



Teaching Macroeconomics Through Music

This paper explores how music can be used to teach macroeconomic concepts, such as economic growth, unemployment, inflation, monetary policy, and fiscal policy. While economists and educators have examined the relationship between economics and music, the focus has largely been on microeconomic concepts rather than macroeconomics. The purpose of this article is to connect economic-themed music directly to course content. This article provides educators with a sample set of relevant lyrics, core macroeconomic concepts, and suggested discussion questions. This paper shows how instructors can use music as a pedagogical tool in lower-level macroeconomics courses.

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1. Introduction

Macroeconomics concepts can often be difficult for students to grasp. It is easy to feel intimidated by technical jargon in introductory classes at the college level. While some students have heard about concepts such as inflation and economic growth in news outlets, they often come to the classroom with misconceptions (Salemi, 2005). Macroeconomic theories are numerous, and students may feel overwhelmed by models, assumptions, and equations. Students rarely bridge the gap between the material taught in class and the modern economy unless extensive examples are provided by the instructor. One objective of the instructor is to improve economic literacy by making these concepts relevant and easy to understand. To this end, instructors have gradually adopted non-traditional tools to teach, including movies, games, and music, as these can be excellent mediums of instruction (Becker, 2000; Becker and Watts, 2008; Calhoun and Mateer, 2012; Carrasco-Gallego, 2017).

Music is easily accessible to teachers for use in economics courses thanks to streaming platforms such as Spotify and Amazon Music. Students tend to show interest when macroeconomics concepts are shared in familiar songs or music genres. The objective of this article is to analyze economics-themed songs with a focus on macroeconomic concepts, such as economic growth, inflation, unemployment, and public policies. By providing a list of songs directly related to course content, as well as suggested discussion questions, this paper offers a guide for instructional faculty teaching macroeconomics courses. The expectation is that using music in a macroeconomic class could improve students' engagement and learning outcomes. For each macroeconomic theme, selected songs are analyzed to assist instructors in the classroom.

The paper proceeds as follows: Section 2 provides a literature review of how music has been used in economics courses. Section 3 presents the instructional approach by providing guidance on how to incorporate music in the classroom. Section 4 details songs and discussion questions for four macroeconomic themes (i.e., money and inflation, economic growth and the wealth of nations, unemployment, fiscal and monetary policies). Section 5 concludes and summarizes the use of these discussion questions in instruction.

2. Literature Review

Some economics educators use music and other media types (e.g., video, image, animation) in their teaching methods (Picault, 2021). This type of content can enhance understanding, memorization, and students' attention (Najjar, 1998; Armstrong, 2009; Malek et al., 2014; Vasquez and Chiang, 2015). Integrating music in a lecture presentation may also improve students' perception of which information is important, and therefore foster learning efficiency (Ljubojevic et al., 2014; Picault, 2019).

However, there are some instructors who have expressed concerns with using music in the classroom. These concerns generally reflect the lack of good materials, evidence of effectiveness, time constraints, and incompatibility with a diversity of students' cultures and preferences (Lesser et al., 2013). This pedagogical tool does not replace instruction and does not provide sufficient introduction to new concepts. However, music can be used to foster student participation and motivation. McClough and Heinfeldt (2012) show that using music lyrics to introduce or reinforce economic concepts improves student understanding. Empirical research on the effectiveness of using music in the classroom is still too limited to conclude that it improves student learning, however a stronger consensus exists on the use of enjoyable activities. They help create a positive learning environment and promote student engagement (Whitton and Langan, 2019; Robinson and Kakela, 2016; Tews et al., 2015). Hall and Lawson

(2008) did not provide empirical evidence of improved learning, but the authors reported that students found that using lyrical analysis was fun and interesting. In addition, Harte (2003) and Mandernach (2009) show that using music in the classroom improves student motivation and satisfaction with the course. Van Horn and Van Horn (2013) reported that 60 percent of their students considered that music played an important role in increasing their interest in course content. Raeshler (2013) found that incorporating a music project in economics courses increased course attendance, student evaluations, and final grades.

