THREE ESSAYS ON THE POLITICAL ECONOMY OF CULTURAL PRODUCTION AND CREATIVE LABOR

Luke Pretz

University of Massachusetts Amherst

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THREE ESSAYS ON THE POLITICAL ECONOMY OF CULTURAL PRODUCTION AND CREATIVE LABOR

A Dissertation Presented
By
LUKE A. PRETZ

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY
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THREE ESSAYS ON THE POLITICAL ECONOMY OF CULTURAL PRODUCTION AND CREATIVE LABOR

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importantly, you’re a friend who has always managed to be there when I needed you.

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This dissertation investigates the relationships between capital, cultural production, and creative labor. Essay one theorizes the basis for the intensification of pop music stardom following the introduction of on-demand streaming technology. Prior to the emergence of on-demand streaming, record labels and broadcasters had a mutualistic relationship, wherein the near cost-free music provided by record labels formed the basis for radio broadcasts, which in turn formed the basis for the consumption of that music. Following the emergence of on-demand streaming the mutualistic relationship was ruptured. Broadcasters, in the form of streaming platforms, transitioned to the cost-efficient cultivation of masses of highly specific audiences rather than the cultivation of mass audiences that formed the basis for the earlier mutualistic relationship. In response to the increasingly competitive market for popular music, record labels transitioned from
a strategy of cultivating new stars in anticipation of old stars fading to a strategy of
preserving the stardom of existing stars. Essay two addresses the profitability crisis in the
music recording industry in the early 2000s along with the restoration and growth of
profits from 2004 on. It is show that record labels are knowledge-lords, a segment of
rentier capital structured around the appropriation of monopoly rents from intellectual
properties. Their status as rentier capital is contradictory in that prior to streaming they
could only grant permanent access to commodities through the sale of physical and
digital media. As a result, record labels were contingent on the development of new
media formats to re-realize monopoly rents on already existing intellectual properties.
Streaming resolves that contradiction by allowing record labels to issue time limited
access to music via the pay-per-listen model in a near costless format. The final essay
critically engages with Richard Florida’s Creative Class literature using quantitative
methods and micro-level survey data. I find that the framework they use to evaluate
occupational creativity is flawed in that it provides no clear basis for classification. I also
find that the Creative Class as it’s constructed by Florida is not a coherent class in terms
of creativity using data from O*NET’s Thinking Creatively metric.
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INTRODUCTION

The primary throughline in this dissertation is the way that society valorizes and validates creativity. Creativity and creative labor are not unfamiliar to the economics literature. In *The Wealth of Nations* Adam Smith considers the tradeoff between the division of labor and the creative life of those whose work processes are affected by it (Smith, 1977)—the subjects of increasingly subdivided labor are increasingly denied access to their creative impulses. Karl Marx sees creativity as a defining characteristic of humanity’s species being and sees it as a distinguishing factor between the labor of animals and people (1967; 1998). Joseph Schumpeter developed the concept of creative destruction in *Capitalism, Socialism, and Democracy* (2010). More recently thinkers like Richard Florida (2002) and Robert Reich (1991) have recognized the increasing importance of creative workers and symbolic analysts as capitalism develops.

This dissertation contributes to economics and creativity literature as a critical evaluation of whose creativity contributes to the value of cultural production. In the context of the music industry, I consider the basis for profits derived from creative labor. In the context of the US labor market, I use quantitative methods to evaluate the *Creative Class* literature as it relates to employment outcomes. I also critically engage with the meaning of creativity. In the context of the music industry, I outline the generative and creative work of the audience in producing musical recordings and the ways in which capital attempts to capture the value of that labor in the form of monopoly rents.
Why should we care about creativity in a period marked by ecological, economic, social, and political crises? The easy answer would be to say that creativity and human ingenuity is what will get us out of this mess. However, I think there are several deeper reasons to care about creativity and its relationship to life under capitalism. The first is that the economic structures and social relations that we exist within, shape the conditions we create and communicate in. Without an understanding of how capital relates to popular culture and how it uses creative labor it would be difficult to identify where meaning and message can be contested by dissenting voices. The second is that more and more of our lives are spent engaging with commodified cultural objects online and the collection and marketing of our data without our knowledge of its future use is expanding. Beginning to parse out how online platforms work, how they appropriate our creative work, and how old forms of capital are connected to one another is essential if we hope to reclaim the products of our labor on and off the clock. Finally, I think it is important to actively interrogate what creativity is and how it is applied in our world. I am interested in this point because I believe that a democratic society should actively validate the skills, knowledge, and creativity that all workers possess even when they are “mere” spectators.

I hope to articulate capitalist productive relations to culture in a way that sees them as integrated and mutually contingent. If this is not done, I would be mistaking the form of appearance for the process at work. This dissertation does emphasize the economic realm, however. More importantly, I emphasize the economic because too often the economic is often left out of the analysis of popular culture as we search to understand what a given cultural moment or text means. This is not to say that those who emphasize
the economic realm are better off. Neoclassical theorists present a methodological individualist account that reduces cultural phenomena to constrained optimization. Marxists are frequently not better off, frequently opting for a monodirectional analysis that sees capital as the ultimate determining force in economic and social change. I hope to present a more dialectical account of the economics of cultural and creative production that simultaneously recognizes the structural weight that capital brings to bear on culture and the capacity of individuals and collectivities to direct and shape the world they live in.

Essay one theorizes the basis for the intensification of pop music stardom following the introduction of on-demand streaming technology. In 2020, the top ten artists, in terms of the number of charting songs, produced 27.3% of all charting singles for that year, a sharp contrast to the 9.7% produced by the top ten artists in 2000 (Miller, 2021). This intensification is the consequence of the restructuring of the overlapping broadcast and music recording industries.

Prior to the emergence of on-demand streaming, record labels and broadcasters had a mutualistic relationship, wherein the cost-free music provided by record labels formed the basis for radio broadcasts, which in turn formed the basis for the consumption of that music. Following the emergence of on-demand streaming, the mutualistic relationship was ruptured. Broadcasters, in the form of streaming platforms, transitioned to the cost-efficient cultivation of masses of highly specific audiences rather than the cultivation of mass audiences that formed the basis for the earlier mutualistic relationship. In response to the increasingly competitive market for popular music, record labels transitioned from a strategy of cultivating new stars in anticipation of old stars fading to a strategy of
preserving the stardom of existing stars. This shift resulted in a set of pop music stars that were insulated from competitive pressures and able to take advantage of the increased competition at the lower levels of the star system.

Methodologically this essay draws from the work of the critical political economy of communications and Cultural Studies literatures along with the work of Marxist thinkers like I.I. Rubin, Mario Tronti, and Paolo Virno. The Critical Political Economy of Communications literature analyzes mass media from the perspective of its relationship to the Marxist concept of surplus value. It asks the question--“is broadcast media productive of surplus value” and “if so, who produces it”. In the context of broadcast media their research has focused on the productivity of the audience. Following Rubin, I argue that the moment of consumption is necessary to surplus value, the moment of exchange where surplus is realized cannot exist without the desire to consume an object. I further argue the audience is not productive of surplus value in the strict Marxian sense. However, the audience plays a critical and generative role in generating the monopoly rents that form the basis of record labels and broadcasters’ profits through a discursive process. Stuart Hall’s encoding/decoding framework (2005) is particularly important for analyzing the role of the audience in the construction of value.

Essay two takes up the historical question of the US music recording industry’s crisis of profitability in the early 2000s, the restoration of profitability in the mid-2000s, and the rapid increase in profitability following the introduction and adoption of streaming technology. Record labels are framed as knowledge-lords, a particular form of rentier capital that profit from the monopoly rents that accrue to their knowledge-commodities, and their intellectual properties (Rotta & Teixeira, 2012; 2018; 2022). Two contradictions
come to the fore when record labels are seen as rentier capital rather than industrial capital. First, while recordings are an inexhaustible and non-rival commodities, prior to on-demand streaming technologies rent payments were only accumulated when there is turnover in the media used to listen to them, for example from vinyl LPs to CDs and cassettes. Second, record labels are like landed capital in that they profit from a commodity that is not reproduced, but, prior to streaming, they were generally unable to grant access on a time limited basis because access is granted by issuing durable media.

I argue that the crisis of profitability in the early 2000s was the result of these contradictions in the context of digital media. The transition to the digital audio format was problematic because it meant that granting access to a recording guaranteed permanent access without future need to convert to a new format. I then argue that the introduction of accessible and popular digital marketplaces, most notably iTunes, facilitated the restoration of profits by creating a legitimate place to purchase digital media and the near costless sale of already produced digital media. While sales revenue grew with little additional cost the model was limited because permanent access was still being granted. I conclude by arguing that streaming resolves both contradictions because it grants access to recordings without granting permanent access. Audiences no longer have record collections; they temporarily access record collections.

Essay two uses two data sources to argue these points. The first is the Recording Industry Association of America’s *US Sales Database* (2022) which reports the volume of units by format and total sales revenue from 1973 to 2021. The second are the annual financial reports for the Big Three major labels, which are Sony Music Entertainment, Universal Music Group, and Warner Music Group, and account for over two-thirds of all
recorded music sales. I collected qualitative data regarding industry streaming technology, digital media, industry risk analyses, and illicit music access from those reports. I also make a novel contribution to the music industry and cultural production literature by compiling quantitative data from those reports which were then used to calculate profit rates for all three major record labels between 2000 and 2020.

Essay three critically evaluates Richard Florida’s *Creative Class* framework (2002) and the claims made in Todd Gabe, Richard Florida, and Charlotte Mellander’s *The Crisis and the Creative Class* (2012). Gabe, Florida, and Mellander argue that the Creative Class - those with jobs such as managers, accountants, attorneys, STEM researchers, teachers, and designers—are uniquely resistant to unemployment relative to those in the Service Class—occupations like janitor, maintenance, food service, and retail sales—and the Working Class—those holding occupations like assembly line worker, plumber, and HVAC technician. They further claim that the basis for the difference in unemployment rates among the three classes are the varying levels of creativity among these occupational classes, specifically that the Creative Class’s higher level of creativity was the reason for the relatively low unemployment rates.

The critique of their work begins with an analysis of creativity as defined by Florida and along with it his Creative Class. The essay begins with a critical investigation of creativity as it described and deployed by Richard Florida in *Rise of the Creative Class* (Florida, 2002) and by him and his co-authors in *The Crisis and the Creative Class*. I find that the framework they use to evaluate occupational creativity is flawed in that it provides no clear basis for classification. I also find that the Creative Class as it is constructed by Florida is not a coherent class in terms of creativity using data from
O*NET’s *Thinking Creatively* metric (O*NET, 2021). With that in mind I empirically investigate whether higher levels of creativity reduce a person’s likelihood of unemployment using the same method of regression analysis used by Gabe, Florida, and Mellander.

I specify six alternative probit models that account for structurally stable occupations--such as medical workers, the police, and teachers—and variations of creativity within the Creative Class. The former draws from the empirical work of Daniel McGranahan and Timothy Wojan. The latter decomposes Richard Florida’s Creative Class into its components - the Creative Core and the Creative Professional sub-class. I find that Gabe, Florida, and Mellander’s results were robust to the removal of structurally stable occupations. I find that the less creative Creative Professional sub-class had a lower likelihood of unemployment than the more creative Creative Core sub-class. What this suggests is that the results attributed to Creative Class in Florida et al’s work are not due to creativity, and instead they are driven by some other structural factors related to the white-collar occupations that the Creative Professional sub-class consists of.
CHAPTER 1 WHY DID ON-DEMAND MUSIC STREAMING LEAD TO THE CONCENTRATION OF POP MUSIC STARDOM?

Technical change in mutually dependent industries and their strategic responses

The way that recorded media is consumed has undergone a massive shift, from one where much of our listening and watching choices were effectively made for us by radio and television broadcasters to a cultural landscape defined by minimally constrained choice facilitated by on-demand media streaming platforms. Along with the change in broadcast technology came a transformation in the way that stardom manifests itself. On-demand streaming (ODS) platforms, such as Spotify, Apple Music, and Amazon Music, present themselves as democratizing forces in the music industry. Pop music artists now have increased access to the means of broadcasting and distribution of their music, which lessens their dependence on the institutional connections between major labels and broadcasters (Hracs, 2012, pp. 454-456). From the perspective of the consumer, it seems as though the increased access to music facilitated by on-demand streaming would result in more diversified music consumption. Increased access from both the artist’s and the consumer’s perspectives combined with the cheapening recording technologies (Hracs, 2012, pp. 454-456) suggest a long-tail effect (Anderson, 2006; Brynjolfsson, Yu, & Simester, 2011), the transition to a market where niche products are predominant. However, it will be shown empirically in the following section
that the exact opposite occurred. The emergence of ODS platforms as the primary
technology for music broadcasting and distribution resulted in the intensification of pop music stardom. This intensification resulted in the emergence of superstars as understood by Rosen, “the phenomenon […] wherein relatively small numbers of people earn enormous amounts of money and dominate the activities in which they engage” (1981, p. 845). This paper claims that the concentration of stardom around fewer artists is due to the way audiences have been reorganized by on-demand streaming (ODS) and the technologies of surveillance that come with it.

The history of pop music tracks closely with technical developments in the mass production of musical objects (Marshall P. D., 1997; Frith, 2001; Peterson, 1990). The emergence of on-demand streaming (ODS) as the dominant mode of music consumption and distribution over the last two decades is a rupture with the 1955 revolution in pop music (Peterson, 1990) that produced the first iteration of stardom. The reorganization of audiences is grounded in the production and circulation of value within the music and broadcast media industries, both of which require the presence and activity of audiences produce their commodities. In an era where broadcast media like radio and television were the primary transmission point for mass musical culture there was a mutually reinforcing common interest in constructing stable audiences whose subjectivity produces the raw material for cultural commodities and advertising. The emergence of on-demand streaming platforms resulted in a new productive logic that emphasized the cultivation of masses of highly specialized audiences rather than the construction of a few more generalized mass audiences. The shift in the productive logic of broadcasters towards the
increased segmentation of audiences undermines the basis for new stars, which results in a strategic shift by record labels to focus on maintaining existing talent.

The rest of the paper is as follows. Section II establishes the sudden intensification of stardom in the period following the introduction of on-demand streaming technology using *Billboard’s* Hot 100 singles chart data from 1960-2020. Section III presents the investigation of stardom and audiences beginning with a brief critical literature review of the neoclassical economics models, celebrity studies, and Marxist literature that addresses stardom. The existing theories take the appearance of the commodity, its use value, as their starting point. In doing so the existing literature does not recognize the centrality of the commodity form and value in capitalist society cutting off their analysis from the productive relations that produce the conditions that produce stars. Section IV presents a general theory of popular music stardom developed within a Marxist framework. The theory begins by identifying the commodity produced as the *performance commodity* (King, 1987) and the relations that produce it. The role of the audience in the production of performances, the basis for mass audiences, and how audiences mediate record labels and broadcasters is of special interest in this section. Section V concludes by showing how the transition to on-demand streaming ruptures the television and radio-based model of stardom by reorganizing the structure of audiences. It demonstrates that ODS’s profits are contingent on increasingly atomized audiences which degrade the initial basis for stardom. The atomization of the mass audience proves problematic for record labels whose profits are contingent on the mass audiences that traditional broadcast media produces. Stars and their associated mass audiences act as “risk sinks” and the revenues derived from them act as a source of financing for untested talent or other ventures.
(Marshall L., 2013). As a result, major labels are forced to preserve their existing stars while crowding out the rest.

1.1 Empirical evidence for the concentration of stardom

This section demonstrates that a rapid intensification of superstar dynamics – an increased concentration in the number of hit songs produced by a small stratum of performers – occurred in the period following the introduction of on-demand streaming technologies. To do so weekly data from the *Billboard* Hot 100 is used to show that from 1960 up to the early 2000s there was a general trend of chart diversification – fewer songs per charting artist – and that following the early 2000s there was a reversal of that trend and turn towards increased concentration – more charting songs per charting artists with a decreasing number of charting artists. It is then demonstrated that following the introduction of ODS technology there was a rapid increase in the degree to which the concentration was accounted for by a small segment of charting artists, thus indicating a rapid increase in the degree to which superstar dynamics are present in pop music.

*Table 1 Periodization of audio media formats, 1960-present*

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-1985 Analog Media</td>
<td>Music is primarily sold in an analog media – vinyl records and cassette tapes.</td>
</tr>
<tr>
<td>1986-1998 Compact Discs</td>
<td>Music is primarily sold as physical digital media – Compact discs</td>
</tr>
<tr>
<td>1999-2003 Peer to Peer File Sharing</td>
<td>The MP3 file format paired with peer to peer (P2P) file sharing technology facilitates the widespread pirating of music.</td>
</tr>
<tr>
<td>2004-2007 Advanced Audio Coding</td>
<td>Advanced Audio Coding (AAC) and other Digital Rights Management (DRM) formats make excludable digital music sales feasible.</td>
</tr>
<tr>
<td>2008-2020 On-Demand Streaming</td>
<td>On-demand streaming platforms are introduced and rapidly adopted as primary format for music consumption.</td>
</tr>
</tbody>
</table>
The weekly *Billboard* Hot 100 data was scraped from the *Billboard* website and assembled by Sean Miller (Miller, 2021). The data were cross checked with the chart archive on the *Billboard* magazine website and no discrepancies were found. Songs with “featured” artists were counted only for the primary artist -- e.g. *Flashing Lights* by Kanye West featuring Dwele was counted as a song for Kanye West. Additionally, the frequency with which songs with featured artists chart increases significantly beginning in the 2000s. Counting songs with featured artists as songs with unique artists or counting the song for all artists listed would inflate the number of artists in the peer to peer (P2P), Advanced Audio Coding (AAC), and on-demand streaming periods and give the impression that there was a sudden increase in the number of artists charting thus skewing the results. However, the inflation of the number of artists is avoided at the cost of deflating the significant number of times superstars like Drake are featured on other artists’ singles. Observations with the artist *Glee Cast* were excluded from the sample for two reasons. First, the songs by the cast of the popular television show *Glee* are taken from the soundtrack of the show and as such exist as media that falls outside the bounds of pop music. Second, the songs produced by *Glee* are exclusively covers of already hit songs.
Figure 1 The number of Billboard's Hot 100 charting artists by year, 1960-2020

Source: Sean Miller (2021)

Figure 2 The number of Billboard's Hot 100 charting songs per artist, 1960-2020

Source: Miller (2021)
Taken together Figures 1 and 2 indicate that following the adoption of the MP3 file format in the late 1990s and early 2000s there was a significant increase in the concentration of charting songs per artist which suggests that a generalized form of stardom was intensified. That is to say, the average number of songs per artist increased while the number of charting artists decreased. While the figures demonstrate that there was a generalized intensification of stardom following that period it does not establish that there was an increased presence of superstar effects because it does not demonstrate that a small stratum of artists accounted for that general trend. To show that there was an increase in superstardom, the domination of the field by an exceptionally small subset of artists, the mean number of songs per artists was calculated for the top 5 percent and bottom 95 percent of artists according to the number of charting songs an artist had each year. The data are represented in Figure 3.
Three things stand out that indicate both a sudden disproportionality in hit singles in the streaming era and a persistent long tail for stardom since the 1960s. First, the number of songs per artist for the bottom 95 percent of charting artists remains relatively constant from 1960-2020. Second, there is a steady decrease in the concentration of songs per artist over up to the MP3/P2P period and a flattening out until the end of the final years of the AAC period. This is an expected result because the total number of songs decreased as the number of artists also decreased over that timeframe. The on-demand streaming period features a sudden and meteoric increase in the number of charting songs per artist. This increase in concentration returns to the 1960 level over four years from 2008 through 2011. Third, by 2020 the average number of songs per artist in the top 5% exceeds the 1960 level by a factor of 2.7 and exceeds the 2000 level by a factor of 6.15.

1 The top 5% and bottom 95% were based off of the total number of charting songs in each year.
To put the magnitude of concentration in perspective the top 5% of artists in 1960, numbering 16 artists, accounted for 17% of all charting songs, while the top 5% of artists in 2020, numbering 13, accounted for 35% of all charting songs. Taking into consideration that all 13 of those artists were featured on numerous songs in 2020, the intensity of their degree of superstardom, measured in terms of song appearances, increases. This result is a clear indication that there is an ongoing transition to a highly concentrated pop music market characterized by the presence of superstars.

Using data collected from the RIAA database (Recording Industry Association of America, 2021) the yearly revenue, in millions, for record labels from on-demand streaming services plotted in Figure 11 further draws the connection between on-demand streaming and the sudden increase in the concentration of stardom in the hands of very few artists. The revenue data is taken to be a proxy for the number of users streaming services have. This is a reasonable proxy because the bulk of the reported revenue corresponds to revenues from ad-free subscription services. The rapid acceleration in the concentration of hits among the top 5 percent of charting artists corresponds closely to the rapid increase in revenues, especially from 2010 forward.
From 1960 to 2020 there was a general trend of concentration of hits in the hands of increasingly few artists. This trend was accompanied by a decreasing number of charting songs and a relatively even distribution of hits among all charting artists. Because of the relatively even distribution of songs among all charting artists it is not evident that there are proper superstars in the periods preceding the on-demand streaming period. However, with the transition to streaming superstars that dominate the charts rapidly developed over the course of 13 years in correspondence with the growing importance of on-demand streaming to the music industry.

1.2 Existing theories of Stardom and their limitations

Theories of superstardom explain the phenomena, “wherein relatively small numbers of people earn enormous amounts of money and seem to dominate the fields they are engaged in” (Rosen, 1981, p. 845). The neoclassical economics literature claims
that absent market imperfections the most talented (Rosen, 1981; MacDonald, 1988; Borghans & Groot, 1998) or the most well-known artists (Adler, 1985) are revealed, allowing consumers to maximize utility based on talent or well known-ness. Furthermore, because recording technologies allow one artist to serve many, simultaneously allowing for the mass consumption of a single artist’s work. From the perspective of neoclassicals, stardom is an accident of technology and the desire to listen to the best or most famous artists. The interdisciplinary celebrity studies literature (Rojek, 2001; Frow, 1998; Marshall P. D., 1997; Turner, 2010; Gameson, 1994; Marshall L. , 2013; Dyer, 1998), investigates how stars are positioned within social fields and how a star’s position constructs their persona and charisma. In contrast to neoclassical theories of stardom celebrity studies include the role that identity, difference, meaning, and judgment play the emergence of a pop star. As such, stars are the result of a primarily discursive process of meaning making with respect to the star. Marxist cultural theorists also address the phenomenon of stardom through a critique of stars as conduits for bourgeois ideology (Adorno & Horkheimer, 2002; Debord, 2004). Other Marxist theorists have taken up pop music and film stardom as it relates to the star’s position as a worker (Stahl, 2013; King, 1987) or the star’s relationship to the commodity form (King, 2010).

