: To really understand it, let's hear from the man himself. [*Justin and his accountant walk in and take their seats.*]

KRUTHIK: Justin, walk us through it. Why sell your life's work so early in your career?

BIEBER: Well, I don't really know, but I needed money so I could go down to Georgia and get some more peaches.

ACCOUNTANT: Whoa, Justin, hold your horses. Let me walk them through this with a proper explanation. Think about it this way: $200 million dollars today is not the same as $200 million spread out over 50 years, plus inflation. My team and I looked at what the catalog earned over the last several years, made a projection based on streaming-growth trends, and then discounted all of those future royalties to their present-day value.

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BIEBER: So are you saying my music wasn't what gave the catalog value?

ACCOUNTANT: Whoa, whoa. The entire catalog is worth millions because of your music and popularity. But we advised you to move forward based on the adjusted returns over the next couple of decades, and that an immediate payment would be favorable to you. But driving that successful sale more than anything wasn't the quality of the music—it was the discount rate. When the rate is low, the future value is higher, so the price goes up. When it's high, those same future dollars shrink, and the price comes down (Edgecliffe-Johnson).

BIEBER: That huge payout was sweet, though. Definitely more millions than I would've made off royalties for a few years to come.

AYUSH: And you were aware that the rate environment was shifting?

BIEBER: I mean, I guess my advisors were aware?

ACCOUNTANT: We are always aware. [*Glares at Justin.*] The Federal Reserve had already started raising rates by early 2022, and every rate hike meant the discount investors would apply to Justin's royalties went up—which meant the offering price went down. We were selling into a closing window. I'd rather take certainty now and deploy that capital into things I can control than wait decades for royalty checks that might be worth less in citation: dollars (Edgecliffe-Johnson; Board of Governors, "FOMC Statement," 2022).

SOURYA: What Bieber—I mean, his accountant, described, the discounted cash flow model, is the standard framework for valuing any income-producing asset such as a bond, a piece of real estate, or a music catalog. You project the future income, then discount it back to today using a rate that reflects two things: the risk-free rate, anchored to U.S. Treasury yields, and a risk premium that captures how uncertain that cash flow from royalties can be (Federal Reserve Bank of St. Louis).

KRUTHIK: Streaming compressed the risk premium by making royalty income stable and modelable. But the Federal Reserve compressed the other component. From 2020 through 2021, the Fed held the federal funds rate at 0% to 0.25%, or, in other words, it was on the floor (Board of Governors, "FOMC Statement," 2022).

AYUSH: In that environment, Treasury bonds paid almost nothing. Institutional investors such as private equity, pension funds, and dedicated music funds were starving for anything with a reliable income stream. Music catalogs fit perfectly into that description with contractual cash-flow requirements, legal protections which last for a century, and a revenue base growing by double digits annually.

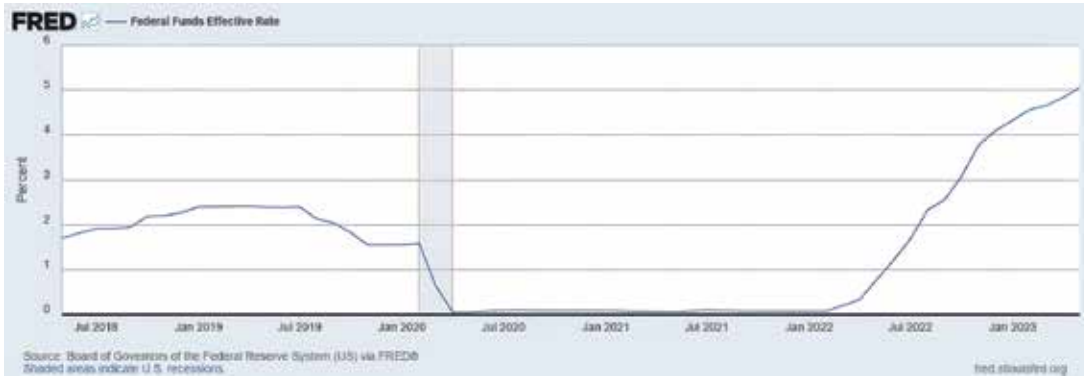
SOURYA: That dual compression from lower-risk premiums from streaming and lower risk-free rates from the Federal Reserve is what drove catalog valuations to 30 times annual earnings at the peak of the trend. But let's return to the Blackstone-backed Hipgnosis Songs Fund. The fund raised billions on the London Stock Exchange to buy the song catalogs of Neil Young, Stevie Nicks, and dozens of other household names (Blackstone; Edgecliffe-Johnson).