Table 1. Examples of Different Music Genres Used In Literature

Author(s)	Music genre	Example of songs and relevant concepts
Van Horn and Van Horn (2013)	Pop	"Imagine" by John Lennon to illustrate utopian socialism (History of Economic Thought course).
		"Lost in a Supermarket" by The Clash to demonstrate Galbraith's dependence effect.
Melichar (2018)	Country	"Shuttin' Detroit Down" by John Rich to illustrate cyclical unemployment.
		"Song of the South" by Alabama to explain fiscal policy.
Rousu (2018b)	Musicals	"And the Money Kept Rolling in" from the musical Evita to illustrate how corruption leads to economic inefficiency.
Rousu and Conrad (2017)		"Satisfied", "You'll be Back" and "Alexander Hamilton" from the musical Hamilton to define trade-offs, opportunity costs and income inequality, respectively.
Wooten et al. (2021)	K-Pop	"Kill this Love" by Blackpink to explain sunk costs.
Geerling et al. (2021)		"How You Like That" by BTS to introduce game theory and Nash equilibrium.

One concern identified in Lesser et al. (2013) was the incompatibility with students' cultures and preferences. However, this concern can be addressed by selecting music from different music genres, coinciding with students' diverse preferences. Examples of specific music genres used in the literature can be found in Table 1. Authors listed in Table 1 have provided teaching guides that can be integrated into an economics course. Typically, these teaching guides provide explanations about the related economic concepts, discussion questions, and often links to online music video clips.

The current literature on the use of music in economics instruction is more focused on microeconomics concepts. Krasnozhon (2013) used Beyonce's song "Irreplaceable" to teach students the concept of demand. Hall and Lawson (2008) selected various songs to illustrate concepts such as profitability and price discrimination (i.e., "My Summer Vacation" by Ice Cube, "Rock Island Line" by Johnny Cash). Only a few macroeconomic concepts are listed in the literature. For instance, Tinari and Khandke (2000) introduces concepts such as recession and unemployment through a written assignment (e.g., "Trouble in the Fields" by Nanci Griffith, "Allentown" by Billy Joel). In O'Roark et al. (2018), a database of 53 songs can help instructors

connect historical economic events with music released during specific time periods. While most key concepts would be relevant for a microeconomic course, some songs can be used to introduce macroeconomic concepts such as income inequality and business cycles (e.g., “Diamonds from Sierra Leone” by Kanye West, “Circulate” by Young Jeezy, “Down” by Jay Sean and Lil Wayne).

There are several online resources where instructors can find economics-themed songs. The website “[Music4econ](#)” provides access to several video clips with embedded economic comments (Geerling et al., 2019). Dirk’s Media Library (Mateer, 2012) and the Economics Media Library (Wooten, 2018) also provide music clips and economic interpretations. Other websites focus more specifically on a music genre, such as “EconGoneCountry” (Melichar, 2018) and “BroadwayEconomics” (Rousu, 2016).

Educators have also explored other ways to incorporate music in economics courses. Some require students to link lyrics to economic concepts (Tinari and Khadke, 2000; Mateer and Rice, 2007). In Geerling et al. (2020), students were asked to create an animated lyric video of a recent song with economic content. The authors offered advice on how to set up the project. In Tinari and Khandke (2000), students were asked to select their own titles, with no restriction on music styles. The authors found that most students liked to connect their own musical choices to economic concepts. More than 90 percent of their students found the project relevant. Assigning students to rewrite the lyrics of a popular song and record their own video clip can also deepen their understanding of economic concepts (Raeshler, 2013; Holder et al., 2015; Al-Bahrani and Thompson, 2019).

3. Instructional Approach

Instructors can utilize the songs listed in this article in multiple ways. While the discussion questions can be used as homework or extra credit assignments, students benefit from classroom interaction and participation. The songs selected in this paper can be played at the beginning of class, or a few minutes prior while students enter the classroom. This method helps capture student attention before class, encourages students to arrive to class early, and provides a welcoming environment (Mateer and Rice, 2007; Acchiardo and Mateer, 2015). Discussion questions can be displayed on the projection screen but do not need to be addressed right away. A more interactive approach would be to include the song during lectures, after introducing a new concept.

As previously reported in the literature review, using music can motivate students and increase student attention. However, some concerns may arise. First, using a wider range of music genres is advised, as a song selected by the instructor may not resonate with all students. A second concern instructors should recognize is that music may not be an enjoyable experience for some students, because of personal preferences or cultural reasons. Finally, many popular songs contain swear words and some lyrics could be considered offensive.