1.2.1 Neoclassical theories of stardom

The model developed by Rosen (Rosen, 1981) forms the kernel of neoclassical theories of stardom. The model is constructed within the context of the standard assumptions of the neoclassical modeling framework, utility maximizing consumers, profit maximizing sellers, and both of which have full knowledge of the qualities of all commodities. Rosen makes several important assumptions that deviate from the standard
set of assumptions. The net revenue function for sellers in markets that feature superstars are functions of the quality or talent of the sellers and are assumed to be upward sloping and convex indicating that “small differences in talent become magnified in larger earnings differences” (Rosen, 1981, p. 846). He further assumes that commodities differentiated by the quality are imperfect substitutes for one another and sustains the magnification of revenues for high quality sellers. Rosen notes, however, that convexity in revenues sustained by imperfect substitution is insufficient on its own to result in relatively few sellers dominating a market\(^2\). To ensure that the superstar result obtains, Rosen also assumes that the commodities sold by those by sellers in superstar markets take the form of club goods – commodities defined by non-rivalness and excludability – and that performances are replicable on a mass scale.

Consumer behavior is modeled as a process of constrained optimization. The consumer’s utility is a function of a composite good representing all other consumption and the flow of services (performances) from performers. Performances are differentiable by their quality with utility rising with increasing increments of quality and units consumed. Prices of performances are also determined by quality such that a commodity with a higher level of quality is more costly than performances of lesser quality. Utility is maximized subject to a budget constraint whose specification includes the opportunity cost of consuming time intensive performances in terms of lost wages. The inclusion of lost wages in the budget constraint combined with the imperfect substitutability lower quality performances frames the consumer’s choice of the quantity and quality of

\(^2\) Doctors are an example of this. While they are differentiated by talent, they are unable to serve many producers at once due to material and temporal constraints. This contrasts with pop musicians who can serve massive amounts of consumers all at once in the form of concerts or recordings.
performances in the context of the labor leisure trade off problem. Given a certain level of income, consumers must choose between many performances of inferior quality or few performances of high quality. Performer behavior is modeled as a process of profit maximization. Performers are differentiated by their talent, which determines the quality of their output. In the Rosenian framework, a performer’s revenue is ultimately determined by the quality of their performances, which are a function of the performer’s talent. Profit is then given by the difference in revenue less the cost of producing performances. Performers, like any other producer in a competitive market, maximize profit where the marginal increase in profit is equal to zero and the second order condition is less than zero. Since consumers are assumed to be indifferent between quantity and quality the profit maximizing choices of performers set the distribution of quality and quantity on the market. Both market supply and market demand are determined by the summation of individual supply and demand function, and market equilibrium is obtained where market supply and demand are equivalent.

Rosen identifies two sets of potential equilibrium outcomes. The first is the case where all performers in the market have equivalent levels of talent. In this case prices are driven down through competitive pressures due to the free entry of performers. All performers in this market have opportunity costs and the minimum opportunity cost for the group of performers becomes the market price. If market prices are above the minimum opportunity sellers will enter charging lower prices until they reach the lowest opportunity cost. In this case a single superstar is obtained, however that star is a star that does not acquire the wealth typically associated with superstardom due to competitive pressures from equally talented performers. The second result is obtained in the case that
there are significant differences in talent. In this case, the combined effects of consumers utility maximizing labor-leisure tradeoff and the assumption that price increases with talent results in a star that earns rents above the price for an average level of talent. In this case consumers, because of the labor-leisure tradeoff, prefer consuming fewer high-quality performances over many lesser quality performances. As a result, consumers select the performances of higher quality performers over those of lesser quality. In this case the best performer even if their difference in talent will accumulate a mass audience, and while the relative difference in the price they can charge maybe small their total rents may be substantial given a large enough market.

This model is extended in two ways. The first is MacDonald’s (1988) introduction of an iterative and probabilistic model of talent discovery. While Rosen’s model relies on known differences in talent MacDonald suggests that differences in talent are not immediately known, rather they are revealed through an iterative process of performance and review. Each performer has a probability distribution that describes their likelihood of giving a good performance or a bad performance which remains the same throughout their career. New performers who are willing to take the risk given their estimation of their probability of giving a good performance enter the market. With each successive performance an artist accumulates a record of good and bad performances that are then used by consumers to make decisions based on the expected utility gained at the next performance. Those with consistently good records can charge higher prices and attract larger audiences due to their high likelihood of giving a good performance. Those who consistently put on bad performances dropout when the expected value of their performance earnings sinks below their next best option. Borghans and Groot (1998)
critically extend the framework proposed by Rosen. They claim that once Rosen’s second “true” superstar outcome is obtained free entry into the market is no longer the case, and while superior talent is a necessary condition it is not sufficient because superstars must also be able to exercise monopoly power via their position as the best.

Adler (1985) rejects Rosen’s talent centric approach on the grounds that stardom can exist even where there are not differences in talent. Drawing from Stigler and Becker’s “consumption capital” model (1977) Adler claims that for some commodities, like music, utility is increasing in your familiarity with a commodity i.e., the more you know about what you are listening to the more you enjoy it. This framework carries with it the implication that consumers will not continually diversify their taste, and instead they will specialize in consuming some specific commodities. Adler notes that the Stigler-Becker consumption capital model is insufficient to explain why consumers select the same commodity in some markets. Adler adjuncts the Stigler-Becker model by claiming that in the case of markets characterized by superstars the consumer’s ability to discuss their interests adds significantly to their utility in addition to their own person consumption capital. As such, consumers tend towards selecting artists and performers that are already well known to minimize their search costs and increase their utility through consumption and discourse. Thus, in contrast to the models from the Rosenian tradition, “luck [or] factors other than talent” (Adler, 1985, p. 211) that determine the initial level of well know-ness are the ultimate determinants of stardom rather than talent.

The models do predict the intensification of superstar effects in on-demand streaming era of pop music, but their predictions are not particularly useful for understanding the intensification. In the case of the models that claim that talent forms
the basis for superstardom the models predict that with reduced barriers to entry and more complete information there would be increased convergence around increasingly few stars. However, the predictions of those models are not particularly useful for understanding convergence in this instance because the convergence occurred around stars who emerged before streaming became the dominant technology of music distribution such as, Lil Wayne, Drake, Taylor Swift, and others. That is to say, the model is unable to identify why those already identified as individuals with superior talent were able to dominate the market for popular music with increased intensity. In the context of Adler’s model streaming may yield increased superstar effects due to the ease with which music is shared and the increased information about listening habits that the platforms make available to listeners. With an increased clarity about who is being listened to the likelihood that someone chooses a less well-known artist decreases. The Adlerian argument for increased convergence runs into the same issues as the Rosenian argument in that it cannot explain why existing stars became increasingly dominant because the stars were already well established and widely known.

The above critiques point to a deeper issue within the neoclassical literature on superstardom. These models limit their analysis of stardom to the moment of exchange, abstracting from the process of taste formation and production. In doing so the theorist produce significant explanatory gaps that point to explanations outside the scope of their analysis. In the case of the Rosenian models the key determinant, talent, is left unexplained. The neoclassical framework relies on the assumption that tastes and preferences are given, which cuts their analysis is cut off from the possibility of a social determination of tastes. Questions about the nature and determination of talent can only
be answered in one of two ways. The theorists must accept an aesthetic theory that supposes a Platonic ideal form of popular music that all consumers know and use to judge the quality of popular music. Alternatively, the neoclassical theorists must point to a process external to their theory of stardom that determines talent or quality, in doing so they indicate that causality rests outside of their model in the realm of the social. Similarly, Adler’s reliance on the luck of the performer’s initial position indicates a causal determining process external to the model that produces the initial position.

1.2.2 Celebrity studies

The interdisciplinary celebrity studies literature (Rojek, 2001; Frow, 1998; Marshall P. D., 1997; Turner, 2010; Gameson, 1994; Marshall L., 2013; Dyer, 1998), investigates how stars are positioned within social fields and how a star’s position constructs their persona and charisma. Rojek (2001) and Frow (1998) investigate celebrity culture and the parasocial relationships that fans develop with stars through the lens of religious worship. Others like P.D. Marshall (Marshall P. D., 1997), Turner (Turner, 2010), and Gameson (Gameson, 1994) focus on the network of institutions and individual agents that participate in the process of producing the persona of the star, the basis for their affective power. Dyer (Dyer, 1998) presents and account of the star as a “text” whose meaning is contested by various segments of the media apparatus, social structures, and the audience. Lee Marshall (Marshall L., 2013) eschews an analysis of persona and instead investigates the structural and ideological functions that stars play with respect to the music industry. In contrast to neoclassical theories of stardom celebrity studies include the role that identity, difference, meaning, and judgement play in constructing the star. As such, stars are the result of a discursive process of meaning making with respect to the
person behind the text of the star. These theories also acknowledge that stardom is situated within the context of capitalist social relations.

Despite the literature’s emphasis on the social component the theories are ill-equipped to address the causal and social basis for superstardom. The phenomenon of stardom is taken as given because the literature primarily addresses the meaning of stars and the discourse that produces that meaning. Much like the neoclassical emphasis on the moment of choice the celebrity studies literature’s focus on the discursive moment obscures the productive relations that produce the phenomenon of stardom. The relevance of stardom to production is not entirely forgotten within the literature given the consistent recognition that stars and stardom are embedded within capitalist society. However, the relationship of the star to capitalist production is always reduced to a functionalist account of their existence – “stars exist to be sold,” “stars exist to sell,” and “stars exist to deceive”. The functionalist account of stardom with respect to the production of stars de-historicizes stardom by boiling it down to specific roles rather than how those roles emerge out of concrete processes.

The limitations of both the neoclassical and celebrity studies literature is ultimately tied to their emphasis on the appearance or use value of the star. Neoclassical theories of stardom locate the basis for stardom strictly in the technology of consumption and the moment of consumer choice based on the utility enhancing properties of talent or popularity. In doing so they ignore the processes and institutions that produces the choice set and conditions the basis for consumer choice. The celebrity studies literature locates the basis for stardom in the discourses that surround the star. In locating the basis for stardom exclusively within the discursive, the process which produces the conditions for
a given discourse are obscured. Those theories fall prey to what Marx termed commodity fetishism – the failure to address the productive relations that make social phenomena possible (Marx & Engels, Capital, 1967, pp. 76-87). Their failure to look at the historical contingencies and productive relations that make stardom possible obscure the social relations of production that make stardom and the determinants described in the existing theories possible. The fetishist accepts capitalist social relations uncritically and takes the use value – the concrete properties -- of commodities and instruments of labor as the basis for exchange value (Pilling, 2010, p. 102). Consequently, the theorists to not adequately consider the social form use values take in a definite stage of development of the productive forces (Pilling, 2010, p. 102). An analysis that stops at how commodities appear to consumers – regardless of whether that appearance is in the form of talent, popularity, or discourse -- is cut off from an analysis of how social and productive relations of production indirectly structure the production and exchange of commodities.

It is a mistake to completely ignore the role that a commodity’s use value plays. The fetish made of use value is not merely an illusion or a failure of class consciousness; it is a concrete thing that affects the world, so the analysis of a commodity must also consider the importance of a commodity’s concrete properties. “Marx did not only show that human relations were veiled by relations between things, but rather that, in the commodity economy, social production relations took the form of things and could not be expressed except through things. The structure of the commodity economy causes things to play a particular and highly important social role and thus acquire particular social properties” (Rubin, 2020, p. 61). Because a commodity’s use value is a constitutive part of its exchange value the socio-cultural meaning of pop music stars and their music takes
on must be included in the analysis. Because of this the existing theories are not entirely without merit. Rosen is correct that stars can only exist in markets where the commodity is a replicable and differentiable club good. Likewise, the celebrity studies literature is correct that the discourse about star’s social meaning is important. Their mistake is taking the qualities of the commodity as the basis for an artist’s stardom absent the productive logic that transforms them.

1.2.3 Existing Marxist theories

Marx’s analysis of commodity production within a capitalist society forms a suitable basis for the analysis of pop music stardom because it emphasizes the dialectical relationship between production/consumption and exchange value/use value. Rubin demonstrates that from a Marxist point of view that production, consumption, exchange value, and use value are all necessary, constitutive, and contradictory moments in the existence of a commodity (Rubin, 2020). Since production, consumption, exchange value, and use value are mutually constitutive moments of a commodity the development of one aspect necessarily imposes a transformation in the others. Thus, we must address the specificities of those four moments. The commodity must be framed an object to be consumed and produced with exchange value and use value from both the capitalist’s and the worker’s perspective. Rubin’s perspective on Marx is particularly useful in understanding popular music and the emergence of stars because it emphasizes the apparent simultaneity of production and consumption in the web 2.0 era.

Existing Marxist analyses are limited to an investigation of the ideological use value of cultural commodities, despite the dialectical nature of production, consumption, and value. This literature focuses on cultural production’s ideological content (Adorno &
Horkheimer, 2002; Benjamin, 2008; Debord, 2004), how mass media aids in the realization of a commodity’s value (Sweezy & Baran, 1966, pp. 112-141), or broadcast media’s form of appearance and its determinations (Williams, 2003). In taking up the ideological effects and the use values of broadcast media the production of the cultural commodity itself became a blind spot within the Marxist literature (Smythe, 1977). These theories, through their emphasis on the results of the media rather than the production of value, lend themselves to functionalist explanations like those from the celebrity studies literature. The cultural commodity and the stars that produce them exist as adjuncts to the process of capitalist production. The use values of stars and cultural commodities are imported into capitalist society through invention or inheritance rather than as emergent properties of capitalist relations at a specific historical moment. Williams is an important exception in this regard as he emphasizes the thoroughly contingent nature of broadcast media.

This is not to say an analysis of stars that delves into the hidden abode of production is entirely absent from the Marxist literature. Stahl (2013) and King (1987) argue that popular music artists and actors, respectively, are thoroughly embedded in capitalist relations of production as workers. However, their contributions stop short in explaining how their involvement in cultural production, as workers, produces the conditions for their stardom. A thoroughgoing Marxist analysis of stardom should seek to explain stardom as more than just ideology or limit itself to the classification of stars as workers who perform abstract labor for capital. Instead, it must attempt to link the productive labor of the star to the production of the conditions of existence for both the industries they work in and the cultural phenomena that emerges out of the labor process.
1.3 An Alternative Marxist theory

The following analysis of the concentration of pop music superstardom that followed the introduction of ODS will take up the challenge posed by Smythe to go beyond appearance and connect stardom to the circuit of capitalist production. The analysis begins by identifying the performance commodity as the commodity produced by the music industry (King, 1987). Drawing from both the (post) Operaismo (Lazzarato, 1996; Virno, 2004; Tronti, 2019) and cultural studies (Hall, 2005; Frith, 2001; Frith, 2003) the production of pop music performances is shown to extend beyond the recording booth involving the audience’s labor as interpreters of the message. The analysis then takes up the question of the mass audience through the lens of value production within the broadcasting industry (Smythe, 1977; Andrejevic, 2002; Caraway, 2016; Jhally & Livant, 1988; Meehan E. R., 2007). The analysis reveals a mutually determining relationship between record labels and traditional broadcast media wherein one produces the conditions of existence for the other. The final section investigates the transition from “broadcasting” to “narrowcasting” (Jhally & Livant, 1988) imposed by on-demand streaming and the technologies of surveillance that come with it. It is shown that the development of streaming and surveillance technologies restructure the labor process and the means of appropriating value, the capacity to instantaneously measure and package audiences for advertisers leads to the abandonment of packaging mass audiences in favor of the packaging of masses of specific audiences. That transition undercuts the existing basis for stardom, the mutual interest in mass audiences, producing a contradiction that the recording industry must resolve. Record labels attempt to overcome that contradiction by redirecting resources away from the development of new
talent to the preservation of existing stars (Benner & Waldfogel, 2016) resulting in the concentration of star power around those who already exist as superstars at the expense of intermediary levels of stardom.

1.3.1 The performance commodity

The commodity produced by musicians is the performance. King understands the performance as a “labor process, exhibited for consumption regardless of whether the performers have a direct or mediated relationship with the audience” (King, 1987, p. 153). The performance commodity is like any other commodity produced under capitalist relations; it is an object produced by workers under the direction of capital for the purpose of exchange. However, the performances present themselves as something different from the commodities we typically encounter. Performances are entirely ephemeral except in the cases of recordings. They are “[a]n activity which requires the presence of others: the performance makes sense only if it is seen or heard” (Virno, 2004, p. 52). Those who produce a performance “need an audience to show their virtuosity, just as acting men need the presence of others before whom they can appear; both need a publicly organized space for their ‘work,’ and both depend on the presence of others for the performance itself” (Arendt, 1968, p. 154). Similar sentiments are expressed by Stuart Hall who argues that the discursive moment between message producer, the ‘encoder’, and the message receiver, the ‘decoder’, are mutually constitutive but relatively autonomous moments, thereby non-guaranteed, in the process of mass communication (Hall, 2005).

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3 Emphasis Virno’s
The performance commodity’s dependence on both artists and audiences demands an approach that breaks with a strict producer-consumer binary. Those that do the act of performing -- the artist -- and those that validate the performance by engaging with it -- the audience -- must be linked in the process of production. Such a linkage is not unique to performances or any other form of cultural production. “[P]roduction, distribution, exchange and consumption form a regular syllogism; production is the generality, distribution and exchange the particularity, and consumption the singularity in which the whole is joined together” (Marx, 1993, p. 89). What sets performances apart from others is the central feature of the meaning and cultural significance of the performance.

1.3.2 Producing the performance commodity

This section draws from Stuart Hall’s Encoding/decoding framework (Hall, 2005) To disentangle the relationship between the artist and the audience. Hall’s model of mass communication is homologous with the circuit of commodity production developed by Marx in Grundrisse and Capital (Hall, 2005, p. 117). Hall understands mass communication as “a structure produced and sustained by the articulation of linked but distinctive moments – production, circulation, distribution/consumption, reproduction” (Hall, 2005, p. 117). The homology Hall makes between the production of messages and the production of commodities in general makes possible the simultaneous discussion of the concrete work of producing performances, a type of message, and the production of performances as commodities. Inversely, the homology allows us to also see what “distinguishes discursive ‘production’ from other type of production in our society” (Hall, 2005, p. 117), specifically the extended production/reproduction of the performance and its meaning.
The process of mass communication described by the Encoding/decoding model contains two “determinant moments,” encoding and decoding, that are mediated by the “form of the message,” a “sign vehicle constituted within the rules of ‘language’” (Hall, 2005, p. 118). The determinant moment of encoding is the labor process that constructs the message through the concrete discursive labor of the artists, musicians, sound engineers, and managers etc. The performance is produced in the context of a particular set of meaning structures comprised of technical infrastructures, relations of productions, and frameworks of knowledge. The moment of encoding is the moment of recording the song, producing the album, or putting on the concert. Encoding is considered “predominant” because it is the ‘point of departure’ for the realization, of the message” (Hall, 2005, p. 119). Encoded messages are then circulated via transmission and pass from the moment of encoding/production into the moment of decoding/consumption wherein audiences, through their own set of meaning structures, decode the meaning of the transmitted message. That message is only realized as a message if it appears in the form of a meaningful discourse, a message that can be understood in the context of the audience’s structures of meaning (Hall, 2005, p. 119). In the context of popular music, the moment of decoding is the moment of listening to the album or song and appropriating it as a meaningful discourse, thereby transforming the song into an object with use value.

Several important conclusions are drawn from encoding/decoding framework. First, the encoding of a message does not necessarily entail its decoding, it must be received and decoded as something meaningful by the audience. It is apparent, then, that the value of the performance commodity can only be realized if the performance is a
meaningful performance decoded by an audience. Second, messages may not be decoded with the same meaning they were encoded with due to the potential differences in structures of meaning used to encode/decode the performance (Hall, 2005, pp. 119-120; Lazzarato, 1996, p. 144). As such there is always the possibility of the message or artist to be subverted or refused given a social and political context (Dyer, 1998; Rossman, 2004). Third, the production of messages is not a “closed system” (Hall, 2005, pp. 118-119). Structures of meaning are not fixed, they are iteratively determined through “skewed and structured ‘feedbacks,’ into the production process itself” (Hall, 2005, pp. 118-119). As a result, “the audience is both the ‘source’ and ‘receiver’ of the […] message,” (Hall, 2005, p. 119); the audience is, therefore, as much a producer of the performance as the performers themselves (Lazzarato, 1996, pp. 141, 145).

1.3.3 Discursive labor and record label profits

The encoding/decoding framework implies that popular music performance commodities are in a constant state of production. A song, music video, or album’s meaning is compounded with every engagement, whether it be through the private discourses of fans, commentary in music criticism magazines, interviews with the artist about their work, or references to the performance commodity in other works. The work of producing musical performances expands beyond the walls of the recording studio and creeps into the “non-work lives” of working-class people. In this way cultural production is a microcosm of Mario Tronti’s social factory (Tronti, 2019; Lazzarato, 1996, pp. 135-136). The socio-cultural practices of the consumer, in concert with the labor of the musical performer, become socially necessary to produce a commodified musical performance. Audiences, through their discursive labor create the conditions for the
existence of the performance as a use value by validating a performance as a meaningful object and giving the performance its meaning. From this perspective, the concrete labor of the decoder/consumer assumes the form of a cultural commons of meaning and association freely available to all while also being de facto appropriated by capital and subsumed into the content performance commodity form.

The appropriation of the cultural commons is a non-exclusive enclosure of a set of meanings and significances produced by the audience and are realized in money form as rents, in addition to the surplus value deriving from the labor of the artists and studio staff. These rents are best understood as monopoly rents (Harvey, 1974, p. 241; Harvey, 2002, pp. 94-95) whose value is driven by the capacity of record labels to withhold access to the performance and as differential rents the relative ‘productivity’ of the performance as an input. One aspect of a performance’s productivity is the intensity of the audience’s engagement with and discourse about a given performance – the buzz surrounding it. The importance of the commodity as a semiotic device within a given society – is the performance socio-culturally ‘meaningful’ on a large scale – is another. The value of a performance commodity’s audience broadcast media and advertisers is another aspect of a performance’s productivity that bears heavily on the determination of stardom -- this point is taken up in the following section.