KRUTHIK: And Bieber wasn't an outlier. Bob Dylan sold his catalog to Universal Music Group for over $300 million. Bruce Springsteen sold

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his to Sony for $500 million, making it the largest sale of all time. These weren't bids on great music. They were bids on a discount rate, which at that moment in time, made the math irresistible (Associated Press).

AYUSH: By May 2023, the federal funds rate climbed above 5% for the first time since 2007. To put that in context, the Federal Reserve had been cutting rates aggressively throughout 2007 and 2008 trying to fight the recession, so reaching 5% again meant returning to pre-crisis rates, which hadn't been seen in over fifteen years (Board of Governors, "FOMC Statement," 2023).



Federal Funds Effective Rate graph from FRED.

SOURYA: The math is related too. When interest rates rise, discount rates rise. When discount rates rise, the present value of future cash flow falls. But it's completely disconnected from whether anyone is still listening to the songs. The relationship between current rates and future cash flow, which had made catalogs worth 25 to 30 times earnings when rates were near zero, made them worth substantially less when the rate rose to 5% (Edgecliffe-Johnson).

KRUTHIK: The Hipgnosis Songs Fund provides the clearest example of this relationship. In 2023, its independent auditor wrote down as a significant loss the fund's net asset value, revealing that a portfolio of more than 65,000 songs was worth substantially less than what it had been just a couple of years earlier. This wasn't because royalties declined, but because the rising rates on a macro scale had repriced what those future royalties would be worth today, in real money (Herbert; Edgecliffe-Johnson).

AYUSH: Months later, the value of the shares fell and shareholders were furious. Someone needed to bail out the fund and Blackstone, the very firm that had funded the Bieber acquisition months

earlier, stepped in to acquire the distressed Hipgnosis catalog-management business (Bedi and Shabong).

SOURYA: Think about that for a moment. This is the very same private equity firm that bought catalogs when rates were low, then acquired a struggling competitor when rates were high. There we got a glimpse of the interest-rate cycle playing out in real time, when it caused fluctuations in valuation, and Blackstone found itself positioned on both sides of the deal.

KRUTHIK: And the financialization of music catalogs didn't stop at acquisitions. Investment banks began exploring music royalties as collateral for asset-backed securities—packaging royalty streams the same way mortgage-backed securities brokers bundle home loans. One of the best examples of this was when Warner Music Group launched a joint venture with Bain Capital, combining capital to spend up to $1.65 billion on music-catalog acquisitions. Their deal showed that catalogs can act as a long-duration, inflation-hedging asset class similar to mortgage loans (Warner Music Group; Stassen).

Warner Music Group launched a joint venture with Bain Capital, combining capital to spend up to $1.65 billion on music-catalog acquisitions.

AYUSH: The Federal Reserve didn't intentionally set out to create a music catalog boom or bust. Instead, by holding rates at zero or near-zero to stimulate recovery after the COVID-19 pandemic, the Fed mechanically increased the present value of every long-duration income stream in the economy: things like commercial real estate, growth stocks, venture capital, and, as we've seen, even a pop star's back catalog. When it raised rates to fight inflation, each and every one of those assets got repriced along with the rate hike. The music industry was just one sector among many that experienced a similar correction.

SOURYA: That's the main concept that makes this case study worth examining. Music catalogs, like Bieber's, make the direct relationship between Fed policy and real-world asset prices transparent, because of its affect on documented, contractual cash flows.

KRUTHIK: So, when a catalog's value drops by tens of millions of dollars

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That's what makes music catalogs an excellent proof of the fact that the value of future income is never fixed, that it shifts with rising rates, with the cost of borrowing money.

without a single song losing a single stream, you're watching discount-rate theory operate in a clear way that is seldom seen in most other asset classes. That's what makes music catalogs an excellent proof of the fact that the value of future income is never fixed, that it shifts with rising rates, with the cost of borrowing money.

AYUSH: Exactly! Bob Dylan's voice didn't deviate when the Fed raised rates. Bieber's danceable beats didn't become any less significant to the culture. The music stayed exactly the same. What changed was the cost of money. And the cost of money changed everything.

SOURYA: That's our show. I'm Sourya.

KRUTHIK: I'm Kruthik.