4. Discussion Questions

This paper focuses on core topics taught in a principles of macroeconomics course: money, inflation, economic growth, wealth of nations, unemployment, and fiscal and monetary policies. Songs were selected for each macroeconomic theme. For each song, the instructor will find suggested discussion questions, a selection of lyrics, and macroeconomic interpretations. A list of additional songs can be found in Table 2, along with selected lyrics and relevant macroeconomic concepts.

Money and Inflation

Commodity money and fiat money: "Manilla" (Lupe Fiasco, 2018)

In this song, rapper Lupe Fiasco connects the modern problems of materialism with manillas as the main symbol of slavery. At the end of the song (outro), he explains how manillas were used as a medium of exchange. Manillas are made of copper or bronze and were associated with the transatlantic slave trade. Starting in the 15th century, manillas were used as money in West Africa and continued to serve as medium of exchange up until the late 1940s. From 1500 to 1517, the price of a slave rose from 15 manillas to 57 manillas, which can illustrate inflation (Green, 2016).

*[Outro] Copper alloy bracelet forms were recognized and used as currency for
Transactions in the 15th century to the mid 20th century.
Their metal content varied from copper to brass.
Most Manilla were manufactured in England or France,
And like trade beads, were used for trades with Africa.
The local chiefs on the slave coast of West Africa traded their human
Cargo for many different commodities and Manilla was one of them.*

Money must fulfil three functions: medium of exchange, unit of account, and store of value. We can argue that manillas were considered commodity money during that period. The instructor can also introduce the concept of barter and the issue of double coincidence of wants, as well as discussing if manillas were considered a liquid asset. We can consider the fact that manillas still had an important role in African commerce after the slave trade act of 1807, as manillas became an item of currency for the palm oil trade in Africa.

*Jasmine necklace from a poor woman on Hindu streets
I gave her Rupees, she gave me beauty, I temple creep*

Lupe Fiasco depicts the use of fiat money today (i.e., buying a jasmine necklace with rupees), as opposed to commodity money, in which we can categorize manillas. Manillas were replaced by fiat money by 1940. This is a good opportunity to compare commodity money and fiat money, explaining that modern economies use fiat money. While commodity money is said to have an intrinsic value, fiat money is a currency that is established as a legal tender by government regulation. The value of fiat money relies on supply and demand but there is no intrinsic value.

Suggested discussion questions:

- 1. Lupe Fiasco considers manillas as money. Do manillas fulfil the three functions of money?*
- 2. Can we consider manillas as commodity money? What are the characteristics of commodity money?*
- 3. From 1500 to 1517, the demand for forced labor increased and the price of a slave rose from 15 manillas to 57 manillas. Reflect on the consequence of an increase in demand on the supply for slaves. Use a supply and demand diagram to illustrate your thoughts.*

The Great Inflation of the 1970s: "Inflation" (Cameo, 1978)

While contemporary songs may engage a younger audience more immediately, music released in the 1970s can also be pertinent. Cameo's song was released during the Great Inflation that started in 1965 and officially ended in 1984. The Great Inflation is an important macroeconomic event to share with students. In 1973, the oil embargo instituted by OPEC

countries on the United States complicated the macroeconomic environment. The two exogenous oil supply shocks (1973-1974 and 1978-1979) were primarily responsible for the economic turmoil of the decade. As the price of oil drastically increased and continued to rise, the demand for oil remained the same and the cost of finished goods increased, which resulted in a “cost-push” inflation. This song offers a great opportunity to explore the differences between “demand-pull” and “cost-push” inflation.

This song illustrates the costs of high inflation during this period, as depicted in the selected lyrics. Cameo says that you cannot buy a meal with a dollar bill as inflation rose. The instructor can take advantage of this song to define stagflation and present the causes of high inflation, such as widespread acceptance of the Keynesian model that coordinates monetary and fiscal policies. Policymakers did not realize that much of observed inflation was determined by factors under the Fed’s control. The implementation of the wage-price controls in 1971 led to the pursuit of an overly expansionary monetary policy.