From the perspective of the capitalist that owns the rights to a recorded performance commodity, there is a seemingly endlessly expanding amount of concrete labor in the form of discourse, waged or unwaged, to be appropriated and subsumed into the performance commodity. The rents appropriated through the non-exclusive enclosure of meaning first appear in the initial release of the recorded performance. Each
subsequent performance and pressing of the record brings with it the social meaning congealed in the performance. As a result, there is a continuous string of moments for the realization of rents based on the labor of the audience. In its most direct and costless form the appropriation of the extended production and reproduction of the musical performance commodity depends on the reproduction of the recorded performance via licensing rights, sales of catalogues, re-issues of recordings, and the marketing of special editions. In its more cost inefficient form of direct appropriation by labels the accumulation of rents appears as the putting on of tours and concerts. In its more indirect form, the cultural and semiotic commons produced by the audience is incorporated into new performances through allusion and reference.

It is important to note that audience activity may not necessarily result in positive outcomes for the record label. Audience resistance to the appropriation of their concrete labor may come in the form of boredom, the abandonment of the performance, or a critical decoding of the performance. Another site of audience resistance to the commodification of popular culture is digital music piracy (Marshall L., 2019; Hracs, 2012, pp. 445-449). Likewise, the construction of alternative music scenes that attempt to exist outside of commodified exploitative music production are moments of self-valorization – attempts by workers to construct new non-capitalist practices amidst capital and refuse capital’s domination (Cleaver, 192). Self-valorization in the production of music is seen in DIY punk scenes that rely on networks of artists, zine writers, basement venue hosts, and word of mouth networks that constitute the scene. The underground hip hop scene features similar de-commodified networks as well as frequent intellectual property theft via the use of unauthorized music samples. Self-valorization is
also present in the performances of artists embedded in class struggle organizations’ operation, as is the case of Telangani folk singer and poet Gaddar who is involved with the Indian communist and Telangana (in South India) movements.

1.3.4 The accumulation of a mass audience

The production of performance commodities is grounded in the logic of capitalist commodity production in general – the expanded reproduction of capital via the production of surplus and the realization of value in the moment of exchange. The production of musical performance commodities takes on a peculiar gloss; the value of performance commodities is contingent on the discursive labor of the audience and the performer after the encoding/production of the performance has taken place. In this light a second motivation comes into play: the expansion and intensification of unpaid discursive labor which produces the cultural and semiotic commons. While this motivation exists, the existence of the motivation alone does not explain its actualization or persistence. To explain this a second capitalist that facilitates the construction of mass audiences must be introduced, the broadcaster.

1.3.5 The basis for broadcasting profits

Broadcasters are firms that control the means of mass communications and transmit programming e.g., television stations, radio stations, social media platforms, and ODS. Broadcasting capital plays an important role in the production of mass culture. Broadcasters make performance commodities visible on a mass scale and connect performances to audiences. While broadcasters perform the role of facilitating stardom by connecting pop musicians and audiences via broadcast, their existence is only partially constituted by their role in determining stars. As with any capitalist firm, the
broadcaster’s existence is ultimately grounded in their capacity to directly appropriate surplus value or receive a portion of it through rents, interest, or payments for services which aid in the circulation and realization of capital. Smythe (1977) convincingly argues that what broadcasters sell is access to the audience commodity – an audience’s subjectivity and attention -- to advertisers.

While Smythe correctly identifies the basis of the exchange, he and others (Jhally & Livant, 1988; Andrejevic, 2002) who characterize the audience as analogous wage laborers that work for broadcasters or advertisers in exchange for the “free lunch” of programming (Smythe, 1977, p. 5). This paper rejects the audience as wage worker analysis along two lines, the non-existence of a wage relation and the lack of control that capital has over the audience. This paper agrees with Fuchs (2012), Bolin (2005), and Maxwell (1991) who argue that the free lunch of programming cannot constitute a wage because it is not convertible into other socially necessary commodities for the reproduction of life. This paper also agrees with Caraway’s objection that “the activities of the audience are not under the direct control of the capitalist. Nor is it clear that the product of the labor of the audience […] is alienated from the audience” (Caraway, 2011, p. 697).

Following Caraway (2011), Chen (2003), and Meehan (1993) audiences are understood as speculative rental properties, from the perspective of broadcasters. In this framework access to an audience’s subjectivity is granted through the renting of advertising spots – time slots or ad space on the medium in question -- to advertisers (Caraway, 2011, p. 701). An advertising spot’s rent is determined like other rental properties within the Marxist framework via its relative productivity for the capitalist
renting the property and the monopoly rents (Harvey, 2002; 1974) that accrue from the distinctiveness of the property and the accompanying market forces at work (Napoli, 2003). Unlike rents on land the valuation of the ad spots corresponding to a specific audience are entirely speculative (Chen, 2003; Meehan E. , 1993). The speculative nature of the audience is due to the potential mismatch between the predicted audience sold to advertisers and the measured audience that is seen only after an advertising spot is broadcast (Napoli, 2003). Put differently, it is unknown whether the relevant audience is watching, watching intensely, and induced to purchase the commodity advertised until after the spot has been broadcast. Compounding the uncertainty of the actual productivity of an audience product is the degree to which the measured audience corresponds to the actual audience that decoded the advertising spot (Napoli, 2003). Because of the uncertainty the audience commodity ratings agencies and marketing departments are employed to validate an audience’s relevance and facilitate the pricing and sale of audience commodities (Napoli, 2003).

1.3.6 The construction of audiences

While broadcasters, advertisers, and ratings agencies produce the social, physical, and material circumstances that make audiences possible, audiences are not passive participants in their construction. They respond to the media through various means, and in doing so directly and indirectly communicate and reflect their identities back to the broadcasters through various channels produced by the media, ratings agency, and marketing departments (Livant, 1979, p. 100). Audiences, through the construction of their identities produce the material that informs future programming. Through this lens
the uncertainty of the audience’s composition is produced by its constant state of flux and development not just the limitations of empirical and statistical methods.

In the context of radio and television broadcasting the non-fixity of the audience presents a serious threat to the valuation of the audiences that a broadcaster has accumulated. As an audience’s identity and categorization becomes less stable the relevance of an audience’s subjectivity to advertisers becomes more uncertain. In response to audience variability broadcasters have historically attempted to constrain the degree to which audiences change over time to preserve the value of their audience. In the context of pop music radio, broadcasters constrain their audience by limiting the variation in the music that is played thereby limiting the variation in the semiotic material that audiences use to produce their identities. Rather than playing a wide variety of music, broadcasters commit to genre conventions and within those genre conventions they limit themselves to a small set of artists creating the nebulae that stars emerge from. In doing so the stations become gatekeepers selecting the hits based on what they believe will attract and retain audiences within certain bounds. Broadcasters must also be able to deliver audiences that are sizeable enough to warrant rent payments large enough to cover the costs incurred to cultivate their audience. As such, popular music radio stations have a lower limit on how narrow their programming can be. From these two constraints comes the selection of a set of artists with a broad enough appeal to attract a mass audience, but with sufficient specific content to attract certain high value audience segments such as, white male heads of households.

When pop music stardom is contextualized in the political economy of broadcast media ad revenue broadcasters perform two important functions. First, they act as
gatekeepers through the curatorial process of selecting broadcast programming. This selection is based on how a broadcaster chooses to resolve the contradiction between the need for specific identifiable audiences and an audience large enough to solicit a substantial rent payment. Second, broadcasters through their attempts to generate audiences interpose themselves between audiences for music and record labels. The broadcaster enters the process of meaning creation as both an encoder and a decoder. As a decoder they interpret the content of performance commodities through the lens of the relative profitability of various audience identities. Based on their decoding broadcasters then, through the process of curating programming and broadcasting it, encode new message vehicles for decoding by audience members. By being broadcast a performance commodity and its associated performers are validated as socially relevant, and if broadcast with high frequency the performance is validated as a hit and the artist as a star contingent on the audience’s reception of them as such.

Because of the contradiction between specificity and scale pre-ODS broadcast media produced a celebrity ecosystem with multiple levels of stardom that could arise. There were superstars who acted as the primary mechanisms for drawing in mass audiences of general types. There were also lesser stars who consistently filled out the station’s playlists and contributed to the accumulation of narrower sub-categorical audiences. There were also a myriad of one hit wonders and flashes in the pan who could not attract useful audiences over the longer term. Stardom is therefore an emergent property of the overlapping recording and broadcasting industries and the critical role that audiences play in producing the commodities they sell. Both industries depend on the interpretive and semiotic labor performed by audiences both in the moment of decoding
the meaning of the broadcast content and in the moment of identity construction and affiliation. Stardom is as inseparable from the artists embody stardom as it is from the audiences and their mediated relationships with broadcasters and record labels, in the pre-on-demand streaming period.

1.3.7 ODS and the overcoming of the specificity-scale contradiction

The popstar ecosystem that emerged out of radio and television resulted from a market defined by uncertainty and gatekeeping. Performance commodities were produced without the certainty of having a mass audience. To accumulate a mass audience indicative of stardom, artists and the performances associated with them passed through two layers of gatekeeping. First, they were selected by a record label with the capacity to record and circulate their work. Second, the work was selected by broadcasters that earn rents from similarly uncertain audience commodities. The uncertainty broadcasters faced was radically reduced with the emergence of technologies that facilitate the tracking of an individual’s online activity, locations, and other forms of identifying information like email and IP addresses. In addition to tracking technologies new technologies for selling advertising spots created the conditions for hyper-targeted ad placements. On-demand streaming technologies allowed broadcasters, in the form of music streaming platforms and online radio, to take advantage of the surveillance and ad placement technologies.

The emergence of technologies that track the online life of an internet user and enable precisely targeted advertisements transformed the nature of audience labor and the business of appropriating it. With the embrace of on-demand streaming and surveillance technologies the two-fold nature of audiences as encoders and decoders became increasingly important. The audience’s labor of decoding messages remains, and a
second labor process is added, the labor of being surveilled, the work of producing information that is collected by websites and online platforms (Andrejevic, 2002). The audience’s decoding labor on streaming platforms is doubly active; audience members simultaneously construct themselves through their watching, listening, and decoding behavior and document their construction for the broadcasters. Importantly, under the ODS regime, streaming services know who is listening as they listen, consequently, the audience is no longer cloaked in uncertainty. Further, the audience produces under conditions more directly under the control of broadcasting platforms which impose experiments meant to probe audience attention and responsiveness to ad placement and timing (Andrejevic, 2010). Audience labor shifts from the work of decoding and encoding messages for themselves and their community to the work of simultaneously decoding and encoding messages for themselves, their community, and broadcasters whether they are aware of it or not.

With much of the uncertainty regarding who is watching eliminated and given the higher value of more attentive and engaged advertising targets the production of masses of distinct audience members becomes the audience construction priority. The shift in priority that comes with the change in technical capacities manifests itself in the emergence of a narrowcasting (Jhally & Livant, 1988, pp. 139-140) strategy that attempts to capitalize on increasingly narrow audience segments rather than construct mass audiences with less specific characteristics. The need to cultivate stable audiences through relatively stable programming is reduced while the need to construct highly engaged and individualized audiences becomes a central focus. In this moment the technology of on-demand streaming and its transfer of curatorial power over to the
audience becomes key. The transfer of the power to control programming over to the individual audience member increases the intensity of engagement and creates new opportunities for surveillance. The former increases the number of opportunities for advertising longer an audience member is on the platform and engaging the more advertisements they can encounter. The latter on the other hand provides increased information about the state of the listener e.g., breakup songs signal opportunities to take advantage of a person’s sadness or pitch dating apps.

1.4 The transformation of the broadcaster - record label relationship

The shift from a strategy of constructing and selling access to more general mass audiences to constructing masses of specific audiences drastically transforms the conditions that stars emerge from. As noted earlier, stardom was contingent on the existence of stable and relatively well-defined mass audiences produced by broadcasters as speculative rental properties. The profit driven necessity of producing well-defined audiences through the provision of free programming led to the curation of programming that was focused on the heavy rotation of a few artists with a supplementary rotation of lesser stars. However, the transition to narrowcasting via ODS placed curatorial power in the hands of individual listeners, as a result of the structures that promoted and created stars – the selection of stars by broadcasters – disappeared. The new structure placed the selection of programming in the hands of listeners, decentralizing curatorial authority of broadcasters to direct audience attention.

Artists must now perform to potential audiences rather than audiences already accumulated by broadcasters, further complicating the situation for record labels counting on some portion of their talent to become stars. The record label and their network of
industry contacts were an important tool for artists seeking stardom in the pre-ODS era. Without the record label’s industry contacts, artists were unlikely to be selected for broadcast. Acting as a gatekeeper becomes disadvantageous for streaming platforms because their model of audience construction depends on the surveillance of individual users and the musical choices they make as they construct and validate their identities. As a result, the ODS platforms have established low barriers for submission and acceptance to a platform’s repository. This move by ODS platforms removes the necessity of entering into contracts with record labels puts pressure on labels to offer more advantageous contract terms to attract and retain talent.

ODS introduces increased uncertainty in the determination of superstars and the profitability of the performance commodities, while reducing the uncertainty associated with their own commodity, the audience. Broadcasters effectively vacated the role of gatekeeper, apart from the algorithms used to populate playlists for listeners that relieve themselves of the burden of choice. The increased access to broadcasting and potential mass audiences combined with the reduced cost of producing records made independent music production increasingly viable (Hracs, 2012) and reduced the record labels’ role as gatekeeper. With fewer constraints on who could compete for audience attention the likelihood that a record label could manufacture a star through their connections was steadily degraded. The degradation was the result of both the waning importance of radio and the increased competition that artists face on streaming platforms.

Without the gatekeeping of broadcasters and with the constantly expanding amount of recorded performance commodities appearing on the platforms attempts to market new talent becomes increasingly fraught. Traditionally high cost promotional and
near-bribe “payola” gambits were used to support prospective stars by getting their records in prominent shelving locations and radio stations (Benner & Waldfogel, 2016). The increasingly crowded marketplace for music along with the waning influence of traditional broadcast media rendered the marketing of new talent prohibitively risky (Benner & Waldfogel, 2016). Major labels responded “by shifting their efforts away from the discovery of new-to-the-world talent for their new music releases, toward a focus on leveraging previously successful artists” (Benner & Waldfogel, 2016). By reallocating capital away from new talent and marginal stars record labels kicked away the already shaky ladder to stardom that major labels presented to fresh talent.

The result of record labels’ strategic shift is a cadre of stars insulated from the intense competition in the lower ranks of the music industry by the financial support of their labels and their already accrued status as socio-culturally important figures. Superstars that existed before the emergence of ODS, such as Beyonce, Drake, and Kanye West, exist in a sort of suspended animation. The previously existing pop music stars remain royalty without potential usurpers in sight, and those who want to unseat them are thrown into competition for their own subcultural fiefdom. The old and dying system of pop music stardom contingent on mass audiences persists only through the force of capital concentrated in the hands of major record labels, while a new system of stardom grounded in highly segmented audiences is still in utero. What stardom will become is impossible to tell, but what is clear is that the old system of stardom generated out of the mutual reliance of record labels and broadcasters on the cultivation of mass audiences is precariously situated.
1.5 Conclusion

The rise and fall of pop music stardom as it existed in the era of radio and television tracks with the development of capitalism in general, the transition from the Fordist to post-Fordist period. Pop music stars as we knew them emerged in the mid-1950s at the peak of the Fordist moment wherein the labor process was defined by mass production and mass consumption. Popular music and popular culture take on the form of Fordist production -- music for mass consumption and generalized consumers. In the current post-Fordist moment masses of atomized workers form the work force that drives an equally atomized just-in-time system of production. Likewise, pop music artists have, in large part, been liberated from the grasp of the popular music factory system of major labels and traditional broadcasting. Though, those same artists are now contingent on the similarly exploitative on-demand streaming platforms. Those who remain in the major label system can be understood as a labor aristocracy of sorts that has managed to retain its fame and fortune, though under the constant threat of irrelevance as cultural history marches on. A similar parallel can be found for consumers whose consumption is now structured around the largely post-Fordist logics – mass consumption of the same commodities becomes masses of individuals consuming increasingly specific commodities. Ironically, despite its success in preserving stardom the old way of making music and producing stars has become an anachronism amidst a pop music landscape increasingly organized around increasingly niche tastes and micro celebrities.

Returning to the realm of ideology and the construction of identity that the Marxist and celebrity studies literature theorized, the material grounding developed above enriches those analyses. In case of Marxist critical theory, the analysis in this paper
reveals the connective tissue between the indirect domination of capital and the discourses that shape our understanding of the world. The concrete analysis of a concrete moment laid out in the body of this paper provides a framework for understanding the relation of commodity production, beyond its abstract centrality to capitalist society, to cultural production and the contradictions that arise between worker, consumers, and capitalists. The descent into the hidden abode of production reveals how the contradictions that arise out of a disjuncture in relations and means of production in linked industries produce the conditions for anachronistic modes of persist in the face of massive technical and structural change. Most importantly, by developing an analysis of the concrete economic connective tissue between the circulation of capital in the abstract and the use value of pop music performance commodities the active and constitutive role audiences play in the production of the performance is revealed. The inclusion of the audience in the productive process revealed the ligature between commodity production and culture. With new connections drawn between capital and culture new sites of potential rupture with capital are revealed and new possibilities for resisting capital’s power are opened.

Identity, the focal point of the celebrity studies literature, also takes on a new gloss in the light of the above analysis. It opens new avenues for understanding how identity is shaped by the economic structure of cultural production. By understanding the structural relationship between cultural production and broadcast media as something mediated and produced by the audience changes in the way identity manifests itself in contemporary culture. Various identities along the lines of gender, sexuality, race, nationality, politics, relationship status, among many other categories have existed for
long stretches of time have existed in relatively self-contained sub-cultural spaces outside of the view of mainstream culture. However, with the advent of the internet the sub-cultural has become increasingly visible. This development has been driven by the self-activity of those groups, especially historically marginalized groups, and has frequently taken on anti-systemic and anti-capitalist character. The response by capital is not one directly concocted by individual capitalists to subvert movements contra to capital, rather the response is emergent. This paper explores one such response by capital, oppressed groups and sub-cultures in validating themselves publicly through their self-activity they present themselves as audiences that capital can subsume into its productive apparatus via technologies of surveillance.

The significance of this paper is not only that it lays out the way that broadcasting and recording capital has restructured itself, but also that it has revealed tensions and potential sites of rupture with capital. By situating a segment of cultural production within the context of the production and circulation of value potential sites for disruption and blockage in the circuit of capital are revealed. Moreover, by revealing one part of the ligature between capital and culture we can more accurately apply a critical lens to capital in the hopes of mapping out a democratic and liberatory future.
CHAPTER 2 THE CONTRADICTIONS OF RENTIER CAPITAL IN THE MUSIC INDUSTRY AND HOW ON DEMAND STREAMING RESOLVED THEM

The music recording industry was in crisis between 1999 and 2014. Industry revenues in the United States fell precipitously from $23.7 billion to $7.7 billion in that time period (RIAA). The downward trend would not be reversed until the introduction and widespread adoption of on-demand streaming services as the primary means of listening to recorded music. Record labels and their industrial organizations claimed that this drop in revenues was due to the increased usage of digital file formats and the sudden emergence of peer-to-peer file sharing platforms that facilitated the practice of music piracy. In effect record labels argued that they were unable to compete with freely available versions of their recordings. Following the introduction and adoption of on-demand streaming technologies that restored revenue growth, record labels argued that streaming services restored the competitiveness of “legitimate” music distribution relative to pirated music.

This paper argues that record labels and their revenues are best understood in the context of Karl Marx’s theory of rents and David Harvey’s monopoly rents, an extension of Marx’s theory of rents. As such, record labels are better understood as firms more akin to landlords that rent access to a property rather than as industrial capitalists that sell commodities transferring full property rights to the purchaser. It is further argued that the sales of recordings imprinted on physical media constrained the frequency with which
record labels could accrue rents from their recordings causing them to rely on listeners replacing previously purchased recordings with new media formats, e.g. replacing vinyl records with CDs, to remonetize their pre-existing catalogs. The introduction of digital file formats and technologies that allowed listeners to convert previously owned recordings to digital formats without purchase in the late 1990s disrupted the album-replacement-cycle largely cutting firms off from a vital stream of revenues and source of profits. The introduction and widespread use of on-demand streaming services restored revenues and profits because it freed record labels from the album-replacement-cycle by allowing them to realize rent payments each time a listener accessed a recording.

*Figure 5 Music recording industry revenues by year and media type, 1973-2020 (Inflation adjusted to 2021 US Dollars)*

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4 The transition to streaming was facilitated through an ongoing anti-piracy campaign, record label investment and promotion of precursor technologies, the increased ease of access facilitated by streaming platforms, the transition to streaming as the primary means of “record sales” by major retailers such as Amazon and the Apple iTunes Store, and the widespread use of cellphones and other devices capable of streaming music.
The crisis of digitization, the restoration of revenues, and the restoration of profits following the introduction of streaming is illustrated in figures 5 and 6. Beginning in 1999 there is a clear downward trend that slows in the late 2000s, and terminates in 2015. It should be noted that the revenues from the sale of digital recordings were trivial prior to 2004 because record labels were unable to create viable digital marketplaces until the introduction of the iTunes Music store. While the emergence of digital music marketplaces and their popularization slowed the decline in revenue and restored profit rates to at or slightly above 2000 levels the rapid growth both in terms of revenue and profits does not really begin until the widespread adoption of on demand streaming in the early 2010s.

*Figure 6 “Big Three” average, Sony, Universal, and Warner profit rates relative to their 2000 profit rates, 2000-2020*

The profit rates used to construct figure two were calculated using the annual financial statements required by the SEC for the record labels or the companies that owned them (see bibliography for complete list of reports used). The profit rates were
calculated by dividing operating income (or equivalent measure) over operating costs (or equivalent measure). This formulation results in an approximation of profits divided by costs. Operating costs are the costs associated with the primary productive operations of the business or business unit. Operating income is the revenue less the costs associated with the primary productive operations of the firm. Both exclude costs or income from finance or other non-recording operations. Given that accounting practices are not uniform across firms, for instance there might be variation in what counts as “operations,” there are implicit differences in the exact makeup of each firm’s profit rate. Additionally, profit rates may be impacted by large one-off expenditures like stock payouts to exiting executives or the issuance of stock options to employees. Consequently, the mean of the three major labels is taken to be most representative of the major label’s profit rates.