AYUSH: And I'm Ayush. Thanks for listening to *B-Side Economics*.
[*Outro music*]

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Dead Air: The Fight to Own Your Sound

PRODUCER/TIME TRAVELER: Welcome back to *Echoes Across Time*, the podcast where we explore the hidden stories and economics behind music history.

HOST: Music is everywhere—in our cars, headphones, movies, and memories. But behind every song is an industry deciding how music is produced, how it gets distributed, and who gets paid.

ECONOMIST: Today, the global music industry generates billions of dollars each year, yet how artists actually earn money has been debated for decades.

PRODUCER/TIME TRAVELER: To understand how the economics of music evolved, we're traveling back in time to speak with artists from different eras.

HOST: Today's episode is called *Dead Air: The Fight to Own Your Sound.*

PRODUCER/TIME TRAVELER: Time machine ready...microphones on... First stop: the early days of rock and roll!

PRODUCER/TIME TRAVELER: Our first stop takes us back to the mid-1950s. Rock and roll is exploding across the United States. Today, we're speaking with one of the pioneers of early rock and roll, Little Richard, whose music helped shape the sound of an entire generation.

LITTLE RICHARD: I am HERE. The originator. The emancipator. The architect of rock and roll.

HOST: Richard, we have to start with your hit song "Tutti Frutti." This

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The numbers say everything. At half a cent per record, 200,000 sales earned Richard roughly $1,000 before deductions, about $11,000 in today's dollars.

song sold over 200,000 copies in under two weeks after its release (White). What was life looking like for you financially after such an enormous commercial success?

LITTLE RICHARD: Straight nothing. Half a cent per record (White). That was before the label deducted recording and promotion costs. By the time they did that, I had almost nothing. On top of that, I had sold my publishing rights for fifty dollars, and I didn't even know what a publishing right was.

HOST: Just fifty dollars; did you not understand what you were giving up there?

LITTLE RICHARD: Before all this music stuff, I was a dishwasher in Macon, Georgia. I had been calling Specialty Records for a year, begging for a session. When Art Rupe finally said yes, I would have signed anything, literally. I just needed to get out.

ECONOMIST: The numbers say everything. At half a cent per record, 200,000 sales earned Richard roughly $1,000 before deductions, about $11,000 in today's dollars (Bureau of Labor Statistics). A white artist earning at the industry standard royalty rate of 3% to 5% would have received $6,000 to $10,000 (Connolly & Krueger), up to ten times as much for an identical level of sales. Herbert Simon called this "bounded rationality": under desperation, people don't optimize—they satisfice, meaning they choose a "good enough" option, not necessarily the best one (Simon). But it wasn't just the financial pressure; Art Rupe walked in with lawyers and publishing expertise, while Richard walked in with a demo. That information asymmetry meant the contract was structured entirely in the label's favor before Richard read a single word (Aguiar et. al).

HOST: Richard, I have to ask, were there other labels you could've gone to?

LITTLE RICHARD: Other labels? You're asking me as if I had options. I'd already been rejected everywhere else, so Specialty was basically the whole market, in terms of who might be interested in recording my music.

ECONOMIST: You're exactly right, and that is the definition of monopsony: a labor market with effectively one buyer for a worker's

skills (Robinson). In the early 1950s, only four labels were recording Black rock and roll artists (Arewa). Only Specialty Records was interested in promoting Little Richard, and when there's only one buyer, they can set the price as low as they want. A 2023 South Carolina Law Review article traced this same structure from 1950s labels all the way to today's streaming platforms: the buyers change, but the wage suppression doesn't (South Carolina Law Review). The U.S. Bureau of Labor Statistics confirms musicians still earn a median of just $42.45 an hour with mostly part-time work (Bureau of Labor Statistics). The precarity that had Richard feeling trapped in 1955 never went away.

HOST: Richard, you became one of the most recognizable musicians on earth. The Beatles covered your songs. Elvis called you an influence. How is it possible that a man that famous was still struggling financially?

LITTLE RICHARD: My songs were everywhere, yet I was broke. Famous and broke. They took everything on the front end, so it didn't matter how big I got. The bigger I got, the richer they got.



Musician Little Richard (Richard Penniman) performing onstage circa 1956.

(Photo by Michael Ochs Archives/Getty Images)

ECONOMIST: That is exactly what Sherwin Rosen's "superstar economics" model explains (Rosen). Radio allows a performer to reach a mass audience, while concentrating income at the top. But those returns only flow to whomever controls the revenue streams. With half-cent royalties and no publishing rights, the "superstar" returns went to the label, not the artist.