*A dollar bill can buy you a meal
But the meal just ain't worth havin'
A dollar bill can't buy you a meal
'Cause a dollar bill just ain't no deal
Inflation
Sweeping 'cross the nation
Inflation' (Can't get enough food to eat, yeah)
I ain't got no shoes on my feet (What?)
Inflation (Even make a preacher steal, yeah)
Got my woman on the pill, hey
Inflation (Taxes going up so high, well)
I can't afford to die*

In 1978, the inflation rate was 7.59 percent, which is why Cameo sang that inflation was “sweeping across the nation.” The lyrics can be used to remind students that inflation is defined as an increase in the average level of prices, and that inflation can be considered as a tax on people who hold money. As the Great Inflation lasted for nearly two decades, we can also remind our students that inflation is painful to stop, but can be reduced by decreasing the growth in the money supply. Further discussion can focus on the Quantity Theory of Money to illustrate how former chairman Paul Volcker managed to stabilize prices in 1983.

*What? Two dollars?
Lemme have one. Come on, hook me up
A dollar? Can't get a gallon of gas for a dollar*

In 1978, four years after the oil crisis, a gallon of gasoline cost 63 cents (or \$2.43 when corrected for inflation). Cameo was certainly exaggerating when they sang that they couldn't get a gallon of gas for a dollar, however this is a great opportunity to calculate the real price of gas in 1978 and compare it to today's prices. A reminder about the difference between nominal price and real price might be needed.

Suggested discussion questions:

1. *This song was released in 1978, five years after the oil embargo. In 1978, the price of a gallon of gasoline was 63 cents.*
 - a. *The annual average CPI for gasoline was 51.900 in 1978 and 195.130 in 2020. How do you adjust the gasoline price of 1978 for inflation?*

- b. Use the model of Aggregate Demand and Supply (AD-AS model) to explain the short-run impact of oil crises on output and prices.
2. In this song, Cameo complains about the inflation rate. Research the inflation rate in 1978 and compare it to today's rate. Why is inflation important to economists? What can a central bank do to stabilize prices?
3. This song was released during the Great Inflation. Was the Great Inflation of 1970s an example of "demand-pull" or "cost-push" inflation?

The danger of hyperinflation: "Death March" (Immortal Technique, 2008)

We often consider the 1980s a lost decade for several economies of Latin America, as countries experienced a debt crisis including large external imbalances, stagnation, and high inflation. In this song, Immortal Technique talks about the double-digit inflation that increased migration to the United States during this period:

*Invasion and rampant monetary inflation
That brought us all to the footsteps of this nation
Peruvians, Haitians, Ecuadorians, Nicaraguans, Colombians, Salvadorians
Invasion and rampant monetary inflation
That brought us all to the footsteps of this nation*

Peru, Haiti, Ecuador, Nicaragua, Colombia, and El Salvador all experienced rampant increases in their price levels in the 1980s, with double-digit inflation rates. Nicaragua and Peru even suffered from hyperinflation in 1988. This is a great example to explain that economists define hyperinflation as an out-of-control price increase, and that the concept of inflation becomes meaningless. The inflation in Nicaragua rose to more than 13,000 percent in 1988. The instructor can remind students that hyperinflation occurs when the excessive money supply growth cannot be supported by the production of goods and services, and the budget deficit is not financed through taxation or borrowing, but through the printing press.

Suggested discussion questions:

1. In this song, Immortal Technique talks about the double-digit inflation that several Latin American countries experienced in the 1980s.
 - a. Define hyperinflation. What causes hyperinflation?
 - b. Should we be worried about hyperinflation? Do you know any country that is experiencing hyperinflation at the moment?
2. This song mentions Peru. What was the highest inflation rate experienced by Peruvians in the 1980s? To answer this question, you may use the values of inflation rate from the World Bank website: <https://data.worldbank.org/>
3. How did hyperinflation affect Latin American economies and people during the 1980s? Do you agree with the singers? Does hyperinflation increase emigration?

Economic Growth and the Wealth of Nations

Income Inequality: "La Economía" (La Excelencia, 2012) - Spanish

As we try to foster a more inclusive classroom, we must acknowledge the range of differences within our student body. Exploring non-English songs can help enrich learning in our classrooms.