Figure 6 demonstrates that firms remained profitable throughout the duration of their crisis of revenue. In line with the drop in revenue there was a drop in profitability. Profitability is restored to levels that were, on average, slightly above the average profit rate for the major labels in the year 2000. This restoration corresponds to the opening of the iTunes Music Store and its establishment as a popular and legitimate digital audio retailer. Profit rate growth stagnated or declined until streaming services become popular in the late 2000s and early 2010s. Moreover, as streaming services became increasingly prevalent, so did the Big Three’s profit rates. The claim made in this paper is that those three moments, decline, restoration, and growth of profit rates, are tied to the contradictions faced by knowledge-lords, a class of rentier capitalists, whose rent payments are tied to the frequency with which access to recordings can be sold.
To make these arguments this paper relies on three primary sources. The first is industry level sales revenue and unit sales data from the Recording Industry Association of America. This data set summarizes total sales in terms of units and revenues based on format by year from 1973 to 2021. The second source is a set of public reports from industry organizations -- the Recording Industry Association of America, International Federation of the Phonographic Industry, and Performance Rights Service for Music. The third source is the annual financial reports of the three largest record labels – Warner Music Group, Sony Music Entertainment, and Universal Music Group – and their parent companies.

Those three record labels form the basis of the study for several reasons. First, they are the only major labels to survive the process of consolidation that happened over the course of the 2000s and early 2010s. Major label EMI was split between Sony, Universal, and Warner in 2011 and Sony’s purchase of BMG that was completed in 2006. Second, the “big three” account for 68% of all global sales – Universal 32%, Sony 20%, and Warner 16% -- with the remaining 32% accounted for by a myriad of small and independent labels and serve as a good generalization of the macro trends within the industry. Third, their financial reports are publicly available and are an accessible source of data to draw qualitative assessments of the industry by the firms and quantitative data from which profit rates can be calculated.

The paper proceeds in four sections. The first establishes record labels as knowledge-lords whose primary source of revenue is derived from monopoly rents. The

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5 Warner Music Group was a subsidiary of AOL Time Warner from 2000 to 2004.
6 Sony Music Group is subsidiary of Sony Group Corporation.
7 Universal Music Group was a subsidiary of Seagram Company in 2000 and a subsidiary of Vivendi from 2001 to 2020.
second analyzes the constraints that physical media places on the record industry and its ability to realize monopoly rents. The third section analyzes the disruption caused by the introduction of digital media formats and relates the crisis to the underlying political economy of rents that forms the basis for record industry revenues. That section also reflects on the restoration of profit rates that begins in 2004. The fourth section analyzes the restoration of revenues and the growth of profits following the introduction and adoption of streaming technology and considers the new set of contradictions that arise out of the transition to streaming.

2.1 Musical recordings, the commodity form, and class

A description of what record labels are and what record labels sell when they “sell” a recording is necessary before an analysis of the relationship of record labels to value can be taken up. Without a clear understanding of the commodity that listeners purchase the commodity’s relationship to value and its circulation cannot be fully understood. The analysis in this section begins with analysis of the musical recording and its appearance as a knowledge-commodity, intellectual properties whose cost of reproduction is trivial (Rotta & Teixeira, 2012; 2018; 2022). It is further demonstrated that the basis for the revenues accruing to record labels are knowledge-rents derived from the monopoly rents associated with a given recording. Following an analysis of the recording’s commodity form, labels are reframed from industrial capitalists to knowledge-lords, capitalists whose revenue is primarily derived from knowledge-rents rather than directly appropriated value. Much like industrial capitalists, record labels utilize waged labor to produce recordings. In addition to waged labor, they are also
dependent on the unwaged discursive labor of audiences which facilitate the production of meaning, an integral part of the recording.

2.1.1 What record labels sell: access not recordings.

Recordings “sold” to listeners exist as composite commodities composed of two components. The first is the knowledge-commodity (Rotta & Teixeira, 2012; 2022; 2018) which is the collection of intellectual properties that a musical performance is comprised of – the lyrics, composition, and recorded performance. The second component is the medium that contains the knowledge commodity, the recording, and renders it listenable – the vinyl, plastic, magnetic tape, or digital file.

Framing the recording purchased as a composite commodity creates the possibility for a dialectical approach that affords us the opportunity to understand recordings and their forms of appearance as contradictory. The various forms that recordings take create possibilities – the capacity to listen to recordings, enclose them, and sell them -- and constraints – the limitations on where they can be listened to and the frequency with which they can be sold. The relationship between the two parts of the sold recording and the relationship of the sold recording to value are discussed in this section. It is demonstrated that the revenues that accrue to record labels are primarily rents.

The purchase of a recording on physical or digital media is the purchase of a specific instance of that recording, not the recording itself. The purchaser has many of the standard property rights associated with most other commodities; they are free to use that instance in any number of ways whether it be listening to it, displaying it as a collector’s item, or selling their copy. All those things are strictly limited to what the purchaser does with their purchased copy. The rights of usage do not extend beyond the purchased object
to the musical content imprinted on, whether the media is physical or digital. The listener’s purchased copy may not be replicated and transferred to others, incorporated into another work, or played in a commercial setting without consent from the owner of the copyright or publishing agency.

With the limitations placed on the “ownership” of recordings the political economy of the record industry comes more clearly into focus. The purchase of a recording on any medium is much like the purchase of a ticket to a concert. In the context of a concert the purchaser is granted access to a concert along with many other people, but concert goers may not make a recording of that concert. The purchase of a recording regardless of the media it is imprinted, is, in effect, a ticket that grants access to a record label’s recording, though recording access is granted as long as the media it is imprinted upon is uncorrupted and undamaged.

The parallels between concerts and sold recordings do not end at the ticket metaphor but also extend to the cost of expanding the number of listeners. The live concert is a non-rival good – a good that is not depleted when consumed by a single user – and as such the concert does not have to be reperformed for each audience member, rather the number of tickets that can be sold is only constrained by the size of the venue. The “master” recording – the original recording possessed by the record labels – is similarly scaled with trivially small costs. Once the recording is made, the cost of reproduction is the cost of preserving the medium that the master recording exists on. In the case of most recordings made between 1945 and 1979 the cost of reproduction would be the cost of maintaining the appropriate environment for storing magnetic tape. In the current period it would be the cost of maintaining the hard drive or server the master
recording is stored on. In an analogy to industrial production the recording is a steel die that does not deteriorate as long as it is stored in appropriate conditions.

2.1.2 Record labels as knowledge-lords and the process of knowledge-rent accumulation

With the above in mind, the record label merely appears to the world as an industrial capitalist that transfers full ownership rights to a commodity’s purchaser. The sale of a recording only gives the appearance of owning the recording regardless of its medium. What is sold is access to the recording imprinted on the media that was purchased. Because access and not ownership is the basis of the exchange, the sales of records are best understood through the lens of rents. In this view, record labels are seen as knowledge or culture-lords – possessors of intellectual properties -- that lease access to knowledge-commodities – enclosed information (Rotta & Teixeira, 2012; 2018; 2022). As such, the revenues accumulated by record labels are better understood through the logic of rents and rent extraction.

The primary driver of the exchange-value of knowledge-commodities is the knowledge-rent that knowledge-lords, in this case record labels, extract from their purchasers or those who access recordings through streaming platforms. Marx’s analysis of rent is grounded in the fact that “[l]anded property is based on the monopoly by certain persons over definite portions of the globe, as exclusive sphere of their private will to the exclusion of others” (Marx, 1967, p. 615). While Marx’s analysis of rent was limited to agriculture and mining, his analysis can be extended to similarly “relatively permanent” commodities (Harvey, 1974, p. 240). Intellectual property operates on much the same
principal. Record labels in as much as they can exclude others from their recordings are able to extract monopoly prices from those who seek access to them.

The rents arising out of musical knowledge-commodities are primarily derived from monopoly rents, a category developed by Marx and extended and applied by David Harvey. Harvey describes the two cases of monopoly rents as:

The first arises because social actors control some special quality resource, commodity or location which, in relation to a certain kind of activity, enables them to extract monopoly rents from those desiring to use it. In the second case, the land or resource is directly traded upon (as when vineyards or prime real estate sites are sold to multinational capitalists and financiers for speculative purposes). Scarcity can be created by withholding the land or resource from current uses and speculating on future values. Monopoly rent of this sort can be extended to ownership of works of art (such as a Rodin or a Picasso) which can be (and increasingly are) bought and sold as investments. It is the uniqueness of the Picasso or the site which here forms the basis for the monopoly price. (Harvey, 2002, pp. 94-95)

The rents extracted from listeners by record labels are largely monopoly rents of the first type, fees for access and use. Monopoly rents of the second type occur but with much less frequency. Examples of the second type include Michael Jackson’s purchase of the Beatles’ catalog of songs and recordings and Bob Dylan’s sale of his catalog.

A record label’s capacity to prevent non-paying listeners from accessing their recordings is determined along two axes: property rights codified into law and technology. The record industry is dependent on a state that defines and enforces their
right to exclude others from access and the capacity to duplicate records. In context of the music industry, copyright law forms the legal basis for the use and duplication of recordings. In the specific context of the United States, copyright protections were not extended to musical works until 1972. For works produced before 1972 their copyright protection is contingent on laws at the state level. Copyright protections provide legal recourse for the unauthorized use of a recording, the result of which is frequently financial restitution to the owner of the copyrighted material. As such, copyright law exists as a threat of potential action that must be enforced by the owners of the copyright through the discovery of unauthorized use by the owners of copyrighted material and their capacity to file suit against the accused.

In terms of technology, a record label’s ability to exclude listeners from their recordings is contingent on the ease with which the recording is duplicated and shared. Prior to the introduction of digitized media and widespread availability of CD burners the pirating of recordings were limited in scope due to the difficulty of replicating a vinyl record or cassette tape in an efficient manner. Moreover, prior to the introduction of internet communication the capacity to distribute pirated copies was limited due to the pirates’ lack of access to a mass distribution network.
Figure 7 The circuit of capital for record labels prior to streaming

Constant capital

The non-labor inputs e.g.
- Recording equipment
- Intellectual properties
- Record pressing equipment
- Vinyl, plastic, and magnetized tape

Archive/ inventory of recordings
The set of all recordings held by the record label

M
Money Capital

C
Commodities used in the productive process

Knowledge-commodity/ recording production
Produced through the labor of artists, recording staff, and listener discourse

Pressing of records
Recordings imprinted on media, physical or digital, by factory/ tech workers

C'
The media with imprint of the recording

M'
Listeners purchase album realizing the value of the recording in money form at point of sale

Variable capital

The labor inputs e.g.
- Performers
- Song writers
- Sound engineers
- Producers
2.1.3 Labor and the production of records

While what is sold is access and the basis for profits is rent, the record label parallels industrial capital and differs from rentier capital in an important respect, the immediate centrality of labor to the productive process. The process of producing recordings and selling access to them is contingent on wage labor. Performers, songwriters, producers, studio technicians, and those who work in the factories are all hired as wage labor under the direction of the label. What those workers produce is appropriated from them by the label who realizes the rents – derived from the knowledge-commodity – and surplus value – derived from the production and imprinting of knowledge-commodities onto media.

There is a distinction between the labor process used by record labels and industrial capitalists - record labels’ profits and revenue streams are contingent on the unpaid labor of the audience and its discourse which gives a recording its social meaning, the basis for a recording’s monopoly rents. The basis for the monopoly rents associated with a recording is the social and cultural meanings associated with the recording. Without meaning, no matter how trivial, a recording has no use value, thus no basis for exchange and the appropriation of monopoly rents by the record label. The meaning associated with a recording is a discursive process between performers and their audience, the discourse among audience members, and the discourse between mass media, the audience and artists. Following Stuart Hall, the discursive process that produces the meaning associated that is homologous with the capitalist circuit of capital. Sign vehicles are produced/encoded and hold no meaning until they are realized/decoded (Hall, 2005).
There is a necessary moment of productive consumption, resources and energy being transformed into recordings, and a moment of consumptive production, the creation of meaning through the process of listening and discourse by the audience. In this way we can think of audience labor as a constituent part of the productive process, without their discursive activity regarding a song or album, the social basis for a recording’s monopoly rents do not exist.

2.2 Physical media, technical change, and the album replacement cycle

The record label’s rent for access model lends itself to a scheme much like the landed property owner rent extraction, payments for time limited access. This is because a record label’s property is both permanent, inexhaustible, excludable, and has a particular use-value – the content of the recording – which distinguishes it from other commodities. The time limited fee for access model is well suited for the music recording industry because it allows the label to realize knowledge-rents for a specific recording repeatedly from a given consumer, unlike the record sales model that accrues only one rental payment. This model is not entirely unfamiliar to the music industry. Such payment structures have been the basis for the Music publishing firms which receive payments for each use of a song’s composition and lyrics, the elements that are realized in performance, not the recording itself.

The use of physical media by record labels makes possible the capture of monopoly rents by the record label while simultaneously constraining their capacity to extract those same rents. The imprinting of a recording onto a physical medium, like a cassette tape, makes possible the commodification of a recording by making the master recording replicable and accessible to consumers. Prior to the MP3 file format physical
media was the sole means of replicating and distributing a recording on a mass scale. While physical media makes possible the sales of records it forecloses the possibility of repeat rent extraction from music consumers. Sale of physical media constrains the realization of rents because the sales of physical media grant access to the recording until the physical media becomes unusable. Once a record has been sold to most of the fan base the value of that record to the firm is drastically reduced as they are only selling replacement copies or to the few new fans and stragglers who have not yet bought the album.

The one-time extraction of knowledge-rents from the consumer via physical media sales poses a serious problem for record label – they have inventories, whose rents can’t be realized in mass until a new popular format emerges. Record labels overcome that constraint by either continuously produce new desirable recordings to sell, devise ways to ‘resell’ previously marketed catalog items, or some combination of the two. If the record label fails to effectively execute those possible courses of action the threat of going out of business is all but certain.

In the era of physical media, the primary means of maintaining the possibility of extracting rents is the production of new recordings which can be imprinted on physical media and sold. The reason for this is that the production of new recordings, especially new recordings by established artists, carries with it greater potential for mass sales than repackaged recordings that have already been marketed. In the latter case, the potential number of listeners is constrained by the number of listeners with a level of fandom that would compel them to buy what was effectively a duplicate of the copy they already own. While the potential purchaser base is larger for new recorded performances, the
production of new recordings is both costly and carries with it a substantial amount of risk. Thus, the production of new recordings is a calculated risk taken on by record labels in the hopes of accumulating rents.

The resale of recordings come in two forms: resale through repackaging and the resale of a recording on a new medium. In the case of the first, record labels repackage previously published recordings as special editions, compilations, greatest hits records, or as albums with bonus features. As put by Warner Music Group regarding their reprint label Rhino:

We maximize the value of our catalog of recorded music through our Rhino Entertainment business unit and through activities of each of our record labels. We use our catalog as a source of material for re-releases, box sets and special package releases, which provide consumers with incremental exposure to familiar music and recording artists. (Warner Music Group Corp., 2020, p. 13)

The clear benefit of repackaging is that input costs are low relative to the production of a new album and relative certainty that units will be sold. Repackaging is limited in that its success is contingent on the existence of a fanbase willing to own multiple copies of a record or single on the same media format.

The reselling of recordings on new media formats has a greater potential for sales, in contrast to the process of repackaging recordings on the same media format. As new technologies arise and are adopted by consumers those same consumers repurchase their old music collections on the new format e.g., listeners convert from vinyl and cassette tapes to CDs. The introduction of new media formats and subsequent repurchase of the record on the new medium is the album-replacement cycle (Arditi, 2020, p. 16). The
cycle of old media being replaced by new media boosts record label revenues by allowing them to re-realize monopoly rents from already marketed recordings. In addition to the re-realization of monopoly rents. Those monopoly rents are frequently sold at inflated prices, which was the case in both the transition from mono to stereo record formats (Chapple & Garofalo, 1977, p. 53) and from LPs and cassettes to CDs (McLeod, 2005, p. 526).

The reselling of records imprinted on new mediums takes advantage of and fuels transmediation -- the generalized shift from one medium to the next (Arditi, 2020, p. 6). The process of transmediation has been a feature of the recording industry for its entire duration beginning with the transition from wax cylinders to the gramophone (Arditi, 2020, p. 6). Early in the physical media era the process of transmediation was chaotic featuring rival record production firms competing over whose format should dominate. This was the case in the early period of the phonograph which was marked by rival formats marketed by Columbia Graphophone Company and Victor talking machine company (Chapple & Garofalo, 1977; Frith, 2006). By 1952 century record labels recognized the challenges of the non-standardized record playback speeds and formats and worked to establish the Recording Industry Association of America to standardize record playback (Chapple & Garofalo, 1977). In 1957 major labels would violate their commitment to that standard by introducing stereo records. The process of transition from mono to stereo was accelerated by major labels who raised the price of mono records to that of stereo records (Chapple & Garofalo, 1977, p. 53).

The process of transmediation accelerated by major label intervention seen in the transition from mono to stereo formats is mirrored in the rapid transition from cassette
tapes to CDs. In this instance the transition was not first initiated by consumers then accelerated by labels as was the case for mono records to stereo records. Instead, this transition was initiated by labels by incentivizing record stores to carry fewer cassettes and more CDs (Arditi, 2020, p. 7). In the late 1980s major labels, the de facto industry wide trendsetters due to firm size, began refusing to accept returns on unsold cassette and LP inventories from retailers (McLeod, 2005, pp. 525-526). This policy choice by the major labels removed “the safety net of record labels buying back unsold albums to protect the retailers against the uncertainty of consumer demand”. Facing a fundamentally uncertain market for new releases without the possibility of inventory buy backs on cassette tapes incentivized the sale of CDs and resulted in a rapid transition away from cassette sales by retailers (Arditi, 2020, pp. 8-9).

2.2.1 The introduction of digital media and the ensuing crisis

While record labels actively worked to accelerate the process of transmediation for physical media, thereby accelerating the album-replacement cycle, the entrance of the MP3 and other digital file formats did not receive the same reception by record labels. Instead, the recording industry actively resisted the introduction of the MP3 format and portable devices capable of playing them. One example of this is *Recording Industry Association of America and Alliance of Artists and Recording Companies v. Diamond Multimedia Systems, Inc*, a lawsuit filed by the RIAA against Diamond Multimedia Systems which sought an injunction preventing the production of Diamond Multimedia Systems’ Rio MP3 player (RIAA v. DMS, 1998).

The RIAA argued that the Rio MP3 player violated the *Audio Home Recording Act of 1992* on the grounds that the MP3 Player was a digital audio recording device that
was “not registered with the copyright office, it doesn't incorporate [a serial copy management system], and it doesn't pay royalties” (Hu, 2002). In addition, the RIAA argued that the Rio facilitated the circulation of illegal copies because it used a removable memory card that “a Rio user could record music on the memory card, and then give that card to any other Rio user” and that the ease of sharing the device facilitated represented a substantive threat to the viability of the recording industry (RIAA v. DMS, 1998). In response DMS argued “that if a peripheral device were reliant on a personal computer for any step in the recording process thereby precluding truly ‘independent’ recording the peripheral device has no ‘recording function’ for purposes of the AHRA” and as such was not a recording device under AHRA (RIAA v. DMS, 1998). The district and appellate courts ruled in favor of DMS and against an injunction against the production of the Rio MP3 player. This court ruling opened the door for the legal use of MP3 players and, as a result, established the feasibility of the digital format for consumers.

The basis for their resistance to the MP3 format comes through clearly in RIAA v. DMS. The MP3, other file formats, and software that allows users to extract the audio information from a CD – referred to as “ripping” a CD -- make possible the duplication of copyrighted recordings held by record labels. The availability of digital audio duplication technologies threatens their business in three ways. The first is that digital audio formats facilitate music piracy. The second is that the digitization of music terminates the album-replacement cycle. The third is that digital file formats facilitate the ‘unbundling’ of singles from the full album.
Those three consequences of digitization are directly related to the constraints placed on monopoly rent extraction by the physical format. In the case of online music piracy, the record industry’s ability to enforce property rights was nullified by the digital format. Without the need to replicate the physical media to replicate the recording imprinted on that media the process of pirating recordings became a trivial task. Moreover, the proliferation of internet access increased the ease with which those replicated recordings could be shared. The termination of the album replacement cycle undercut the music recording industry’s capacity to remonetize their catalog of already marketed recordings on new media, which allowed them to momentarily escape the limitations physical media place on their capacity to collect rents repeatedly. The process of unbundling singles from the full album facilitated by the digital file format undercut
their capacity to remonetize whole albums in a similar manner. Rather than repurchase a whole album, listeners can purchase only the songs they want and forgo the full cost of the album.

Two other factors were at work in addition to the effects of digitization. The first is that the market for music retail became increasingly concentrated which lessened record labels’ bargaining positions in the division of revenues between record labels and retail outlets. The increased consolidation of record sales arises first in the context of physical sales through the transition from small independently owned record stores to national record store chains and large retailers such as Walmart and Best Buy. This trend is further intensified in the digital era with the dominance of a few legitimate music retailers and one primary retailer, iTunes. The second is that the drop in recording industry revenues occurred over the course of two economic recessions, the bursting of the dot com bubble in the early 2000s and the 2008 financial crisis which reduced effective demand for music via reductions in available incomes and generalized economic uncertainty.

The recording industry’s fear that digitization would lead to decreased revenues appears to be validated in the years following RIAA v. DMS, though as mentioned above the story is more complicated than the effects of piracy. Inflation adjusted recording industry revenues peaked in 1999 at $23.7 billion in terms of 2021 dollars (Recording Industry Association of America, 2022), as seen in Figure 5. Over the next 16 years industry revenues would fall every year except 2004 before reaching a bottom in 2015 at $7.7 billion in terms of 2021 dollars (Recording Industry Association of America, 2022). For the years reported by the RIAA, 1973-2021, the revenue for 2015 was a record low at
$7.7 billion (Recording Industry Association of America, 2022). Further illustrating the depths of the crisis between 2009 and 2017 revenues were lower than any point prior to the 1999 peak (Recording Industry Association of America, 2022). It is also worth noting that total unit sales did not fall until well after the introduction of on-demand streaming in the late 2000s, as seen in Figure 6. The significance of this point will be taken up in the context of unbundling.

**Figure 9** Recording industry total unit sales by format, 1973-2020

![Recording Industry Total Unit Sales by Format, 1973-2020](image)

**2.2.2 Piracy and the perceived threat to the music industry**

Recorded music piracy, if understood as the illegal replication and distribution of recordings, was not present for much of the early history of the record industry. Alex Cummings provides an apt summary of this period:
Congress declined to provide copyright protection for recordings in 1909 [...] In the 1890s firms copied each other’s recordings on wax cylinders and disks, and record collectors began copying rare and out-of-print disks in the 1930s. For a time, “bootleggers” of obscure jazz, classical, folk, and blues recordings enjoyed the major record companies’ benign neglect. “It wasn’t worth the trouble to put out that moldy stuff,” a record executive explained in 1950. “It never sold anyway.” Copyright-based industries such as book and music publishing found that they had little clout in Congress during the Progressive Era, and their repeated attempts to pass a copyright law for sound recordings attest to the surprising degree of resistance that record companies encountered during the first half of the twentieth century. (Cummings, 2010, p. 660)

By the 1950s court and legislative interventions into the replication and distribution of unlicensed copies primarily “focused on the ‘good will’ that the public felt toward a particular recording; when pirates copied records, they unfairly profited from that popularity after the original producers had spent great sums of money to promote the music” (Cummings, 2010, p. 660).