HOST: Which raises a question we're going to keep asking today: As the music industry grows bigger and more powerful, does this dynamic ever actually change for artists, or does the money just find new ways to flow away from the people who made it?

PRODUCER/TIME TRAVELER: All right, time machine engaged! We're jumping ahead to the 1990s, a decade when artists were no longer

just fighting for fair royalties; they were fighting for control over their own music. Our next stop brings us face to face with one of the most legendary musicians in history, Prince. By this time, Prince was already a superstar, but despite his fame, he found himself locked in a bitter struggle with his record label over the rights to his master recordings, the actual music he had created.

HOST: Prince, it's an honor to have you here. Can you tell us what it was like dealing with your record label at that time?



Prince performs during the "Pepsi Halftime Show" at Super Bowl XLI between the Indianapolis Colts and the Chicago Bears, on February 4, 2007 at Dolphin Stadium in Miami Gardens, Florida.

(Photo by Eliot J. Schechter/Getty Images)

PRINCE: They owned my name. Not just the recordings, my name. Prince. The name my parents gave me. I couldn't even call myself Prince without their permission. You want to talk about control? That's not a business dispute. That's something else entirely.

ECONOMIST: The situation Prince describes is actually very common in the music industry due to its oligopolistic structure, meaning a market dominated by a small number of powerful firms with enough collective control to set the terms for everyone else. By 1990, the major record labels already controlled roughly 93% of recorded music sales, and that dominance only tightened through the decade (Aguiar et al.). For someone like Prince, even with superstar status, negotiating ownership was challenging because the record label could effectively control every revenue stream. Prince's 1992 contract with Warner Bros. Records gave him a $10 million advance per album and a 25% royalty rate—yet he still didn't own his masters, which his manager called "completely abhorrent to him" (Newman).

HOST: How did the struggle over ownership affect your decisions as an artist?

PRINCE: I changed my name to an unpronounceable symbol. People thought I was crazy. I wasn't crazy, I was free. They couldn't own a

symbol. They couldn't market a symbol. For the first time in years, something belonged to me. If the system won't give you a door, you find a window.

ECONOMIST: Prince's attempt to release music in new ways reflects what economists call the "hold-up problem": after an artist invests years building their reputation and catalog and secures a major-label contract, they become locked in, giving the label leverage to extract unfavorable terms after the fact. Prince had already generated hundreds of millions in revenue for Warner Bros. before realizing he had no leverage to renegotiate ownership. His own success had made him dependent on the very system he was fighting. This is asset specificity in practice: the more valuable Prince became, the more he needed Warner Bros.'s distribution infrastructure, and the less power he had to walk away. After finally leaving Warner Bros. in 1996, Prince became the first artist to sell albums directly to fans online, selling 250,000 copies of *Crystal Ball* through phone and internet preorders in 1997—a direct-marketing response to break the hold-up dynamic entirely (Newman).

HOST: Warner Bros. would argue that they invested millions in your career. Wasn't their ownership of the masters just a fair return on that investment?

PRINCE: I sold millions of records, and Warner Bros. got rich. I got a royalty check. The difference between renting a house your whole life and actually owning it when you die. One builds their wealth. One builds yours.

Roughly 80% of albums failed to cover their production costs under standard label accounting.

ECONOMIST: Prince's situation highlights the critical importance of master ownership in the economics of music. Roughly 80% of albums failed to cover their production costs under standard label accounting, meaning labels could recoup expenses directly from artist royalties before artists saw a single dollar—a practice economists now recognize as a form of debt bondage built into the contract structure itself (Krueger). Even when an artist sold millions, the label's ability to charge back recording, promotion, and distribution costs meant the royalty check Prince described was generally a fraction of what the masters themselves were worth. Owning masters converts a one-time

Prince's situation highlights the critical importance of master ownership in the economics of music.

The Bureau of Labor Statistics confirms the real-world result: musicians earn a median of just $42.45 an hour, mostly in part-time or intermittent work.

royalty stream into a permanent asset—the difference, as Prince put it, between renting and owning.

HOST: Prince, before we let you go, looking back on that fight with your label, what do you hope artists in the future take away from it?

PRINCE: Warner Bros. gave me my masters back in 2014 (Newman). For twenty years, I fought for that. You know what I learned? The contract is never just the contract. It's the beginning of a war most artists don't even know they're in.