*The ones in power trick us to get out of this way of life
In the end, the benefits are theirs and the people continue to suffer
The rich get richer and the poor get poorer
The rich get richer and I work hard waiting for my payday
(...)
Hey, I told you I was coming to tell the truth, crystal clear! Listen!
And here I am struggling to pay my taxes...
And the bankers don't pay nothing? That ain't right!
Inequality is what we are living
(translated from Spanish by the author)*

In this 2012 Spanish song, La Excelencia illustrates income inequality and how it affects individuals. They sing “the rich get richer and the poor get poorer”, which illustrates income inequality. The United States is considered a developed country, with a Gross Domestic Product (GDP) per capita of more than \$65,000. However, GDP and economic growth are not perfect metrics and do not quantify or assess human well-being. GDP fails to capture the income inequality across society, which results in a rise in societal discontentment. The salsa band complains: “I am struggling to pay my taxes, and the bankers don’t pay nothing.” Income inequality can be greatly impacted by monetary policies or fiscal policies.

Suggested discussion questions:

1. *Which part of the lyrics best define ‘rising income inequality?’ What are the problems caused by income inequality?*
2. *Does GDP take into account income inequality? Is GDP a perfect measure of human well-being?*
3. *Let’s use data: List ten countries with the highest levels of income inequality and reflect on the ranking. To answer this question, you may use the income inequality coefficients from the OECD website: <https://data.oecd.org>*

Consumption as a GDP component: “7 rings” (Ariana Grande, 2019)

Consumption is the largest component of GDP. Ariana Grande’s song lists goods and services she has purchased (e.g., champagne, diamond rings, tattoos, hair extensions, jet plane, necklaces, luxurious shoes).

*My wrist, stop watchin’, my neck is flossy
Make big deposits, my gloss is poppin’
You like my hair? Gee, thanks, just bought it
I see it, I like it, I want it, I got it (yeah)
I want it, I got it, I want it, I got it
I want it, I got it, I want it, I got it
You like my hair? Gee, thanks, just bought it
I see it, I like it, I want it, I got it (yeah)*

Individual consumption is aggregated over time and greatly contributes to the country’s economic performance, as consumption is the largest GDP component. While the singer seems to be bragging, one can argue that Ariana Grande should be thanked for her private spending on finished goods and services, as her consumption behavior contributes to the GDP. Moreover, as seen in the video clip, many of her purchases are from American luxury brands (e.g., Fallon necklace, Lace by Tanaya ring, Pleaser shoes), which contributed to the GDP more than if these goods were imported. When this song was released in January 2019, the economy was in an expansionary phase, where consumers such as Ariana Grande tend to spend more money, which should have caused the velocity of money to increase.

*Whoever said money can't solve your problems
Must not have had enough money to solve 'em
They say, "Which one?" I say, "Nah, I want all of 'em"
Happiness is the same price as red bottoms
(...)
Look at my neck, look at my jet
Ain't got enough money to pay me respect
Ain't no budget when I'm on the set
If I like it, then that's what I get, yeah*

While The Beatles' song "Can't Buy Me Love" illustrates that consumption does not provide happiness, Ariana Grande argues the opposite when she sang that "whoever said money can't solve your problems must not have had enough money to solve them." As GDP is measured with consumption, investment, government expenditure, and net exports, we could assume that it can reflect a nation's welfare. The relation between GDP, standard of living, and happiness can be discussed with this song.

Suggested discussion questions:

1. *In the video clip, Ariana Grande displays several goods she purchased from luxury brands (e.g., Fallon necklace, Lace by Tanaya ring, Pleaser shoes). Do these purchases contribute to economic growth?*
2. *Ariana Grande sings that "whoever said money can't solve your problems must not have had enough money to solve them." Is GDP a measure of a country's well-being?*
3. *When this song was released in January 2019, the U.S. economy was in an expansionary phase, where consumers such as Ariana Grande tend to spend more money. Does this spending affect the velocity of money? Define the velocity of money.*

Investment as a GDP component: "Dieu Merci" (Dadju, 2019) - French

In this song, French artist Dadju illustrates the role of Foreign Direct Investment (FDI)¹. The singer announces to his loved one that they're moving to a richer neighborhood, as he made money that he will invest in Africa. While Africa has been blessed with a rich bounty of natural resources, the region has some of the poorest nations in the world. FDI can be defined as an investment made by an individual or firm in one country into business interests located in another country. Investment - along with consumption, government expenditure, and net exports - contributes to a country's GDP.

FDI has played a crucial role in Africa's economic transformation over the past decade. This song can illustrate how FDI flows to sub-Saharan Africa have climbed by 13 percent from 2018 to 2019, when the song was released. It would be interesting to many students to discuss the cons of FDI, as profits may not be reinvested back into the host country.