It wasn’t until the 1960s and 1970s that copyright interests were seriously addressed by US courts or legislatures (Cummings, 2010, p. 660). In 1971 the first substantive music copyright legislation, the *Sound Recording Act of 1971*, was passed. That legislation was followed by the more expansive *Copyright Act of 1976*. In 1998 existing copyright legislation was extended by the *Digital Millennium Copyright Act* and the *Sonny Bono Copyright Term Extension Act*. In 1997 the first collective lawsuit filed by record labels via the RIAA was filed against three websites which illegally distributed
digital copies of recordings and would be settled out of court (Jeffrey, 1997). The RIAA would continue this approach suing two more websites in 1998. In 1999 the RIAA would file suit against the peer-to-peer (P2P) file sharing site Napster bankrupting the defendant. Several more similar suits would be filed against other P2P websites and applications and won by the RIAA. They would pursue cases against individuals as well.

The potential harm that digital piracy poses to record labels is relatively direct, every single or album pirated by a listener is a single or album whose monopoly rents are not realized. In effect, online pirating platforms are firms competing with labels for the distribution of nearly identical commodities, the difference the possibility of pirated music being of lower sound quality or introducing computer viruses. The consensus among the empirical economics literature, using survey data (Zentner, 2006; Waldfogel, 2010; Michel, 2006) and country level cross-sectional data (Hui & Png, 2003), on the impact of piracy on music sales is that it does decrease sales. There is one notable exception Oberholzer-Gee and Strumpf (2007) who used an instrumental variable approach to show that there was no statistically significant effect of piracy on sales. Among the papers that identify a decrease in sales the degree to which there was a negative impact was mixed.

The description of the threat piracy posed to the recording industry is much more dire when described by the industry than the mixed response from the economics literature. The record industry presents piracy as an existential threat, rather than one among many causes for the crisis the industry was facing. The threat of piracy and the assumed loss of revenue from piracy was presented to the public as the threat to the music industry and the basis for its sudden downward slide in the 2000s and the first half
of the 2010s. The International Federation of the Phonographic Industry’s (IFPI) described “[t]he spread of piracy, both of CDs and on the internet,” as “the greatest threat to the legitimate music industry” (International Federation of the Phonographic Industry, 2000, p. 1). Major record labels presented the extent of piracy in extremely dire terms with Vivendi, Universal Music Group’s parent company, claiming in 2009 “that for every twenty songs downloaded from the Internet only one song is legally purchased” (Vivendi, 2010, p. 32). Warner Music Group in their 2005 annual report noted that they are in increasing competition with “technological developments that facilitate the piracy of music, such as Internet peer-to-peer file-sharing and CD-R activity” (Warner Music Group Corp., 2005, p. 75) and the free music piracy offered. They claimed that there were potential substantive adverse consequences because of the firm’s “inability to enforce our intellectual property rights in digital environments; and by its failure to develop a successful business model applicable to a digital online environment […]” (Warner Music Group Corp., 2005, p. 75).

The claims from industry representatives, like the IFPI, and major record labels are infrequently grounded in any clear research, however. They point to a threat looming over the industry but frequently fail to deliver any credible empirical evidence. Facts and figures are pitched as evidence for the impact of frequently are posited absent any discussion of methodology or cited without context from other sources. Examples of such claims include “99% of music files available online were unauthorized” (International Federation of the Phonographic Industry, 2002, p. 9), “the trade of pirate discs was worth US4.5 billion globally in 2005” (International Federation of the Phonographic Industry, 2006, p. 4), or “that 30 per cent of P2P users bought fewer CDs and DVDs, while only
six percent said they bought more” (International Federation of the Phonographic Industry, 2008, p. 18). Such claims are often accompanied by suggestions that attempts to quantify the effects of online piracy are “bound to be speculative” (International Federation of the Phonographic Industry, 2002, p. 9). Rather than a thorough presentation of well evidenced claims the music industry’s arguments about the existential threat that piracy poses is largely rhetorical. Their argument that piracy was the singular cause of the sudden drop in industry wide revenues relied on the presumption that the drop in revenue and online piracy emerged in a similar time frame they must be inextricably linked.

Despite the lack of clear and definitive evidence suggesting a causal relationship between the crisis and the emergence of online piracy, it would be difficult to argue that piracy had no negative impact on record industry sales given the evidence from the economics literature discussed above. Furthermore, from the perspective of record labels as culture-lords the erosion of their capacity to enclose and exclude listeners from recordings corroborates the empirical evidence. Prior to digitization the physical media and the content imprinted on it was difficult to replicate in large quantities, protected by copyright law, or both. The emergence of digital formats paired with widespread internet access facilitated the degradation of the tools used to effectively limit access to recordings by making the replication and costless distribution of recordings easier than it had been in the past and given Peer-to-Peer technology’s widespread use made copyright enforcement relatively difficult. Without those legal and media specific tools of enclosure effectively imposed the process of rent collection was reduced to an honor system of sorts, everyone had access to free music if they sought it out. Despite the honor
system a relatively small number of internet users regularly used file sharing services according to a Jupiter Research study cited by IFPI (International Federation of the Phonographic Industry, 2008, p. 19).

2.3 A holistic view of the crisis

An alternative holistic approach to understanding the crisis the record industry faced should be taken up given the lack of convincing evidence that the downturn was caused by the sudden emergence of piracy. While it is impossible to deny the negative effects of piracy on the music recording industry, there were significant compounding factors at work as well. Two of those factors, the termination of the album-replacement cycle and the reemergence of the market for singles, were directly tied to the process of digitization and thus to the contradictions between physical media and commodities suited to rent extraction. Other factors, like the overall economic conditions and market concentration in retail outlets, were largely exogenous to the process of transmediation.

2.3.1 The digital audio file, the end of the album replacement cycle, and ‘unbundling’

Not least among those contributing factors were the effects of how the transition to a digital format transformed consumers buying behavior by eliminating the need to repurchase an album to own it in a digital format and the need to purchase whole albums. Both cases reduce revenues by reducing the number of full albums purchased, the latter by reducing listener purchases to cheaper ‘à la carte’ song purchases rather than the more expensive full album. The former by eliminating the need to purchase albums that are already owned by consumers.
2.3.2 The end of the album replacement cycle

David Arditi (Arditi, 2020, pp. 16-17) argues that the end of the album replacement cycle was due to two factors. The first was that ‘CD ripping’ technology – software that enables the conversion of audio information on CDs to digital files stored on a hard drive – allowed listeners who already owned a copy of a recording on CD to costlessly digitize their collection. As a result, those who ripped CDs onto their computers would only purchase digital instances of recordings that they did not already own on CD. Further, the process of ripping was well within the bounds of the law, as prior court cases like *Sony Corp. of America v. Universal City Studios, Inc.* and the Audio Home Recording Act of 1992 permitted such activities. As such, there was no legal basis to prevent this activity through litigation.

Enhancing the effects of CD ripping were the limitations of existing copyright legislation. Arditi (Arditi, 2020, p. 17) and Lawrence Lessing (Lessing, 2004) argue that there was substantial legitimate P2P file sharing usage. It was within the bounds of existing copyright law to download music that they had owned on previous formats, such as cassettes or vinyl (Arditi, 2020, p. 17). Furthermore, P2P services constituted a library that allowed listeners to find recordings that were unavailable in record stores and did not yet exist on record label approved Internet stores, thus constituting a legitimate acquisition (Arditi, 2020, p. 17; Lessing, 2004, p. 68). The legitimate usage of P2P services further reduces the likelihood that previously owned physical format recordings would be converted to digital through repurchase.

The process of accumulating rents from transmediation was stunted because of a costless, relatively easy, and accessible digitization process. The transition from CD to
digital did not necessarily involve the repurchasing of old media by listeners who had previously purchased the album. This is something explicitly recognized by the IFPI stating that:

The recent fall in CD sales [is attributable] to a maturation of the ‘CD-replacement cycle’ in the largest markets, whereby consumers have repurchased albums on CD that they had previously bought on cassette or LP. The amount of direct replacement of titles purchased on CD has never been researched and is unknown. (International Federation of the Phonographic Industry, 2002, p. 8)

The maturation of the CD-replacement cycle meant that record labels had few means to collect rents on already marketed catalog items eliminating a near costless revenue stream that had become vital to the industry. Without revenues from the reselling of records in new formats labels are forced to rely on the costly and risky production of new recordings. That risk is enhanced by the lack of an auxiliary revenue stream, in this case the reselling of old recordings on new formats, acting as a risk sink.

2.3.3 The consequences of ‘unbundling’

The transition to digital media imposed another constraint on the recording industry, the unbundling of individual songs from whole albums. Unbundling in the context of the record industry means the sale of singles – individual songs or songs from a larger work sold in groups of three or less. Take the Beatles album Revolver as an example, unbundled it could be sold as individual tracks, such as “Tax Man,” or two songs, such as “Eleanor Rigby” and “Yellow Submarine”. In the digital era singles typically take the form of individual songs.
The digital file format facilitated the unbundling of albums into singles because it, in contrast to past iterations of singles, was a costless transformation. Digital albums are nothing more than bundles of files sold as a group and, as such, can be split and sold without the cost of manufacturing separate vinyl records, cassette tapes, CDs. Further facilitating this process was the storage constraints faced by consumers on their computers and MP3 players. The space constraint in the early period of digital audio incentivized consumers to purchase only the “essentials,” those tracks that they would certainly want to listen to, rather than the album that they were released on. Unbundling was a concern that labels were aware of and concerned about appearing frequently in annual financial reports. Warner Music Group registers its concerns in 2011 stating:

[…] the transition to greater sales through digital channels introduces uncertainty regarding the potential impact of the “unbundling” of the album on our business. It remains unclear how consumer behavior will continue to change when customers are faced with more opportunities to purchase only favorite tracks from a given album rather than the entire album. (Warner Music Group Corp., 2011, p. 25)

While the single has existed as a format in the modern recorded music industry for its entire duration, the popularity of singles as a format has varied as the recording industry transitioned from one medium to another. Prior to the introduction of CDs, the sales of singles, in terms of total units sold, was relatively substantial comprising between 37% of all units sold in 1973 and 21.8% in 1983 the first year CD sales were registered in the RIAA U.S. Recorded Music Sales Database (Recording Industry Association of America, 2022). In the CD era single sales were at their peak in 1997 making up 11% of
all units sold across all formats (Recording Industry Association of America, 2022). The year following Apple’s 2003 launch of its iTunes Music Store the singles went from comprising 1.2% of all sales in terms of units to 14.4% with digital singles accounting for most of those sales (Recording Industry Association of America, 2022). By 2008 digital singles would make up more than half of all units sold and would comprise greater than 60% of all units sold through 2021, excluding streaming units (Recording Industry Association of America, 2022).

Figure 10 Total unit sales between albums and singles

While revenues were on average declining between 1999 and 2013 the rise of the digital single propelled total unit sales rapidly upwards peaking in 2008. From Figure 9 it’s clear that the rapid increase in digital singles sales was insufficient to overcome the shrinkage in revenues from decreased CD sales. This is because singles, regardless of
format, are sold at a lower cost than full albums. The iTunes Music Store price for singles was between $0.69 and $1.29 while albums were priced between $7.99 and $9.99, roughly eight to ten times more expensive than a single. When comparing pricing for digital singles to CDs the differential is even greater with CDs costing on average $19.23 in 1999 (Hogan, 2015). The transition to digital singles facilitated a growth in sales in terms of units, but that growth was unable to compensate for the decrease in CD sales that occurred over that period due to the substantive price differential between the two formats. Making up for revenue lost from the decline in CD sales would effectively require selling twenty singles for every CD not sold, a volume greater than the typical number of tracks on an album.

*Figure 11* Comparing sales revenue for albums and singles, 1973-2020
(Inflation adjusted for 2021 US Dollars)

![Graph showing sales revenue for albums and singles over time](image)
2.3.4 Unbundling and the restoration of profit rates

Revenue was in decline as digital singles became an increasingly large, but that does not mean that profitability was. Instead, in the period following the opening of the iTunes Music store profit rates were restored to their previous levels or close to them, as seen in figure 6. In 2004 the mean value of the industry profit rate returned to the same level as 2000. The industry’s profit rates leveled off or grew at a much slower rate than the 2003-2005 period until the introduction and popularization of streaming technology in the early 2010s.

The profit rates were restored to past levels in this period for two reasons. The first was that the establishment of a popular and accessible digital marketplace extended the album replacement cycle but in diminished form due to the limitations of the digital single above. The extension of the album replacement cycle, even in diminished form, allowed major labels to re-realize monopoly rents from the items in their back catalog. Access to the recording, the knowledge-commodity, was granted again on a new medium.

The second and more important reason was that the partial extension of the album replacement cycle was unique in that the transmediation was not from one physical media to another, it was from physical to digital media. Consequently, not only were recordings being resold, but they were also being resold without the additional cost of pressing new records. Unlike the transition from vinyl to cassette and CD there was no need to retool factories, hire workers to stamp and package the recordings, and comparatively minimal storage and transit costs. In short, because digital media is reproduced at trivial cost the cost of re-granting access for a new media type also becomes trivial and as a result a
larger portion of the monopoly rents are retained by the record label in the form of profits.

On one hand, the reemergence and popularity of singles as a format for music purchasing parallels the end of the album replacement cycle, it limits the capacity of record labels to monetize their catalogs. In both the case of old catalog items and new releases the predominance of singles sales means that a substantive segment of record sales will selections from albums not the whole album. As a result, the full amount of the rents that would have been realized in the physical media era is unrealized. This is especially problematic for newly recorded albums as the proportion of costs incurred to rents accumulated grows shrinking profit margins.

On the other hand, a larger portion of the rents are converted into profits due to the lower costs of re-selling pre-existing media. While the revenue stream shrank profits grew due to the elimination of a significant portion of the cost of reproduction. In a way, the moment of unbundling contains the kernel of streaming’s logic. The elimination of significant portions of cost unrelated to the production of knowledge-commodities, the process of transcending the necessity of physical media and physical distribution, is certainly key. What was missing and what was realized with streaming was the means of increasing the frequency of payment, the central contradiction facing record labels.

2.3.5 Concentration in merchant capital and distribution

Compounding the effects of trans-mediation without sales and the negative effects of unbundling, retail outlets for both physical and digital media became increasingly concentrated with “many specialty music retailers hav[ing] gone out of business” (Warner Music Group Corp., 2011, p. 24). Citing market research firm NPD Warner
Music Group points out the increase in the proportion of recordings sold by “mass-market stores,” such as Wal-Mart, grew rapidly in the early part of the 2000s selling 54% of all recordings in 2004 (Warner Music Group Corp., 2011, p. 23). There was also substantial concentration in digital music retail as well, with “Apple’s iTunes control[ing] 65%—75% of the legitimate digital music track download business in the U.S.” (Warner Music Group Corp., 2013, p. 25). Increasing concentration in all segments of music retail, the general fear in the music industry was that their capacity to set prices would be diminished without a significant amount of specialty record shops (Sony Corp., 2020, p. 13).

The effects of concentration extended beyond the capacity of labels to set prices into their capacity to market physical albums. As the market share held by big box stores grew, the amount of shelf space dedicated to albums shrank. Rather than a whole storefront dedicated to music sales, increasing portions of physical media sales took place in small subsections of mass-market stores and national electronics chains. Consequently, there was substantially less space for CDs and other formats to be displayed thus reducing what could be marketed down to top chart albums and a limited back catalog (Warner Music Group Corp., 2011, p. 25). The loss of shelf space reduces the number of physical albums that could be sold thus diminishing potential revenue streams and, more importantly, the number of back catalog items whose rents could be re-realized.

2.3.6 Financial Crises

Compounding the direct effects of digitization and the increased concentration of retailers was the global economic climate. The initial drop off in sales revenue was concurrent with the bursting of the Dot-Com Bubble and the early 2000s recession which
spanned much of 2001 according to the NBER (National Bureau of Economic Research, 2021). The initial drop-off in revenue slowed and stabilized between 2002 and 2005 (see Figure 5). While the downward slide resumed in 2005 the decrease accelerated in 2006 and leveled off in 2010. The second acceleration and corresponds loosely to the timing of the Great Recession. The effects of the economic crisis can also be seen in the profit rates accruing to the major labels. The average rate of profit for the major labels decreased beginning in 2006 and began resumed its positive trend following 2009, as seen in figure 6.

The economic instability of the 2000s may have contributed in two possible ways. The first was that both crises reduced the disposable incomes of potential record purchasers. This reduction in disposable incomes in turn reduced the capacity of music listeners to purchase recordings. The second possibility was a dampening effect on the production and marketing of new recordings which form the basis for rent accumulation in the pre-streaming digital era causing a reduction in potential revenues.

2.4 The reconstitution of the music industry around the logic of streaming

The introduction of streaming resolved the music industry’s crisis as swiftly as the consequences of digitization emerged. Streaming is defined as the transmission of audio in real time via the internet to listeners. Streaming negated the contradiction between rent extraction and the one-off sale that physical media and previously existing digital formats imposed. Streaming also resolved many of the issues that piracy presented both in terms of IP theft and the ease of discovery that piracy platforms and their users facilitated.

While the contradiction that arose out of the musical rental property being sold as a mass-produced commodity were negated, new contradictions have emerged within the
music industry. The new set of contradictions faced by record labels shifted from the relationship between labels and listeners to the relationship between labels and broadcasters in the form of streaming platforms. In the pre-streaming era record labels and broadcasters had a mutualistic relationship. Labels would provide content for radio stations to broadcast at the trivially low cost of mechanical royalties paid to performance rights organizations. Broadcasters promoted recordings via its broadcast to mass audiences in exchange for the low-cost music. In doing so they facilitated the process of creating the fanbase that would ultimately purchase the recording. In the context of streaming the mutualistic relationship is converted into one whereby record labels are forced into a subordinate role as lessees of streaming platforms who control access to the primary source of revenue for record labels, revenues from songs streamed on their platforms. In effect the record label as culture-lord becomes the subject of digital landlords and the rents they charge.

2.4.1 The new political economy of the music industry as seen through the lens of ‘rent’

Prior to the streaming era the record label appeared to consumers as an industrial capitalist, one that produces commodities and sells them not much different than car manufacturers. Through the process of exchange the purchaser acquired the physical album or digital file, giving the appearance of owning the recording. However, what was actually purchased was access to the recording imprinted on the commodity via the medium they had purchased. In reality, the record label is more akin to a landlord who receives rent payments for access to their property, because they are granting access to rather than ownership of the recording imprinted on the media purchased. The label
appears as an industrial capitalist due to the material constraints they faced in distributing the record, access could be granted but not revoked and as such access was granted for the payment made when the media, physical or digital, was purchased.

Streaming makes the access model and the landlord like nature of the record label apparent. To stream a listener must either directly pay for access to the catalogs residing on the streaming platform or be surveilled and pressed into watching or listening to advertisements to access them. Music is no longer something that is purchased, it is something accessed through the portals provided by streaming services. The average listener does not collect records they merely have access to a collection.

The access model and the concept of streaming revenue as rents is not something arrived at just through the lens of Marxist political economy, it’s the framework used by the record industry and can be seen in their annual reports. Universal Music Group’s (UMG) parent company Vivendi makes this explicit in reference to early streaming services and their anticipated benefit, “UMG’s revenues will also benefit from the growth in the subscription market that is expected with improvements in technology that would enable ‘rented’ downloads to be transferred to compatible portable devices” (Vivendi S.A., 2006, p. 86). Similarly, Warner Music Group (WMG) in reference to streaming services frame the payments received from streaming as payments for access (Warner Music Group Corp., 2019, p. 3) and frames streaming in terms of subscription services throughout their post-streaming annual reports. Furthermore, WMG regularly draws a distinction drawn between “sales” and streaming services which “exploit” and “monetize” their back catalogs in their post-streaming annual reports. Sony also sees
streaming revenue as rents and frames them as licensing revenues (Sony Corp., 2020, p. 13).

2.4.2 Negating the contradictions of the record “sales” model

Streaming renders the contradictions imposed by earlier modes of music distribution moot, as evidenced by the restoration of revenues shown in figures 5 and 10, by ending the record industry’s reliance on the album replacement cycle. It does this by more thoroughly enclosing their intellectual properties. On-demand streaming’s real innovation, from the perspective of the record label, was that access to a recording is never permanently granted to a listener. The listener accesses the recording through a streaming platform that possesses a copy of the recording. In this way the listener is wholly separated from the recording itself forcing them to continuously pay for access to the recording. Furthermore, streaming is an antidote to piracy and the duplication of already purchased recordings because listeners do not possess a copy of the recording and thus do not have access to the data required to duplicate the recording.

Figure 12 Sales revenues from albums, singles, and streaming, 1973-2020
(Inflation adjusted to 2021 US Dollar)
I.1.1.1 The intensification of listening and rent collection

By intensifying their enclosure of recordings record labels can increase the intensity with which they extract rents. The rents extracted via streaming are intensified in several ways. The most obvious and direct means of intensification is the pay-per-play model used by streaming services to compensate record labels for the use of their recordings. For each song in a label’s catalog that gets played the record label receives a small payment, in effect the duration of the lease is the duration of the song. More indirectly the intensification of rent extraction increases as listening via streaming penetrates more aspects of our lives. From the perspective of record labels streaming is “driving […] growth in music consumption” (Warner Music Group Corp., 2021, p. 8), thus driving revenue growth. WMG details the new sites of rent extraction:
We believe that the use of multiple devices is expanding listening hours by bringing music into more moments of consumers’ lives, and the different uses these devices enable are also broadening the base of music to which consumers are exposed. The music that consumers listen to during a commute may be different than the music they listen to while they exercise, and different still than the music they play through a smart speaker while cooking a meal. Smart speakers enable consumers to access music more readily by using their voices.

(Warner Music Group Corp., 2021, p. 8)

The portability and availability of music offered labels little benefit other than being a justification for a new format. However, with the emergence of streaming the portability and accessibility of music was a boon to labels which would gain revenue with each play.