ECONOMIST: Prince's fight was about far more than a single contract dispute. It was about control over creative capital in an industry where a handful of firms historically held enormous bargaining power.

PRODUCER/TIME TRAVELER: And with that, our time in the 1990s comes to a close. But the battle Prince described didn't end there. As music moved online and streaming platforms began to replace record stores, a new generation of artists would face a very different economic landscape, one where power shifted again, this time toward digital platforms.

HOST: All right, our final stop brings us to the present day, the streaming era. Nobody embodies modern music's highs and lows better than our next guest. In a new era of overwhelming injustice from oligopolies like Spotify and Apple Music, nobody has been more unapologetically defensive or successful than Taylor Swift. She has fought record labels, pulled her music from Spotify, and come out on top every single time. Taylor Swift.

TAYLOR SWIFT: Thank you for having me. I was twenty-two when I signed my first deal. I didn't know what a master recording was. Nobody sat me down and explained that I was signing away the thing I was working the hardest to create.

HOST: Taylor, in 2014, you pulled your entire catalog from Spotify, calling it an "experiment." What were you actually fighting for, and do you think most up-and-coming artists were aware of the income gaps created by streaming?

TAYLOR SWIFT: Most weren't. Streaming was being sold as the future, but nobody was being honest about what that future paid. I was earning

a fraction of what a single album sale would have generated, and I had the platform to say something. Most artists didn't.

ECONOMIST: The numbers make that gap impossible to ignore. A single album sale nets an artist roughly $1.25 after label accounting (Connolly & Krueger). A Spotify stream pays between $0.003 and $0.005, meaning an artist needs approximately 300 streams to equal one album sale (Moderelli). In 2014, Spotify had 40 million users but was generating just $1 billion in revenue, of which only 70 percent went to rights holders. Labels, not artists, received the bulk of that share (Recording Industry Association of America). The Bureau of Labor Statistics confirms the real-world result: musicians earn a median of just $42.45 an hour, mostly in part-time or intermittent work (Bureau of Labor Statistics). Swift's protest wasn't merely symbolic. It was a rational response to a platform extracting enormous value while paying artists fractions of a cent per play.

> An artist needs approximately 300 streams to equal one album sale.

HOST: Next, your open letter to Apple, demanding artists be paid during their three-month free trial period. Apple reversed itself within 24 hours. What did you understand about emerging artists that Apple was overlooking?

TAYLOR SWIFT: What Apple overlooked was the importance of a safety net for new artists. I already had a stable income, a back catalog, a tour, a professional team. But those first months mean everything for a new artist trying to find an audience and establish income. Apple was saying that work was worthless. I couldn't stay quiet.

ECONOMIST: What Swift describes is a "two-sided market," a concept formalized by Rochet and Tirole in 2003 (*Journal of the European Economic Association*). Apple Music connects two user groups, artists and listeners, and chose to subsidize listeners with a free trial while withholding royalties from artists entirely. Economists call this "cross-subsidization." The scale matters: Apple Music had roughly 800 million iTunes account holders at the time, giving it enormous platform bargaining power to absorb that cost itself, yet it passed the burden entirely onto the most financially vulnerable artists (MIDiA Research).



Taylor Swift accepts the Favorite Pop Album award for *Red (Taylor's Version)* on stage during the 2022 American Music Awards at Microsoft Theater, on November 20, 2022 in Los Angeles, California.

(Photo by Matt Winkelmeyer/Getty Images for dcp)

HOST: Finally, when music business entrepreneur and pop-star manager Scooter Braun acquired your masters in 2019, you decided to re-record your entire back catalog. What were you hoping to change, and was it your intention to try to make the original versions commercially worthless?

TAYLOR SWIFT: It was straightforward. If anyone was going to profit from my past work, it should be my team and me.

HOST: And that might be the most important line of this entire episode. Thank you, Taylor.

HOST: From Little Richard selling his publishing rights for fifty dollars, to Prince fighting for twenty years to reclaim his own name, to Taylor Swift rerecording her entire back catalog from scratch, one thing is clear: the struggle for artists to capture the value of their own music is not a bug in the music industry. It is a feature, built into every contract, every platform deal, and every royalty structure from the 1950s to today.

ECONOMIST: And yet, the trajectory matters. Sherwin Rosen's superstar economics model predicted that income would concentrate at the top, but what these three stories reveal is that who sits at the top is slowly shifting. Little Richard had no leverage. Prince fought for twenty years to get his masters back. Taylor Swift reclaimed hers in real time, in public, with her fans behind her. Each generation of artists has entered the negotiation with slightly more information, slightly more power, and slightly more willingness to say no.