*Sweet heart, pack your luggage, we're leaving the street life
I made some money that we're gonna invest in Africa
I know what it's like to be starving,
today I say: "Thank you God"
It's not Paris but the credit card that is magic, hum
(...)
Then I changed clothes, Louis Vuit', Gucci, in order to feel handsome
I used to dream about it since I was a kid, so I got myself a Mercedes
(translated from French by the author)*

¹A video clip including translated lyrics and economic comments can be found on the [Music4econ website](#).

Suggested discussion questions:

1. *In this song, Dadju announces that he made money that he will invest in Africa. Discuss whether foreign direct investment is a force for good in developing countries.*
2. *Dadju brags about his increased standard of living in France. Is foreign direct investment responsible for the exploitation of human capital, natural resources, and markets of least developed countries?*
3. *FDI flows to sub-Saharan Africa climbed by 13 percent from 2018 to 2019, when the song was released. However, the COVID-19 pandemic caused global foreign direct investment to fall by 42 percent in 2020. Using the national spending approach, explain the impact on GDP.*

Unemployment

Discouraged workers: "Rock Bottom" (Eminem, 1999) – Explicit lyrics

In a Principles of Macroeconomics class, it is essential to define unemployment. We often define "unemployed worker" as an adult who does not have a job, is able and willing to work, and is actively looking for work. After reviewing the unemployment rate data and comparing different countries, it is important to remind our students that the unemployment rate is an incomplete indicator of a labor market state, as it does not include discouraged or underemployed workers. Eminem mentions that there are no job openings and that he is feeling "discouraged, hungry and malnourished."

*My life is full of empty promises and broken dreams
I'm hoping things will look up
But there ain't no job openings
I feel discouraged, hungry and malnourished
Living in this house with no furnace, unfurnished
And I'm sick of working dead end jobs with lame pay
And I'm tired of being hired and fired the same day
(...)
My daughter wants to throw the ball but I'm too stressed to play
Live half my life and throw the rest away*

In this 1999 rap song, Eminem discusses how unemployment can be financially and psychologically devastating. He sings that he is discouraged by the risk of finding a job and getting fired the same day, and he is too stressed to play with his daughter. While Eminem might not be looking for a job because of depression and an overall discouraged spirit, the Bureau of Labor Statistics would not count him as unemployed, but rather refers to him as "marginally attached to the labor force." The unemployment rate doesn't measure the quality of the jobs and how well those workers' skills match their jobs, therefore a part-time worker who is looking for a full-time job will not be counted in the unemployment rate, but in the underemployment rate. This song illustrates the difficulties of defining and measuring unemployment.

Suggested discussion questions:

1. *In this song, Eminem describes how unemployment can be financially and psychologically devastating. Does the official unemployment rate (also known as the U-3 measure) from the Bureau of Labor Statistics take into account discouraged and underemployed workers?*
2. *Is unemployment rate a perfect measure of our labor market's condition?*
3. *Let's use data: Find the most recent unemployment rate (U-3) and compare it to the U-6 measure, which includes discouraged and underemployed workers. To answer this question, you may use unemployment rates released by the Bureau of Labor Statistics: <https://beta.bls.gov/dataQuery/search>*

The negative effects of unemployment: "I need a dollar" (Aloe Blacc, 2010)

This song was written during the Great Recession that officially ended in June 2009. The recession led to an increase of structural unemployment, with an unemployment rate that reached 10 percent in October 2009. This song depicts the struggles of a man who was laid off during the recession:

*I had a job but the boss man let me go (He said)
I'm sorry but I won't be needing your help no more (I said)
Please Mister Boss man I need this job more than you know
But he gave me my last paycheck and he sent me on out the door
Well I need a dollar dollar, a dollar that's what I need (Hey hey)*

This song can be used as a reminder that economists don't expect an unemployment rate to be nil and that even when an economy is growing rapidly, we must expect frictional changes, real shocks, and sectoral shifts to affect our labor market. To better understand the causes of unemployment, it is important to define the different types of unemployment: structural, frictional, and cyclical. Unemployment has significant costs, including a loss of economic output, but also increased levels of stress for the population, higher rates of suicide, and lower rates of measured happiness. Aloe Blacc describes some of the psychological consequences of unemployment, such as depression and alcoholism:

*My wine is good to me it helps me pass the time
And my good old buddy whiskey keeps me warmer than sunshine*