The intensification of rent extraction also comes in the form of a new wave of cultural imperialism in the global South, particularly in North Africa, East Asia, and Southeast Asia. As noted in Universal Music Group’s 2021 annual financial statement:

UMG has licensed local and global streaming platforms to help establish legal music markets in countries that have not traditionally been major markets for recorded music sales, such as the BRIC countries (Brazil, Russia, India and China), Latin America, Africa, the Middle East and Eastern Europe (UMG 2021p24).

WMG similarly states:

For example, we opened an office in the Middle East and North Africa region to prepare for the forecasted rise in smartphone penetration and projected uptake in
digital music. These investments are made with the purpose of increasing our understanding of local market dynamics and popularizing our current roster of recording artists and songwriters around the world (WMG 2021 p11).

Streaming is a near costless means of distribution that removes logistical burdens and the incomplete information on local circumstances that make physical distribution difficult. The feasibility of streaming as a mechanism for commodifying music in regions that had not yet been fully exploited by major record labels is enhanced by increasingly widespread internet access via cellphones. The technical capacities required are actively being funded and developed by all three major labels through joint ventures, direct investment, and other means.

The development of streaming services and mobile networks in the global South facilitates the capture of the record industry by major labels in those regions (WMG 2021 p11; UMG 2021 p. 24). With a reduced need to develop physical distribution networks it becomes feasible for major record labels to sign and market local talent that would have been previously inaccessible to record labels based in the US (UMG and WMG) and Japan (Sony). Local talent can be assessed using streaming data reducing the need for talent scouts. The development of local talent in the developing would further enables the intensification of commodified listening activity by adding recordings relevant to those regions to their catalogs.

1.1.1.2 Streaming and piracy

While the emergence of digital music formats intensified the threat of piracy, the industry’s transition to streaming proved to be a partial antidote to the challenges that piracy presented the industry. “The dawn of subscription-based and ad-supported
streaming services has created a legal supply of music in markets with few stores that were previously dominated by piracy” (UMG 2019 p. 23). Streaming hampers the unauthorized duplication of recordings by separating the user from the recording itself. Without direct access to the recording the technical challenges associated with past methods of ripping and sharing via P2P platforms are increased significantly. Moreover, record labels believe that:

these legitimate online distribution channels offer several advantages to illegal peer-to-peer networks, including greater ease of use, higher quality and more consistent music product, faster downloading and streaming, better search and discovery capabilities and seamless integration with portable digital music players. (Warner Music Group Corp., 2017, p. 15)

The increased barriers to music piracy combined with the increased convenience and quality provided by streaming services discourage would be music pirates, thus reducing the effects of piracy on music industry revenues.

The attempt to reduce piracy through the promotion of streaming is also frequently referenced in their commentary on music economies in non-western and developing economies. The IFPI, throughout the entire duration of their commentary on piracy, has consistently framed East and Southeast Asian, Eastern European, and other countries in the global South as the primary sites of intellectual property theft and music piracy. The record industry has attempted to promote streaming in those economies through joint ventures with mobile networks and internet service providers. Those partnerships are best understood as attempts to re-enclose and recommodify their recordings in those locations by encouraging the use of streaming services. Streaming in those regions is an
intensification of commodified listening. The intensification of listening under the
direction of major labels and streaming services turns them into gatekeepers that
“safeguard cultural heritage” (Vivendi S.A., 2017, p. 48) through the process of ensuring
thoroughly commodified musical culture.

It should be noted that piracy is not eliminated as streaming grows in popularity. It
has reduced the prevalence of piracy in the form of P2P platforms, but new methods
developed alongside streaming. The current dominant method is “stream-ripping” a
process like the ripping of CDs, rather than “ripping” data from physical media the data is
“ripped” from music streaming services. All three major labels point to stream-ripping as
a major threat to the industry’s viability, and industry reports from industry groups like
Performance Rights Service for Music and IFPI have also sounded the alarm
(Performance Rights Service for Music, 2020; International Federation for the
Phonographic Industry, 2019). Much like prior attempts to blame piracy for potential
industry woes labels and industry groups fail to provide convincing evidence that stream-
ripping is a credible threat. As such, stream-ripping becomes a new folk devil constructed
to replace the ones that streaming vanquished.

2.5 New Contradictions

While streaming appears to have resolved the contradictions of the commodity sales
model and the crisis induced by the digitization of recordings, new contradictions have
emerged. The prior set of contradictions hinged on the relationship between record labels
and listeners, specifically the capacity of record labels’ ability to enclose and control
access to recordings. Record labels’ control over access eroded with the introduction of
music digitization technologies, and with that erosion came the rupture and crisis in the
music industry. The new contradiction record labels face is not the contradiction between record label and listener, rather it is the relationship between record labels and streaming services. This new contradiction, much like the earlier one, hinges on the capacity of streaming services to deny record labels access to audiences and as a result access to the rents that form the basis for record labels’ existence. Record labels remain knowledge or culture-lords, but they are now subjugated to the power of streaming platforms who act as digital landlords controlling access to audiences.

2.5.1 The new power dynamic

The new power dynamic did not suddenly appear, rather, it is an extension of trends preceding the emergence of streaming. As noted earlier, there was a substantive concentration in both physical and digital distribution, which was perceived as a threat to firm revenues by record labels. That threat was based on the disappearance of small-scale record shops whose bargaining power was weak relative to the major label oligopoly. Exacerbating the record industry’s situation was the iTunes Music Store’s domination of digital distribution that arose due to the popularity of the iPod and subsequent iPhone and the proprietary software, iTunes, used to manage the devices. In short, record labels existed in a world where they were no longer to dominate retail outlets.

Considering the earlier iterations of the music recording industry’s weakening bargaining power, the erosion of the record industry’s capacity to set prices should be expected in the context of streaming platforms. The emergence of streaming was grounded in market concentration with a few firms, Spotify, Apple Music, and Amazon Music, crowding out all others. First mover advantage produced an oligopolistic situation in distribution that record labels had to contend with, much like the case of digital
distribution. Regarding the three largest streaming services WMG notes, “Amazon, Apple Music and Spotify will continue to grow, which could further increase their negotiating leverage and put pressure on profit margins” (Warner Music Group Corp., 2017, p. 16). Sony echoes that sentiment, “as more music and video content is consumed over digital streaming networks, digital music distributors are becoming increasingly concentrated, which may decrease competition for Sony’s music content and adversely affect its pricing” (Sony Corp., 2021, p. 13). UMG’s assessment is largely more positive, though that is likely due to their stock holdings in Spotify and Tencent’s -- the dominant Chinese music streaming service – substantive holdings in UMG.

However, the situation labels face in the streaming era is significantly more challenging because streaming services are not simply sites of distribution and sales, they are sites of music discovery. In the pre-streaming era music was broadcast through channels external to the site of exchange via radio and television broadcasts. Currently, in a listening environment characterized by the widespread use of streaming the only way to build a substantive listenership for an artist is to place their work on streaming platforms. As such a refusal to participate on streaming platforms renders the record labels recordings obscured from the general public. Without alternatives record labels are doubly subordinated to streaming platforms, subordinated at the site where rents are realized in money form and subordinated at the site where their recordings are made visible to mass audiences.

The subordination of labels to streaming platforms extends beyond the erosion of record label bargaining power. The power differential deriving from streaming services being the primary site of rent realization has compelled record labels to work on behalf of
streaming services. For the dominant streaming services usage is paid for in one of two ways, paid subscriptions or ad-supported subscriptions wherein listeners are confronted by advertisements. The relevance of this distinction is that songs played by paid subscription listeners result in higher rents realized for record labels than plays by freemium accounts. Consequently, record labels are incentivized to encourage listeners to become paid subscribers to their preferred streaming service. As the growth of streaming services user base begins to slow records so does firm revenue growth. The result is that firms must work on behalf of record labels if they hope to secure sustained growth. WMG makes this incredibly explicit by noting the “opportunity to drive long-term growth by increasing penetration of paid subscriptions throughout the world” (Warner Music Group Corp., 2020, p. 3).

2.5.2 The financialization of the music industry

The emergence of streaming services has also encouraged the deepening of an already existing process of financialization. The presence of streaming services made possible the steady realization of rents from a record label’s back catalog effectively creating a “passive” income stream for record labels. The possibility of accumulating rents from already marketed recordings is not limited to record labels, those rents can be accumulated by any person or firm that has ownership of a recording. Consequently, there has been a burgeoning “pure play” music investment funds that purchase the rights to popular and culturally significant songs and catalogs and then financialize those assets through the issuance of stock and other financial assets based on their holdings. Most notable of these is Hipgnosis Songs Fund whose operative net asset value is $2.1 billion
and has raised over £1.3 billion since their 2018 initial public offering on the London Stock Exchange (Hipgnosis Songs Fund, 2021, p. 6).

The turn towards financialization in the music industry has placed record labels in direct competition with finance capital. It is yet to be determined what the effect of this development will mean for the record industry. Financialization in the music industry may accelerate the recent trend of catalog purchases by major labels, such as UMG’s estimated $300 million acquisition of Bob Dylan’s catalog (Sisario, 2020). As such, financialization could have a chilling effect on the production of new music by major labels seeking guaranteed revenue at the expense of the riskier investment in new recordings.

2.6 Conclusion

The transition from feudal society to a capitalist one was characterized by the process of primitive accumulation, the “separation of the labourers from all property in the means by which they can realize their labor” (Marx, Capital, 1967, p. 668). That separation required a separation of the peasantry from the commons through the process of enclosure. Their separation from the commons, the basis for the reproduction of feudal labor, compelled them through threat of starvation into wage labor. This process of separation also formed the basis for private property in the form of capital. The enclosure and the separation of society at large from the commons continues to be a central feature of capitalist society and its attempts to manage its various contradictions. However, the contemporary transformation of the commons into capital and commodities is an adjunct to rather than the basis for the process of capital accumulation.
The music industry is characterized by a form of accumulation that resembles the earlier form. By separating artists and audiences from the cultural objects they produce—through a process of commodification and enclosure—the cultural commons is turned into capital. The separation of artists and listeners from the cultural objects they co-create forms the basis for the rents extracted by record labels.

The process of musical enclosure was made possible by a matrix of legal protections that favored record labels and technologies that facilitated the enclosure of recordings. The basis for the record industry began to strain under the weight of its own contradictions as those technologies and legal structures developed. Record labels profited from rents extracted from the sales of media that granted access to a near costlessly reproducible commodity, the recording. In the period where physical media was the primary means of music sales the frequency with which record labels could realize rents from already existing albums was limited by the frequency of with which new media formats were developed and adopted. With the introduction of digital audio formats, the industry was thrown into crisis because digital file formats made it increasingly difficult to police their enclosed properties and increasingly easy to access their properties in digital format without paying for access.

The introduction and adoption of streaming technologies provided a reprieve to the record industry. Streaming technologies reinforce the separation of listeners from the recording. Listeners no longer collect recordings; they access a collection via a streaming platform. Streaming also resolves the record industry’s reliance on the album replacement cycle, allowing them to fully embody their role as culture-lords allowing them to lease their recordings with each use. However, the introduction of streaming did not eliminate
contradictions without introducing new ones. With streaming came the subordination of record labels to streaming platforms, to gain access to audiences and realize rents record labels had to rent access to them from streaming services. In this way streaming saves and constrains the recording industry further -- restoring revenues while rendering the recording industry dependent on their services.

The analysis presented here focuses on the contradictions and crisis of the recording industry, but it also reveals some possibilities for liberatory music and cultural production. The emergence of the digital audio format and peer to peer file sharing revealed the feasibility of a musical commons and makes visible the contours of socialist music production defined by the free exchange and association between artist and listener. Streaming services point to the possibility of how music could be organized to facilitate discovery and access. Though, as it currently exists the streaming framework is defined by the separation of listeners from recording preventing the possibility of use in new works or constellations of media. To be sure, those moments are only a glimpse of a possible future, though a glimpse that makes a democratic and collaborative production of music seem feasible, a project that I hope to work on in the future.
Since the publication of *Rise of the Creative Class* (Florida, 2002), Richard Florida’s concept of the Creative Class has become a dominant concept in public discourse around questions of urban and regional development. Florida’s central claim is that there is an ascendant class of workers who are defined by the creativity and knowledge they possess, which is revealed through their occupation. In Florida’s view, occupations that feature high degrees of creative labor—self-direction, problem solving, and decision making—are increasingly important to the global economy and, because of that, key to economic development and employment prospects. Florida groups what he and his research associates consider the most creative occupations into the *Creative Class*, which includes a wide array of occupations ranging from management and financial service providers to scientific researchers, teachers, and artists. The urban and regional development strategies that have been developed in response to the Florida’s thesis are what are at stake in conversations about the Creative Class. Such strategies seek to reinvigorate urban cores and their surroundings by attracting members of the Creative Class through a variety of enticements in the form of tax credits, creative placemaking, and the development of amenities that the cosmopolitan Creative Class desires. The rationale for such strategies is that the Creative Class is resilient to economic shocks, their creativity
attracts startups and capitalized tech firms, and they are generally high wage earners. The resiliency of the Creative Class in the face of adverse economic conditions is important because the stability of the Creative Class is required for the other two points to be in effect in a sustained manner. If it is shown that creativity is not the operative factor that shields members of the Creative Class from the consequences of economic crises, then a development strategy focused on popular notions of creativity and attracting members of the Creative Class may be misplaced.

**Table 2 Occupational class definitions**

<table>
<thead>
<tr>
<th>Occupational Class†‡</th>
<th>Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Class</td>
<td>Management; business and financial operations; legal or health care practitioners and technical</td>
</tr>
<tr>
<td><strong>Creative Professional</strong></td>
<td>Computer and mathematical; architecture and engineering; life, physical, and social science; education, training, and library; arts, design, entertainment, sports, and media</td>
</tr>
<tr>
<td><strong>Creative Core</strong></td>
<td>Health care support; food preparation and food service related; building and grounds cleaning and maintenance; personal care and service; sales and related; office and administrative support; community and social services or protective services</td>
</tr>
<tr>
<td>Service Class</td>
<td>Construction and extraction; installation, maintenance, and repair; production or transportation and material moving</td>
</tr>
<tr>
<td>Working Class</td>
<td>The Creative Class <em>without:</em> Farm managers; business operations specialists; other financial specialists; life, physical, and social science technicians; legal support workers; primary, secondary, and special education teachers; pre-school, kindergarten, elementary teachers; other teachers, instructors, education, training, and library occupations; physicians and surgeons; registered nurses; therapists; other health diagnosing and treating practitioners and technical Occupations</td>
</tr>
</tbody>
</table>

†Creative, Creative Professional, Creative Core, Service, and Working Classes defined in (Florida, 2012; 2002; Gabe, Florida, & Mellander, 2012)  
‡ Recast Creative Class as defined in (McGranahan & Wojan, 2007)

Gabe, Florida, and Mellander (2012) test the validity of Florida’s claims in the context of employment outcomes before, during, and after the Great Recession in *The Creative Class and the Crisis* (CCC). Grounding their analysis in Florida’s claims about
the role of creativity in the economy, they explore whether the creative class is uniquely resilient in terms of unemployment in a period with very high unemployment. They find that members of the Creative Class experience a decreased likelihood of unemployment relative to Florida’s Service Class and Working Class before, during, and after the recession. CCC’s focus on the labor market outcomes of Florida’s classes is an important turn in the Creative Class literature that is primarily concerned with validating Florida’s initial claims about the importance of the Creative Class to regional economic development.

This paper challenges the validity of Florida’s creative class as it is used in CCC in two stages. The first is a critical investigation of creativity as it is described and deployed by Richard Florida in *Rise of the Creative Class* (Florida, 2002) and by him and his co-authors in CCC. The second stage is an empirical investigation that applies the same method of regression analysis used by Gabe, Florida, and Mellander to three alternative specifications. These specifications utilize McGranahan and Wojan’s *Recast Creative Class* (McGranahan & Wojan, 2007) and Florida’s *Creative Professional* and *Creative Core* sub-classes (Florida, 2002; Florida, 2012). Specifying the model used in CCC with the Recast Creative Class, as described in Table 2, allows us to consider the Creative Class without structurally stable occupations, such as doctors and teachers, which may bias the results in CCC towards the conclusion that the Creative Class is more robust against unemployment than other occupational groupings. Specifying the model using the sub-classes found within the Creative Class allows for a direct comparison of more and less creative occupations within Florida’s own creative class. Both phases of analysis
taken together cast significant doubt on the validity of Florida’s Creative Class as a unit of analysis and the role of creativity in the determination of employment outcomes.

The unemployment rates calculated in Table 3 suggest that the Creative Class, when taken as a whole, is in fact more resilient due to their lower rates of unemployment in each period. However, when the Creative Class is decomposed into Florida’s Creative Professional and Creative Core sub-classes (Florida, 2002; 2012), and McGranahan and Wojan’s Recast Creative Class (McGranahan & Wojan, 2007), the less creative Creative Professional class out-performs the others. This indicates that while Florida’s Creative Class faces lower rates of unemployment, the basis for his claims (Florida, 2002; 2012) and Gabe, Florida, and Mellander’s claims (Gabe, Florida, & Mellander, 2012) that creativity is the key determinant are weaker than they appear.

<table>
<thead>
<tr>
<th>Occupational Class</th>
<th>Before recession</th>
<th>During recession</th>
<th>Change Before to during</th>
<th>After recession</th>
<th>Change during to after</th>
<th>Change before to after</th>
</tr>
</thead>
<tbody>
<tr>
<td>All occupations</td>
<td>4.49</td>
<td>6.93</td>
<td>2.44</td>
<td>9.55</td>
<td>2.62</td>
<td>5.06</td>
</tr>
<tr>
<td>Creative Class</td>
<td>1.93</td>
<td>3.29</td>
<td>1.35</td>
<td>4.54</td>
<td>1.26</td>
<td>2.61</td>
</tr>
<tr>
<td>Creative Professionals</td>
<td>1.88</td>
<td>3.16</td>
<td>1.29</td>
<td>4.43</td>
<td>1.27</td>
<td>2.56</td>
</tr>
<tr>
<td>Creative Core</td>
<td>2.03</td>
<td>3.47</td>
<td>1.45</td>
<td>4.71</td>
<td>1.24</td>
<td>2.68</td>
</tr>
<tr>
<td>Recast Creative Class</td>
<td>2.10</td>
<td>3.66</td>
<td>1.56</td>
<td>5.24</td>
<td>1.58</td>
<td>3.15</td>
</tr>
<tr>
<td>Service Class</td>
<td>4.96</td>
<td>6.96</td>
<td>2.00</td>
<td>9.55</td>
<td>2.59</td>
<td>4.59</td>
</tr>
<tr>
<td>Working Class</td>
<td>6.21</td>
<td>11.47</td>
<td>5.26</td>
<td>15.35</td>
<td>3.88</td>
<td>9.14</td>
</tr>
</tbody>
</table>

Source: Data used is from the IPUMS Current Population Survey database (Flood, et al., 2015)
Note: ‘Before recession’ is 2006 and 2007; ‘During recession’ is 2008 and 2009; ‘After recession’ is 2010 and 2011

This essay asks: is creativity or the creative capacity of the workers what drives Gabe, Florida, and Mellander’s results? Motivating the questioning of the role of creativity is the apparent “fuzziness” of the Creative Class and the notion of creativity

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9 The creativity measures are based on O*NET’s ‘Thinking Creatively’ metric (CITE). See Table 5 for detailed breakdown of creativity by occupation.
that defines it, a position developed by Markusen (Markusen, 1999; Markusen, 2007).

The fuzziness of Florida’s notion of creativity and, by extension, his conception of the Creative Class derives from a gestural definition of creativity that appears to conflate creativity with educational attainment (Glaeser, 2005; Markusen, 2007). The Creative Class contains the vast majority the workforce’s bachelor’s degree holders. The fuzziness of creativity and the Creative Class is compounded by his uncritical use of major occupational categories which contain a wide array of occupations which may not be equally creative. Moreover, his uncritical use of census occupational classifications and creativity leads him to exclude the multitude of blue-collar occupations that require high degrees of creativity and problem-solving skills without high degrees of formal education (Markusen, 2007), such as repair technicians and kitchen staff.

Table 4 The relationship between bachelor's degree holding status and Florida's occupational classes

<table>
<thead>
<tr>
<th>Occupational Class</th>
<th>% in occupational class with a bachelor's degree or greater</th>
<th>% of workforce by occupational class</th>
<th>% of workforce with a bachelor's degree or greater</th>
<th>% of workforce with less than a bachelor's degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>33.15</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Class</td>
<td>64.53</td>
<td>34.56</td>
<td>67.28</td>
<td>18.33</td>
</tr>
<tr>
<td>Creative Professionals</td>
<td>71.51</td>
<td>20.97</td>
<td>37.98</td>
<td>12.54</td>
</tr>
<tr>
<td>Creative Core</td>
<td>60.02</td>
<td>13.58</td>
<td>29.30</td>
<td>5.79</td>
</tr>
<tr>
<td>Recast Creative Class</td>
<td>64.45</td>
<td>21.13</td>
<td>41.09</td>
<td>11.24</td>
</tr>
<tr>
<td>Service Class</td>
<td>18.89</td>
<td>41.50</td>
<td>23.65</td>
<td>50.35</td>
</tr>
<tr>
<td>Working Class</td>
<td>7.77</td>
<td>20.54</td>
<td>4.81</td>
<td>28.34</td>
</tr>
</tbody>
</table>

Source: Data used is from the IPUMS Current Population Survey database (Flood, et al., 2015)

The fuzziness in Florida’s notion of creativity and, by extension, his creative class raises questions about the meaningfulness of the Creative Class category for identifying creative human capital and its effects on employment. Two things are demonstrated: the Creative Class as a class is not a cohesive class in terms of creativity, and that when the
class is decomposed into its two sub-classes, the Creative Core and Creative Professional, the less creative Creative Professional sub-class outperforms the Creative Core in terms of employment outcomes. The former suggests that the Floridian literature begins with a flawed premise, that magnitudes of creativity are what unify these classes. The latter deepens that critique demonstrating that even if we accept the Creative Class as more creative than Florida’s Working and Service Classes, there is still reason to believe that Gabe, Florida, and Mellander’s causal claims about creativity are weaker than they first appear. The investigation of the role of creativity in determining the superior employment outcomes of the Creative Class begins with an overview of the model used by Gabe, Florida, and Mellander (Gabe, Florida, & Mellander, 2012). Next is a critical investigation of the cohesiveness of the Creative Class (Florida, 2002; 2012) as a unit of analysis. Following that there is a description of the Creative Professional and Creative Core sub-classes (Florida, 2002; 2012) as well as McGranahan and Wojan’s Recast Creative Class (McGranahan & Wojan, 2007), which are used to test the claim that creativity is the key determinant for the Creative Class’s lower rate of unemployment. The third section of this paper describes the methodology used in CCC and replicates the initial statistics and results. The fourth section applies the same method used in CCC using the Creative Professional, Creative Core, and Recast Creative Class sub-classes, followed by a discussion of the alternative specifications’ results in comparison to the replicated results of CCC. The empirical portion of this paper uses individual level US Current Population Survey data collected from the Integrated Public Use Microdata Series (Flood, et al., 2015).
3.1 CCC’s model

Gabe, Florida, and Mellander’s primary research question is, do members of the Creative Class have a lower probability of being unemployed between 2006 and 2011? To answer that they use individual level data from the US Current population survey and along with probit regressions specified with variables corresponding to Florida’s three primary classes, Creative, Service, and Working. They build off the human capital literature (Azmat, Güell, & Manning, 2006; Daly, Jackson, & Valletta, 2007; Fairlie & Sundstrom, 1997; Mincer, 1989) and models that look at regional industrial composition (Blanchard & Katz, 1992; Malizia & Ke, 2006; Partridge & Rickman, 1997; Partridge & Rickman, 1997; Simon, 1988) in their investigation into the role that Creative Class membership plays in determining unemployment rates. Their contribution to the labor economics and regional development literature is the inclusion of Florida’s occupational classes in the specification of their regressions as a measure of creative human capital.