PRODUCER/TIME TRAVELER: The music industry will keep evolving. Streaming, artificial intelligence, direct-to-fan platforms, all of it will reshape who gets paid and how. But the fundamental question these artists asked—who really owns the music?—is one that never goes out of style.

HOST: Dead air is what happens when nobody's talking. These three artists refused to stay quiet.

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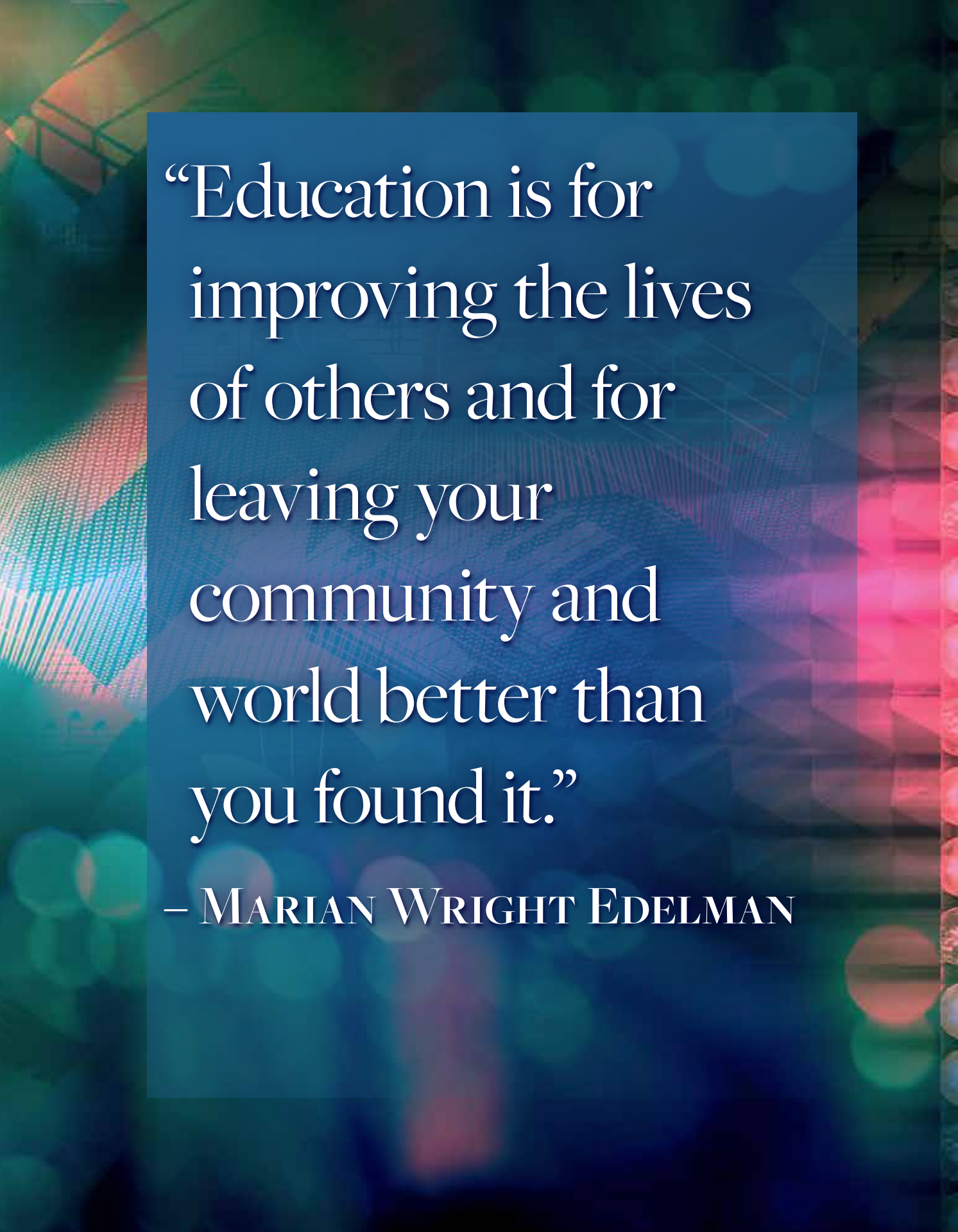
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