Suggested discussion questions:

1. Aloe Blacc wrote this song in 2009, during the Great Recession. What type of unemployment is the singer most likely experiencing? Explain.
2. Let's use data: Using Okun's law, describe the relationship between the rise of unemployment and economic growth during the Great Recession. To answer this question, you may use the values of unemployment and GDP growth rates from the FRED website: <https://fred.stlouisfed.org/>
3. Define the labor force participation (LFP) rate and discuss its decline in the United States. How did the financial crisis of 2007-2008 impact the LFP rate? To answer this question, you may use the data available on the FRED website: <https://fred.stlouisfed.org/>

Monetary and Fiscal Policies

Expansionary monetary policy: "Tooth Fairy" (Nanowar of Steel, 2018) – Explicit lyrics

Nanowar of Steel is a satirical heavy metal band from Italy. In this song, the tooth fairy is the former director of the European Central Bank (ECB), Mario Draghi. They mention the Quantity Theory of Money, the Philip's Curve, and the Taylor rule. The band criticizes expansionary monetary policies, blaming those for increasing the inflation rate:

*Did anybody tell you that $P*Q=M*V$
You're responsible for the rise of the interest rates!
Tooth Fairy, your policies are inflationary
Like a helicopter drop*

In the last decade, the ECB has maintained expansionary measures to support inflation in a context of weak growth. This is a good opportunity to discuss the difference between the

ECB and the Fed in terms of mandate (dual versus hierarchical), as the ECB's primary objective is to stabilize prices. As deflation is often considered as much a threat as high inflation, an expansionary monetary policy can help increase the inflation rate closer to its target of 2 percent.

*Your expansionary policies
The FED chairman Yellen claims
That you're breaking your mandate
Tooth fairy, you are f***** anti-constitutional!
(...)
You are committed to higher inflation rates
Why, oh why?
The Nobel Laureate Paul Krugman
Is on your side!*

Suggested discussion questions:

- 1. Is Nanowar of Steel right about the fact that the rise of interest rate will lead to more inflation? Use the Quantity Theory of Money to answer this question.*
- 2. Nanowar of Steel asserts that the ECB's expansionary monetary policies are dangerous. Explain what an expansionary monetary policy is.*
- 3. Nanowar of Steel accuses the ECB of breaking its hierarchical mandate. What is the difference between a dual and hierarchical mandate?*

Fiscal Stimulus: "Stimulus Check" (Rexx Life Raj, 2020) – Explicit lyrics

In March 2020, the CARES Act was signed, releasing a \$2 trillion economic rescue plan. Several governments throughout the world have implemented fiscal policies primarily aiming to prevent a lengthy economic recession. Used as disaster relief, the fiscal stimulus provides funds to firms and households. This song talks about how U.S. households were waiting for a \$1,200 stimulus check:

*Off a government dividend, juggling, flipping it, doubling
Triple it (yeah)
I'm finna stimulate the bluest stimulus check on a stimulus (yeah)
F*** we supposed to do with a 12 hundred*

This song can help the instructor discuss how fiscal policies (e.g., lowering taxes, increasing government spending) should be seen as short-term measures. It would be relevant to note that supplementing incomes through economic relief plans alone is unlikely to be sufficient to support economic recovery. Fiscal policy was used during the COVID-19 pandemic to help fight the virus by giving incentives to produce tests, drugs, or vaccines. The other goal of the fiscal policy was to support aggregate demand. While it was deemed appropriate for past recessions, it is difficult to assess its efficiency for the current health crisis. Such fiscal policies result in a large increase in the country's debt-to-GDP ratio. The stimulus plan that has been implemented so far is first and foremost a short-term measure, designed to strengthen effective growth.

In macroeconomics classes, critical thinking is highly encouraged. This topic provides a good scenario to assess with students the efficiency of such public policies in times of crisis. While the financial crisis of 2008 was primarily a demand-side crisis, the 2020 Covid crisis is also a supply-side crunch due to broken or weakened supply chains.

We can also discuss how stimulus checks were used in 2008 and how students believe the 2020 stimulus checks are being used (saved versus spent).