It is important to note that Gabe, Florida, and Mellander understand creativity as a type of human capital distinct from educational attainment (Gabe, Florida, & Mellander, 2012, p. 39). They use the occupational classes developed by Florida as a proxy for “the types of skills that are actually used on the job” (Gabe, Florida, & Mellander, 2012, p. 38) which vary in the level of creativity present. This contrasts with educational attainment which represents a potential but not necessarily actualized level of on-the-job creativity. Gabe, Florida, and Mellander understand the occupational classes they use as representative of the actualized skills and creativity associated with the jobs those classes contain. That is to say while a line cook or mechanic might be as creative as a blue-chip
artist, because they do not exercise that level of creativity on the job, they are not creative workers.

Their notion of class differs from Marxist notions of class, which are grounded in the social relationships surrounding control over the means of production. In some ways their notion of class relates to Bourdieu’s which emphasizes the connection between capital, “the set of actually usable resources and powers” (Bourdieu, 1984), and habitus, “a system of social disposition and internalized behaviors” (Hong & Zhao, 2015), especially in light of *Rise of the Creative Class* wherein Florida connects the creative class to certain tastes and social mores. However, it deviates substantively from Bourdieu in that the Floridian notion of class is strictly a taxonomy based on occupation rather than social position (Pratt, 2008).

Gabe, Florida, and Mellander claim that the Creative Class outperforms members of Florida’s Service and Working Classes in terms of employment outcomes because of their creativity, a trait that they believe is increasingly important to the global economy. Their claim is based on three points, each hinging on creativity. First, that members of the Creative Class are better equipped to respond to crisis through reinvention and innovation (Gabe, Florida, & Mellander, 2012, pp. 39-40). Second, the Creative Class is concentrated in industries that were not contingent on the boom period unlike members of the working and service occupational classes (Gabe, Florida, & Mellander, 2012, pp. 39-40). Third, they benefited from the ongoing *Great Reset* (Florida, 2010; Gabe, Florida, & Mellander, 2012, pp. 37-38), where technical innovation is supplementing the work of creatives while replacing the work of members of the working and service classes.
Gabe, Florida, and Mellander draw from unemployment gap studies (Azmat, Güell, & Manning, 2006; Daly, Jackson, & Valletta, 2007) to test their claim that the Creative Class was more resilient when compared to the Working and Service Classes. They use two different probit model specifications that measure the probability of being unemployed \( \Pr(U = 1) \) controlling for human capital (which includes occupational class as a proxy for the level worker creativity along with educational attainment), time period, demographics, current or most recent industry, and regional factors. Their first specified models are:

*Equation 1 Gabe, Florida, and Mellander (2012) specification without time period interaction effects*

\[
\Pr(U = 1 \mid x) = \beta_0 + \beta_1 \text{occupational class} + \beta_2 \text{time period factors} + \beta_3 \text{education factors} + \beta_4 \text{demographic characteristics} + \beta_5 \text{industry factors} + \beta_6 \text{metropolitan area factors} + \epsilon
\]

*Equation 2 Gabe, Florida, and Mellander (2012) specification with time period interaction effects*

\[
\Pr(U = 1 \mid x) = \beta_0 + \beta_1 \text{occupational class} + \beta_2 \text{time period factors} \times \text{occupational class} + \beta_3 \text{time period factor} + \beta_4 \text{education factors} + \beta_5 \text{demographic characteristics} + \beta_6 \text{industry factors} + \beta_7 \text{metropolitan area factors} + \epsilon
\]

From the perspective of theorists like Florida who are interested in the role of regional development, the relative stability of a set of occupations in the face of economic shock is of particular importance. The development strategy of attracting a specific occupational class is only a good strategy as long as that occupational class is relatively resistant to economic shocks and recessionary periods. There are other important considerations, such as wage growth, job satisfaction, or health outcomes,
however, if the goal is to demonstrate that the Creative Class can form the basis for a
development strategy resistance to economic downturns is necessary to demonstrate.

As noted earlier, Gabe, Florida, and Mellander have a two-fold notion of human
capital, in which they see the set of accumulated skills a person possesses, and the skills
actively deployed on the job, as distinct forms of human capital. both types of human
capital are included in the model in the context of CCC. educational levels are used as a
proxy for the set of for potential skills, and Florida’s occupational classes are used for
human capital activated. Controlling for both potential and activated skills in this manner
runs the risk of double counting the role of education, as the skills learned will frequently
be the ones used on the job site. In the specific context of Florida’s occupational
categories, the benefits attributed to being a member of the Creative Class may in fact be
due to the fact the Creative Class has high levels of formal education, relative to the
Service and Working Class, which can be seen in Table 4. The overlap between potential
and actualized human capital is discussed below in Section 2 Questioning the Creative
Class.

3.2 Questioning the Creative Class

3.2.1 The Creative Class as a fuzzy concept

This section addresses the construct validity of Richard Florida’s Creative Class as
developed in Rise of the Creative Class (2002). Ann Markusen understands the Creative
Class as a fuzzy concept (Markusen, 2007)—a “characterization lacking conceptual clarity
and difficult to operationalize” stemming from concepts which “possess two or more
alternative meanings and thus cannot be reliably identified or applied by different readers

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or scholars” (Markusen, 1999, p. 702). The fuzziness of the Creative Class derives from its simultaneous usage of creativity – an unclear criterion with a multitude of social meanings – and the use of overly broad occupational categories to construct the Creative Class (Markusen, 2007). Florida’s notion of creativity is particularly vague and its application relies strictly on intuition and subjective judgment and because of that forms a weak basis for the classification of occupations as creative or not.

Chapter two of *Rise of the Creative Class, Revisited*, where the concept of creativity is most directly addressed, highlights the fuzziness of his conception of creativity. Citing Webster’s dictionary Florida defines creativity as “the ability to create meaningful new forms” (Florida, 2012, p. 6). For Florida creativity has three features:

- “[It’s] essential to the way we live and work today, and in many senses, it always has been” (Florida, 2012, p. 15).
- “[N]ot limited to technology or business models its multifaceted and multidimensional […] involv[ing] distinct habits of mind” (Florida, 2012, pp. 15-16).
- “The creative process is social, not just individual; forms of organization are necessary” (Florida, 2012, p. 16).

By defining creative occupations as those that allow for social, self-directed work, and utilize broad sets of knowledge, Florida presents a category that is incredibly general and can include any number of occupations in contemporary society. Social theorists Paolo Virno (2004) and Maurizio Lazzarato (1996) argue that in the current post-Fordist period--defined by increasingly autonomous and affective labor--that virtually every occupation is defined by some degree of self-directed work. Further, work in the current
period is immanently social and requires the synthesis of complex bodies of formal and social knowledge because of the increasing role of affect and self-direction.

This is not something Florida ignores; when citing Stephen Barley he notes that increasing numbers of blue-collar workers increasingly hold positions that “[blur] the distinction between white-collar work (done by decision makers) and blue-collar work (done by those who follow orders)” (Florida, 2012, p. 39). In drawing out that point Florida undercuts his claims that we can adequately distinguish between “creative” and “non-creative” occupations. Moreover, by distinguishing white-collar from blue-collar as those who manage and those who are managed, Florida reveals an implicit assumption that those in occupations like design and engineering are less subordinate to management than they actually are. For instance, most architects are not creating entirely new forms, frequently they are directed to design buildings with certain specifications.

Florida’s conception of creativity is an expansive term, and is difficult to precisely measure because it is essential to all contemporary activity and a broadly applied mental process. As such, creative activity could be anything and could take place in any occupation. Despite the apparent vagaries of creativity, Florida categorizes occupations based off his intuitions about the degrees to which free and creative thought can take place in an occupation and “subjective assessments of the skill content of work” (Florida, 2012, p. 43).

3.2.2 Is the Creative Class that much more creative?

The apparent fuzziness of Florida’s notion of creativity and its application to occupational classes raises the question: is the Creative Class more creative than Florida’s Service and Working Classes? McGranahan and Wojan (2007) answer that
question by using Occupational Information Network’s\(^\text{10}\) (O*NET) *Thinking creatively* measure to compare levels of creativity for each occupational category in Florida’s classes, which are summarized in Table 5. They find that occupations in Florida’s Creative Core sub-class had higher average creativity scores when compared to the Creative Professional sub-class, Service Class, and Working Class.

Moreover, they show that the occupations found within the Creative Professional sub-class score similarly to those in the Service Class. All but one of the Creative Core occupational groups—Life, physical, and social science with a score of 3.22 out of 6.5—scored higher than all other occupational groupings. The occupation that superseded that category was “management” which had a score of 3.51 out of 6.5. McGranahan and Wojan’s research indicates that the Creative Class is not uniformly creative, with the Creative Core being a more creative grouping than the Creative Professional sub-class.

The use of O*NET’s thinking creatively job characteristic measure should not be taken uncritically. The measure is derived from survey responses from workers employed in the occupational groups. However, the framing of thinking creatively, “developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions” (O*NET, 2021, p. 7), and the examples for level of creativity, “change the spacing on a printed report, adapt popular music for a high school band, and create new computer software” (O*NET, 2021, p. 7), are geared towards workers with higher levels of formal education and largely in an office setting. As such this measure can be subject to the criticism faced by Florida’s conception of creativity,

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\(^\text{10}\) O*NET is a US Department of Labor/ Employment and Training Administration project that collects survey data which it uses to describe and categorizes occupations.
that it understands manual labor as fundamentally uncreative and views occupations with higher levels of formal education as more creative. Despite those critiques, the measure of creativity used by O*NET does relate, at least definitionally, to Florida’s notion of creativity and as such forms a suitable basis to evaluate Gabe, Florida, and Mellander’s claims about the relationship of creativity to unemployment on its own terms.

Table 5 Mean O*NET "Thinking Creatively" scores by occupational group

<table>
<thead>
<tr>
<th>Occupation groups</th>
<th>Mean score</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Florida’s Class Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer and mathematics</td>
<td>4.00</td>
<td>1.27</td>
<td>2.00</td>
<td>5.80</td>
<td>Creative Core</td>
</tr>
<tr>
<td>Education, training, and social science</td>
<td>3.93</td>
<td>0.67</td>
<td>2.00</td>
<td>5.00</td>
<td>Creative Core</td>
</tr>
<tr>
<td>Architecture and engineering</td>
<td>3.86</td>
<td>1.34</td>
<td>1.00</td>
<td>6.50</td>
<td>Creative Core</td>
</tr>
<tr>
<td>Arts, design, sports and entertainment</td>
<td>3.65</td>
<td>1.26</td>
<td>0.30</td>
<td>5.60</td>
<td>Creative Core</td>
</tr>
<tr>
<td>Management</td>
<td>3.51</td>
<td>0.88</td>
<td>1.30</td>
<td>5.30</td>
<td>Creative professionals</td>
</tr>
<tr>
<td>Life, physical, and social science</td>
<td>3.22</td>
<td>1.11</td>
<td>0.60</td>
<td>5.00</td>
<td>Creative Core</td>
</tr>
<tr>
<td>Community and social service</td>
<td>2.45</td>
<td>0.35</td>
<td>2.00</td>
<td>3.30</td>
<td>Service class</td>
</tr>
<tr>
<td>High-end sales</td>
<td>2.38</td>
<td>0.74</td>
<td>1.00</td>
<td>4.00</td>
<td>Creative professionals</td>
</tr>
<tr>
<td>Healthcare practitioners and technical</td>
<td>2.33</td>
<td>1.10</td>
<td>0.70</td>
<td>4.20</td>
<td>Creative professionals</td>
</tr>
<tr>
<td>Building and grounds cleaning</td>
<td>2.03</td>
<td>0.92</td>
<td>0.30</td>
<td>4.00</td>
<td>Service class</td>
</tr>
<tr>
<td>Personal care and service</td>
<td>2.03</td>
<td>0.92</td>
<td>0.30</td>
<td>4.00</td>
<td>Service class</td>
</tr>
<tr>
<td>Legal</td>
<td>1.89</td>
<td>0.96</td>
<td>1.00</td>
<td>3.80</td>
<td>Creative professionals</td>
</tr>
<tr>
<td>Business and financial operations</td>
<td>1.83</td>
<td>0.86</td>
<td>0.40</td>
<td>3.80</td>
<td>Creative professionals</td>
</tr>
<tr>
<td>Sales and related</td>
<td>1.83</td>
<td>0.51</td>
<td>1.00</td>
<td>2.20</td>
<td>Service class</td>
</tr>
<tr>
<td>Protective service</td>
<td>1.75</td>
<td>0.86</td>
<td>0.30</td>
<td>3.40</td>
<td>Service class</td>
</tr>
<tr>
<td>Healthcare support</td>
<td>1.62</td>
<td>0.76</td>
<td>0.70</td>
<td>3.00</td>
<td>Service class</td>
</tr>
<tr>
<td>Food preparation and food service</td>
<td>1.48</td>
<td>0.82</td>
<td>0.50</td>
<td>3.70</td>
<td>Service class</td>
</tr>
<tr>
<td>Production</td>
<td>1.29</td>
<td>0.75</td>
<td>0.00</td>
<td>3.40</td>
<td>Working class</td>
</tr>
<tr>
<td>Office and administrative support</td>
<td>1.25</td>
<td>0.69</td>
<td>0.20</td>
<td>3.70</td>
<td>Service class</td>
</tr>
<tr>
<td>Installation, maintenance, and repair</td>
<td>1.20</td>
<td>0.51</td>
<td>0.40</td>
<td>2.30</td>
<td>Working class</td>
</tr>
</tbody>
</table>
3.2.3 Creativity or inelastic demand?

McGranahan and Wojan (2007) indicate another issue with how the Creative Class is constructed. They argue that many of the occupations in the Creative Class are essential to social and economic reproduction like doctors, school teachers, and law enforcement. As a result, the inclusion of those occupations may exaggerate the effects of the Creative Class on regional development because reproductive or socially necessary occupations are more stable due to inelastic demand for those services and skills. For example, a community with children will need a certain number of teachers, school staff, and administrators, likewise, hospitals and medical centers provide a certain base level of employment. As such, communities that may be struggling economically in other categories may appear to be healthier due to a higher density of socially necessary occupations with inelastic demand.

While this study is not interested in geographical inflation of the Creative Class’s role in regional development, a similar logic applies in the case of Recasting the Creative Class. The Creative Class’s apparent resistance to unemployment may be inflated due to its inclusion of a significant number of reproductive occupations necessary to the life of communities. The inclusion of essential occupations like educators, doctors, nurses, and those in the criminal justice system may give an over inflated sense of the Creative Class’s resistance to unemployment for similar demand side arguments – because the

<table>
<thead>
<tr>
<th>Construction and extraction</th>
<th>0.97</th>
<th>0.56</th>
<th>0.20</th>
<th>3.00</th>
<th>Working class</th>
</tr>
</thead>
</table>

Note: The mean scores for the occupations were calculated from responses to survey question 11 of O*Net’s Work Activities Questionnaire which asked workers to rate how important is and the level of "Developing, designing or creating new applications, ideas, relationships, systems or products, including artistic contributions" (O*NET, 2021, p. 7).

Means taken from Recasting the Creative Class (McGranahan & Wojan, 2007)
Creative Class includes occupations that have an inelastic demand; it will have tend to have lower unemployment rates.

Florida’s use of broad occupational categories to classify workers as creative seems to conflate creativity with educational attainment (Glaeser, 2005; Markusen, 2007). As shown in Table 4, members of the Creative Class are more likely to have earned at least a bachelor’s degree, 61.65%, when compared to the Service Class, 18.89%, and the Working Class, 6.97%. This result occurs because the occupations within the Creative Class are those which involve skills typically associated with higher levels of formal education. As noted earlier, Florida’s framing of creativity is positively biased to occupations with higher levels of education. This is because Florida seems to understand producing new forms to mean producing new products. Working Class occupations like construction worker or crane operator are seen as less creative because they are not designing the building they build. However, they do engage in substantively creative work regarding how exactly the building gets built.

Florida goes to some pains to minimize the close association of his creative class with educational attainment by claiming that creativity is a human capital of a different sort (Florida, 2012, p. 40), demonstrated by an appearance to have more decision-making responsibilities over time, or represent an actualization of a trait rather than simply a potentiality (Florida, Mellander, & Stolarick, 2008, p. 618). The authors of CCC also acknowledge that the creative class is generally more educated than the other two occupational classes. Gabe, Florida, and Mellander’s regression analysis and the analysis in this paper include controls for the effect of educational attainment.
When grouping occupational classes by bachelor’s degree holding status and comparing their unemployment rates to those of the Creative Class three things come through. First, the Creative Professional sub-class has a consistently lower unemployment rate while all others have a consistently higher, excluding the pre-recession period where both the Creative Core and Creative Professional sub-classes have unemployment rates quite close to the Creative Class’s as a whole. Second, the unemployment rates for those with bachelor’s degrees are closer to the unemployment rates of the Creative Class. Third, the gap between the Creative Core and the Creative Professionals widens when comparing non-bachelor’s degree holders.

It is true that Creative Class occupations are often tied to post-secondary education requirements. However, the persistence of higher unemployment rates in the Service and
Working Classes suggests that claims about durability of the Creative Class in the face of economic crisis are not simply due to variation in education. Finally, there is a consistent intra-class difference in unemployment rates with the more creative Creative Core having a higher unemployment rate than the Creative Professional sub-class which casts doubt on Gabe, Florida, and Mellander’s causal claims about the effects of creativity on the likelihood of unemployment.

3.3 Accounting for the questions

In the above section three questions about the validity of Florida’s constructed creative class were raised: is the creative class inflated by structurally stable socially necessary occupations, is creativity really the basis for the Creative Class’s lower unemployment rates and are the variation between the various classes simply the result of variation in educational attainment. The remainder of this paper will take up the questions regarding structural stability and creativity. The question of the role of education as it relates to the practical meaning of the Creative Class is important, but that question is outside of the scope of this paper as the primary interest is the role of creativity. Given the discussion in the last section, it is reasonable to believe that while education is a demarcating factor between the classes there are other factors beyond education at work. Controls for education are included in the regression analysis.

Gabe, Florida, and Mellander’s results are replicated and compared to alternative specifications. McGranahan and Wojan’s Recast Creative Class (2007) is used as an independent variable to test the robustness of Gabe, Florida, and Mellander’s model for bias from structurally stable occupational classes. Probit regressions are specified with
Florida’s Creative Professional and Creative Core sub-classes to test whether differentials in creativity form the basis for the Creative Class’s protection against unemployment.

To test whether structural factors are a key determining factor in the Creative Class’s resistance to unemployment CCC’s models shown in equations 1 and 2 will be specified with Recast Creative Class as the occupational class independent variable. Florida’s specification of the Creative Class includes a substantive amount of structurally resilient occupations like doctors, registered nurses, teachers, and legal professionals. The higher concentration of structural resilient occupation found in the creative class may play a significant role in the lower unemployment rates the Creative Class face. By specifying the models with the Recast Creative Class as the occupational group variable the relative unemployment rate of being in the Creative Class without a structurally stable occupation can be demonstrated.

To check the robustness of CCC’s specification against the variation in creativity within the Creative Class it is decomposed into its constituent sub-classes: Creative Professionals and the Creative Core. As illustrated by McGranahan and Wojan (2007) the Creative Core exhibits significantly higher levels of creativity as defined by O*NET. By replicating CCC’s regression analysis using Florida’s creative sub-classes the effect of holding a more creative job on unemployment rates is shown more clearly. Furthermore, by decomposing the creative class into Creative Professional and Creative Core sub-classifications we are better able to discern the coherence of the Creative Class construct. If holding a Creative Professional occupation reduces the likelihood of unemployment relative to the Creative Core the basis for claiming creativity as the determining factor in the Creative Class’s resistance to unemployment.
3.3.1 Data, variable definitions, and summary statistics

The sample population was constructed using the Current Population survey data. It includes all members of the labor force older than 16 and excludes members of the armed services. Limiting the sample population to the labor force excludes those marginally attached to the labor force, withdrew from the labor force due to economic or other circumstances, discouraged workers, and others. Consequently, the use of the likelihood of unemployment as the dependent variable and limiting may underestimate the number of people who experience job loss or underemployment that is not included in the more narrow “not employed during reference week, available for work during reference week, and made at least one specific, active effort to find a job during the 4-week period ending with the survey reference week (see active job search methods) OR they were temporarily laid off and expecting to be recalled to their job” (US Bureau of Labor Statistics, 2021). Members of the armed forces were excluded because unemployment for those in the armed forces is implicitly zero thus would bias unemployment rates down. This sample population is used for all descriptive statistics except for the set of regressions and descriptive statistics reported in Table 11, which is limited to the Creative Class. Variable definitions and summary statistics are reported in Table 6.

The division of the workforce among Florida’s three classes is relatively even with 34.56% belonging to the Creative Class, 41.50% belonging to the Service Class, and 20.54% belonging to the working class. The Creative Class has the majority of college degree holders in the workforce and the majority of Creative Class members are degree holders. This suggests that there is a correlation between educational attainment and Florida’s occupational classes. However, as noted earlier the variation in unemployment
rates between classes were persistent regardless of degree holding status, though the gap between the Creative Class and the Service and Working Classes did narrow when only those who hold degrees are compared. Further, the more creative and more educated Creative Core consistently had higher rates of unemployment relative to the Creative Professional class. To compensate for those variation controls for educational attainment are included. Further robustness check on subsets by educational status did not reveal substantive discrepancies.