Suggested discussion questions:

1. *In this song, rapper Rexx Life Raj reflects on the \$1200 stimulus check given to U.S. taxpayers.*
 - a. *Using the AD-AS model, can you explain the economic impact of the stimulus checks that were sent to millions of taxpayers in the U.S. in 2020? Can fiscal policies alone stabilize a recessionary economy?*
 - b. *If I put my stimulus check into my saving account instead of spending it, will it strengthen effective growth?*
2. *Rexx Life Raj considers that the check is barely enough to make much of a difference. Using the concept of fiscal multiplier, describe the immediate benefits of a fiscal stimulus when an economy is in a recession. Discuss the long-term costs of a fiscal stimulus.*

5. Conclusion

The purpose of this article was to help educators who want to utilize music in their macroeconomics courses. Previous articles show that using music in the classroom increases student engagement by allowing them to process macroeconomics concepts in contemporary scenarios. This paper builds on previous contributions to economics education, with a focus on macroeconomics.

This paper aimed at providing a non-exhaustive list of songs to be used in the classroom, along with discussion questions and a brief analysis of selected lyrics. The discussion questions can be used by instructors to increase students' motivation and attention, while improving learning efficiency. The goal was to encourage economics instructors to integrate more music into their courses to illustrate macroeconomic concepts, such as economic growth, inflation, unemployment, concept of money, fiscal policy, and monetary policy.

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Appendix

Table 2. List of additional songs to teach macroeconomics concepts

Main Theme	Title and Artist (Year)	Selected Lyrics	Macroeconomic Concepts
Money and Inflation	<i>Let The Dollar Circulate</i> by Billy Paul (1975)	<i>Inflation getting higher Makes it hard on the buyer; Unemployment on the rise; Gasoline issues, so we make lines; Rent being paid late; Please; Let the dollar circulate</i>	Inflation rate, Quantity Theory of Money, real prices
	<i>High Inflation Blues</i> by Moe Bandy (1977)	<i>I can't help but wonder what a man's supposed to do; I got those hard breaking escalatin' high inflation blues; By the time I get the payday the money's already gone; Someone's eatin' chicken, all I get is the bones; My wife needs a new coat, the kids need clothes to school; We're all out of groceries and it's Tuesday afternoon</i>	
Economic Growth and the Wealth of Nations	<i>Recession Proof</i> by Yo Gotti (2020) - EXPLICIT	<i>I'm a real hustler, I'm recession proof; I know how to make the paper, then stack it too</i>	Recession, GDP measure
	<i>Né Sous La Meme Etoile (Born Under the Same Star)</i> by IAM (1997) (In French)	<i>Life is beautiful, but fate is not; No one is dealt the same cards; The cradle lifts the curtain, numerous are the roads it unveils; Too bad, we weren't born under the same star</i>	Income inequality, redistribution of wealth, GDP and economic growth
	<i>Rich and Miserable</i> by Kenny Chesney (2016)	<i>We're all lost on the yellow brick road. We climb the ladder but the ladder just grows. We're born, we work, we die, it's spiritual. Enough is never enough... We won't be happy 'til we're rich and miserable."</i>	
Unemployment	<i>Cigarettes and Alcohol</i> by Oasis (1994)	<i>Is it worth the aggravation, to find yourself a job when there's nothing worth working for? It's a crazy situation, but all I need are cigarettes and alcohol</i>	Unemployment rate, discouraged workers, underemployed workers
	<i>Alfie</i> by Lilly Allen (2006) - EXPLICIT	<i>Oh, Alfie get up; It's a brand-new day; I just can't sit back; And watch you waste your life away; You need to get a job; Because the bills need to get paid; Get off your lazy a***; Alfie, please use your brain</i>	

Monetary and Fiscal Policies	<i>Who's Yellen Now?</i> by Dessa (2021)	<i>She's the first that's led; The Council of Economic Advisors, Tresh, and the Fed; She needs a three-sided coin that always comes up heads; To put the triple crown down when she goes to bed; Call the decorators; New boss in the office</i>	Central banking, structure of the Federal Reserve, role of the Fed's chairperson.
	<i>Words I Never Said</i> by Lupe Fiasco (2011)	<i>Your child's future was the first to go with budget cuts; If you think that hurts, then wait, here comes the uppercut; The school was garbage in the first place, that's on the up and up</i>	Government spending, fiscal multiplier
	<i>Stimulus Check</i> by Jeezy (2020) - EXPLICIT	<i>Don't get upset; Wait on your stimulus check</i>	