**Table 6 Variable definitions and summary statistics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Definition</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>= 1 if in labor force and unemployed</td>
<td>0.070</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if person is in labor force and employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Class†</td>
<td>= 1 if person reports an occupation of computer and mathematical; architecture and engineering; life physical, and social science; education, training, and library; arts, design, entertainment, sports, and media; management; business and financial operations; legal or health care practitioners and technical</td>
<td>0.346</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Professional</td>
<td>= 1 if person reports occupation of management; business and financial operations; legal or health care practitioners and technical</td>
<td>0.210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Core</td>
<td>= 1 if person reports occupation of computer and mathematical; architecture and engineering; life, physical, and social science; education, training and library; arts, design, entertainment, sports, and media</td>
<td>0.136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recast Creative Class‡</td>
<td>= 1 if see Table 2</td>
<td>0.211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Class</td>
<td>= 1 if person reports and occupation of health care support; food preparation and food service related; building and grounds cleaning and maintenance; personal care and service; sales and related; office and administrative support; community and social services or protective services</td>
<td>0.415</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Class</td>
<td>= 1 if person reports an occupation of construction and extraction; installation, maintenance and repair; production or transportation and material moving</td>
<td>0.205</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>= person’s age (in years)</td>
<td>40.82</td>
<td>13.2</td>
</tr>
<tr>
<td>No high school</td>
<td>= 1 if person is not a high school graduate/GED;</td>
<td>0.116</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>= 1 if person’s highest level of education is a high school graduate/GED</td>
<td>0.460</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 0 if otherwise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate degree</td>
<td>= 1 if person’s highest level of education is an associate’s degree</td>
<td>0.092</td>
<td></td>
</tr>
</tbody>
</table>
Looking at the alternative classifications used to evaluate Gabe, Florida, and Mellander’s creativity thesis several things stand out. As seen in Table 7, Creative Professionals make up nearly two-thirds Creative Class relative to the one-third that is comprised of Creative Core workers. A nearly two to one ratio of Creative Professionals to members of the Creative Core means that Creative Class is primarily comprised of the less creative sub-group. It follows that the estimated value of the aggregated creative class coefficient will be driven by the estimated value of the Creative Professional class because the overwhelming majority of the Creative Class is made up of the less creative sub-classification. Thus, results accruing to the aggregated Creative Class will be biased towards the results of the Creative Professional Class. Given the unemployment rates
presented in Table 3 and Figure 14 the estimated effect on the likelihood of unemployment for members of the aggregated Creative Class are expected to be higher than the Service and Working Classes.

Table 7 Descriptive Statistics for classes and sub-classes

<table>
<thead>
<tr>
<th>Occupational Class</th>
<th>Percent of sample population</th>
<th>Percent Bachelor's degree or greater</th>
<th>Percent white</th>
<th>Percent Black</th>
<th>Percent non-white Hispanic</th>
<th>Percent Asian</th>
<th>Percent Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>All occupations</td>
<td>-</td>
<td>33.15</td>
<td>60.64</td>
<td>11.99</td>
<td>18.81</td>
<td>6.50</td>
<td>52.91</td>
</tr>
<tr>
<td>Creative Class</td>
<td>34.56</td>
<td>64.53</td>
<td>71.86</td>
<td>8.84</td>
<td>9.45</td>
<td>8.09</td>
<td>48.98</td>
</tr>
<tr>
<td>Creative Professional</td>
<td>13.58</td>
<td>60.02</td>
<td>70.46</td>
<td>8.61</td>
<td>9.39</td>
<td>7.16</td>
<td>48.33</td>
</tr>
<tr>
<td>Creative Core</td>
<td>20.97</td>
<td>71.51</td>
<td>70.45</td>
<td>8.61</td>
<td>9.52</td>
<td>9.54</td>
<td>50.00</td>
</tr>
<tr>
<td>Recast Creative Class</td>
<td>21.13</td>
<td>64.45</td>
<td>73.11</td>
<td>7.29</td>
<td>8.98</td>
<td>8.88</td>
<td>61.30</td>
</tr>
<tr>
<td>Service Class</td>
<td>41.50</td>
<td>18.89</td>
<td>55.23</td>
<td>14.96</td>
<td>21.36</td>
<td>6.18</td>
<td>37.67</td>
</tr>
<tr>
<td>Working Class</td>
<td>20.54</td>
<td>7.77</td>
<td>52.37</td>
<td>11.75</td>
<td>29.23</td>
<td>4.54</td>
<td>85.21</td>
</tr>
</tbody>
</table>

Source: Data used is from the IPUMS Current Population Survey database (Flood, et al., 2015)
Note: ‘Before recession’ is 2006 and 2007; ‘During recession’ is 2008 and 2009; ‘After recession’ is 2010 and 2011. Creative Professional, Creative Core, and Recast Creative Class are subsets of the Creative Class see Table 2 for their definitions.

McGranahan and Wojan’s Recast Creative Class makes up 21.13% of the total workforce, a little under two thirds of Creative Class’s representation in the total workforce. The Recast Creative Class is 61.30% bachelor’s degree holders, which is slightly higher than the Creative Class. A comparable, though smaller, estimated reduction in the likelihood of unemployment is expected due to the exclusion of structurally stable occupations.

Regarding the racial composition of the Creative, Creative Core, Creative Professional, and Recast Creative Classes all three were disproportionately white with all four classes registering more than nine percentage points higher than the service and working class. The racial composition of each class is shown in Table 6. This is expected given the relationship between Creative Class membership and education and the
disparity in college degree attainment rates between white and non-white people in the
United States which has been reported by the National Center for Education Statistics
(2019).

In terms of gender composition, the Creative Class and its sub-classes featured
relative gender parity, especially in comparison to the Service and Working Classes,
which were majority women and men respectively. Given the gendered division between
affective and manual labor the gender composition of the Service and Working Classes
are expected (Alonso-Villar, Coral, & Carlos, 2012; Huffman & Cohen, 2003; Cohen,

3.3.2 The replication and its results

To test their hypothesis that being a member of the Creative Class had a significant
impact on the likelihood of unemployment due to their higher level of creativity Gabe,
Florida, and Mellander estimate two models for each of Florida’s classes. The replication
of their regression results is reported in Table 8. Columns 1, 3, and 5 and estimate the
effects of membership in the Creative, Service, and Working Classes over the entire
period investigated, 2006-2011. The second specification—columns 2, 4 and 6—estimate
the effects of being a member of a particular occupational class during or after the
recession. All results are reported as marginal effects. All of the estimated coefficients
were comparable to those found in Gabe, Florida, and Mellander (2012).

The regression models are specified to isolate the specific occupational class from
the others, thus indicating the effect a membership in a class has on the likelihood of
being unemployed. For example, the coefficient corresponding to Creative Class
indicates the effect that being a member of Florida’s Creative Class. The variables during
(2008-2009) and after (2010-2011) measure the overall effects on the likelihood of being unemployed relative to the pre-recession period. Columns 2, 4, and 6 include a ‘class’ and ‘period’ interaction variable which measures the effect of being a member of an occupational class in each period relative to all other class period combinations. In Table 9 the unemployment rates of the base occupational class groups are presented for ease of comparison.

The first two columns present the estimates of the probit regressions specified to compare the Creative Class to workers in the Service or Working classes. The Creative class had an estimated 2.17 percentage point reduction in the likelihood of being unemployed from 2006 to 2011 compared to segment of workers in either the Service or Working Class, without the class/period interaction variables. When the interactions between class and period are included, the effect of being a member of the Creative Class is a 1.97 percentage point reduction in the likelihood of being unemployed, relative to Service and Working Class members. During the recession Creative Class members had an additional, though statistically insignificant reduction of .08 percentage point reduction in the likelihood of unemployment relative to Service and Working Class members. From 2010 through 2011 the Creative Class had an additional .44 percentage point reduction, in the likelihood of being unemployed after the recession relative to members of the Service and Working Class.
Table 8 The estimated marginal effects for each of Gabe, Florida, and Mellander’s specified probit models. Results reported as marginal effect of the parameter on the likelihood of being unemployed, 2006-2011.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Creative Class</th>
<th>(2) Creative Class with period interaction</th>
<th>(3) Service Class</th>
<th>(4) Service Class with period interaction</th>
<th>(5) Working Class</th>
<th>(6) Working Class with period interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>All other Occupational Classes (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Class</td>
<td>-0.0217*** (0.000989)</td>
<td>-0.0197*** (0.00168)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Class during recession</td>
<td>-</td>
<td>-0.000839 (0.00222)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Class after recession</td>
<td>-</td>
<td>-0.00446*** (0.00194)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Class</td>
<td>-</td>
<td>-</td>
<td>-0.00131 (0.00114)</td>
<td>0.00688*** (0.00170)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Class during recession</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Class after recession</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Working Class</td>
<td>-</td>
<td>-</td>
<td>-0.01010*** (0.00167)</td>
<td>0.0230*** (0.00145)</td>
<td>0.00700*** (0.00173)</td>
<td>-</td>
</tr>
<tr>
<td>Working Class during recession</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0206*** (0.00228)</td>
</tr>
<tr>
<td>Working Class after recession</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0224*** (0.00272)</td>
</tr>
<tr>
<td>Before recession (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During recession</td>
<td>0.0274*** (0.00148)</td>
<td>0.0276*** (0.00156)</td>
<td>0.0275*** (0.00149)</td>
<td>0.0332*** (0.00180)</td>
<td>0.0274*** (0.00149)</td>
<td>0.0215*** (0.00142)</td>
</tr>
<tr>
<td>After Recession</td>
<td>0.0514*** (0.00180)</td>
<td>0.0527*** (0.00192)</td>
<td>0.0517*** (0.00183)</td>
<td>0.0579*** (0.00227)</td>
<td>0.0515*** (0.00183)</td>
<td>0.0446*** (0.00177)</td>
</tr>
<tr>
<td>High school diploma (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No high school diploma</td>
<td>0.0214*** (0.00165)</td>
<td>0.0214*** (0.00165)</td>
<td>0.0233*** (0.00174)</td>
<td>0.0232*** (0.00172)</td>
<td>0.0214*** (0.00173)</td>
<td>0.0216*** (0.00174)</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Associate degree</td>
<td>-0.0111***</td>
<td>-0.0111***</td>
<td>-0.0137***</td>
<td>-0.0137***</td>
<td>-0.0126***</td>
<td>-0.0126***</td>
</tr>
<tr>
<td></td>
<td>(0.00104)</td>
<td>(0.00104)</td>
<td>(0.00106)</td>
<td>(0.00106)</td>
<td>(0.00106)</td>
<td>(0.00106)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>-0.0160***</td>
<td>-0.0160***</td>
<td>-0.0221***</td>
<td>-0.0221***</td>
<td>-0.0191***</td>
<td>-0.0190***</td>
</tr>
<tr>
<td></td>
<td>(0.00114)</td>
<td>(0.00114)</td>
<td>(0.00120)</td>
<td>(0.00120)</td>
<td>(0.00115)</td>
<td>(0.00115)</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>-0.0200***</td>
<td>-0.0200***</td>
<td>-0.0277***</td>
<td>-0.0277***</td>
<td>-0.0247***</td>
<td>-0.0245***</td>
</tr>
<tr>
<td></td>
<td>(0.00126)</td>
<td>(0.00126)</td>
<td>(0.000993)</td>
<td>(0.000991)</td>
<td>(0.00112)</td>
<td>(0.00113)</td>
</tr>
<tr>
<td>White (base)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.000971</td>
<td>0.000979</td>
<td>0.00271</td>
<td>0.00279</td>
<td>0.00136</td>
<td>0.00142</td>
</tr>
<tr>
<td></td>
<td>(0.00179)</td>
<td>(0.00179)</td>
<td>(0.00180)</td>
<td>(0.00180)</td>
<td>(0.00181)</td>
<td>(0.00182)</td>
</tr>
<tr>
<td>Black</td>
<td>0.0419***</td>
<td>0.0419***</td>
<td>0.0446***</td>
<td>0.0445***</td>
<td>0.0434***</td>
<td>0.0434***</td>
</tr>
<tr>
<td></td>
<td>(0.00207)</td>
<td>(0.00207)</td>
<td>(0.00211)</td>
<td>(0.00210)</td>
<td>(0.00212)</td>
<td>(0.00212)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.00241</td>
<td>0.00240</td>
<td>0.00332**</td>
<td>0.00337**</td>
<td>0.00274*</td>
<td>0.00277*</td>
</tr>
<tr>
<td></td>
<td>(0.00150)</td>
<td>(0.00150)</td>
<td>(0.00153)</td>
<td>(0.00153)</td>
<td>(0.00151)</td>
<td>(0.00152)</td>
</tr>
<tr>
<td>Other Race</td>
<td>0.0266***</td>
<td>0.0266***</td>
<td>0.0274***</td>
<td>0.0274***</td>
<td>0.0270***</td>
<td>0.0269***</td>
</tr>
<tr>
<td></td>
<td>(0.00505)</td>
<td>(0.00505)</td>
<td>(0.00501)</td>
<td>(0.00500)</td>
<td>(0.00505)</td>
<td>(0.00502)</td>
</tr>
<tr>
<td>Female (base)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-0.00154</td>
<td>-0.00154</td>
<td>-0.00210**</td>
<td>-0.00208**</td>
<td>-0.00557***</td>
<td>-0.00561***</td>
</tr>
<tr>
<td></td>
<td>(0.000955)</td>
<td>(0.000956)</td>
<td>(0.000941)</td>
<td>(0.000940)</td>
<td>(0.000917)</td>
<td>(0.000915)</td>
</tr>
<tr>
<td>Observations</td>
<td>453,690</td>
<td>453,690</td>
<td>453,690</td>
<td>453,690</td>
<td>453,690</td>
<td>453,690</td>
</tr>
</tbody>
</table>


Note: The results of each probit model, specifying a binary occupational class variable, are in a single column. Regressions (1), (3), and (5) show the estimated marginal effect of being in the Creative, Service, and Working Class, respectively, on an individual’s likelihood of unemployment. Regressions (2), (4), (6) show the marginal effect of being in the Creative, Service, and Working Class, respectively, on an individual’s likelihood of unemployment with interactions between occupational class and time period.

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Table 9 Unemployment rates of entire sample and each occupational class base

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All occupational classes</td>
<td>4.49%</td>
<td>6.93%</td>
<td>9.55%</td>
<td>7.00%</td>
</tr>
<tr>
<td>Service &amp; Working</td>
<td>5.79%</td>
<td>8.88%</td>
<td>12.25%</td>
<td>8.96%</td>
</tr>
<tr>
<td>Creative &amp; Working</td>
<td>4.15%</td>
<td>6.91%</td>
<td>9.55%</td>
<td>6.88%</td>
</tr>
<tr>
<td>Creative &amp; Service</td>
<td>4.02%</td>
<td>5.76%</td>
<td>8.12%</td>
<td>5.98%</td>
</tr>
</tbody>
</table>


Columns 3 and 4 of Table 8 present the marginal effects for regressions specified to compare the members of the Service Class to those in the Creative or Working Classes. In column 3 the marginal effect of being in the Service Class is estimated as a.13 percentage point reduction in the likelihood of unemployment relative to members of the Creative or Working Classes and was statistically significant at the 90% confidence interval level. When interaction terms for class and period were included the estimated general effect of being a member of the Service Class was an estimated .69 percentage point increase in the likelihood of unemployment relative to the Creative and Working Classes. However, it was insignificant at the 90% confidence interval level. Being a member of the Service Class during the recession resulted in an estimated 1.03 percentage point reduction in the likelihood of unemployment. The estimated effect of being in the Service Class after the recession was a 1.01 percentage point reduction in the likelihood of unemployment relative to the Creative and Working Classes.

Columns 5 and 6 report the marginal effects for the probit regressions specified with the Working Class as the occupational class independent variable. There was an
estimated 2.3 percentage point increase in the likelihood of unemployment relative to
Creative or Service Class members when the regression was specified without
class/period interaction variables. When interaction variables were included, there was an
estimated general effect of 0.7 percentage point increase in the likelihood of
unemployment for members of the Working class relative to those in the Creative or
Service Class. During the recession there was an additional estimated 2.07 percentage
point increase in the likelihood unemployment relative to those in the Creative or Service
Class. The Working Class faced a 2.24 percentage point increase in their likelihood of
unemployment in the likelihood of unemployment relative to the Creative and Service
Classes in the post-recession period.

Educational attainment above a high school level had a significantly reduced the
likelihood of unemployment, while having less than a high school degree increased an
individual’s likelihood of unemployment. The estimated effects were relatively stable
across all six specifications. However, the effects were more pronounced in the non-
creative occupational classes. It may be the case that the Creative Class occupational
variable in the probit regressions found in columns 1 and 2 of Table 8 is inflated because
of the link between Creative Class membership and education. However, the persistence
of the variation between classes indicates that while the effects may be inflated the results
will not be biased in the presence of multicollinearity.

Regarding race, the effect of being non-white was an increase in the likelihood of
being unemployed and there was not much variation in the coefficients between
specifications. People identified as Black in the dataset had the largest estimated increase
in the likelihood of unemployment, with an increase of over four percentage points.
While all non-white racial categories had estimated increases in the likelihood of unemployment the estimates, the Hispanic racial category were statistically insignificant.

The estimated results for gender were ambiguous with significant fluctuation in the estimated effects between specifications. The Creative Class specifications had statistically insignificant effects on the likelihood of unemployment for men. The Service Class specifications estimated a reduction in the likelihood of unemployment for men. The Working Class specifications estimated an increased likelihood of unemployment for men. It is difficult to make inferences on the role of because of the inconsistency in the results, and this difficulty is compounded by the huge variations in gender composition by occupational class.

Overall, the results of the direct replication of Gabe, Florida, and Mellander’s regressions specified in *CCC* were consistent with their original results, despite variations in the exact specification of the sample. As such, the set of regressions seems to suggest that the Floridian hypothesis is correct, and membership in the Creative Class provides significant benefits in terms of the likelihood of unemployment.

### 3.3.3 Testing the construct validity of the Creative Class

Table 10 presents the marginal effects corresponding to the probit regressions specified with the Recast Creative Class as the occupational category independent variable, with controls for time period, education, race, gender, industry, and metropolitan area. In general, the estimates were in line with both Gabe, Florida, and Mellander’s (2012) findings and those of McGranahan and Wojan (2007).

The regression results presented in Tables 12 and 14 were arrived at using the same the same method and model used in *CCC* on two different sets of the sample population.
The regressions presented in Table 12 use the Creative Professional sub-class as the occupational class variable and the sample population is limited to the Creative Class. Doing so allows for a direct comparison of the two sub-classes. Table 14 applies the same method as previous sets of regressions to the whole sample population and specifies regressions with the Creative Professional – columns 1 and 2 – and the Creative Core – columns 3 and 4 – as the occupational variable. The results demonstrate that members of the Creative Professional sub-class had a lower likelihood of unemployment relative to the Creative Core sub-class, while members of the Creative Core were effectively no better off than the average worker. This result demonstrates that the advantages of being in the Creative Class are not the result of higher magnitudes of creativity, because a substantive reduction in the likelihood of unemployment only applied to those in the less creative Creative Professional sub-class.
Table 10 Results for probit regressions specified with the Recast Creative Class. Estimates presented as marginal effects.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All other Occupational Classes (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recast Creative Class</td>
<td>-0.0172***</td>
<td>-0.0185***</td>
</tr>
<tr>
<td></td>
<td>(0.00123)</td>
<td>(0.00192)</td>
</tr>
<tr>
<td>Recast Creative Class during recession</td>
<td>0.00158</td>
<td>0.00261</td>
</tr>
<tr>
<td></td>
<td>(0.00192)</td>
<td>(0.00261)</td>
</tr>
<tr>
<td>Recast Creative Class after recession</td>
<td>0.00248</td>
<td>0.00254</td>
</tr>
<tr>
<td></td>
<td>(0.00181)</td>
<td>(0.00187)</td>
</tr>
<tr>
<td>Before recession (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During recession</td>
<td>0.0275***</td>
<td>0.0272***</td>
</tr>
<tr>
<td></td>
<td>(0.00148)</td>
<td>(0.00159)</td>
</tr>
<tr>
<td>After Recession</td>
<td>0.0515***</td>
<td>0.0510***</td>
</tr>
<tr>
<td></td>
<td>(0.00181)</td>
<td>(0.00187)</td>
</tr>
<tr>
<td>High school diploma or equivalent (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No high school diploma or equivalent</td>
<td>0.0221***</td>
<td>0.0221***</td>
</tr>
<tr>
<td></td>
<td>(0.00166)</td>
<td>(0.00165)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>-0.0126***</td>
<td>-0.0126***</td>
</tr>
<tr>
<td></td>
<td>(0.00105)</td>
<td>(0.00105)</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>-0.0187***</td>
<td>-0.0187***</td>
</tr>
<tr>
<td></td>
<td>(0.00110)</td>
<td>(0.00110)</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>-0.0236***</td>
<td>-0.0236***</td>
</tr>
<tr>
<td></td>
<td>(0.00120)</td>
<td>(0.00120)</td>
</tr>
<tr>
<td>White (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.00152</td>
<td>0.00152</td>
</tr>
<tr>
<td></td>
<td>(0.00181)</td>
<td>(0.00181)</td>
</tr>
<tr>
<td>Black</td>
<td>0.0429***</td>
<td>0.0429***</td>
</tr>
<tr>
<td></td>
<td>(0.00208)</td>
<td>(0.00208)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.00295*</td>
<td>0.00295*</td>
</tr>
<tr>
<td></td>
<td>(0.00152)</td>
<td>(0.00152)</td>
</tr>
<tr>
<td>Other Race</td>
<td>0.0270***</td>
<td>0.0270***</td>
</tr>
<tr>
<td></td>
<td>(0.00501)</td>
<td>(0.00501)</td>
</tr>
<tr>
<td>Female (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
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<td>-0.00113</td>
</tr>
<tr>
<td></td>
<td>(0.000961)</td>
<td>(0.000961)</td>
</tr>
<tr>
<td>Observations</td>
<td>453,690</td>
<td>453,690</td>
</tr>
</tbody>
</table>

Note: The results of each probit model, specifying a binary occupational class variable, are in a single column. Regression (1) shows the estimated marginal effect of being in the Recast Creative Class on an individual's likelihood of unemployment. Regression (2) shows the marginal effect of being in the Recast Creative Class on an individual's likelihood of unemployment with interactions between occupational class and time period.

Controls for age, marital status, industry, and metropolitan area not shown

Robust standard errors in parentheses

*** p < 0.01, ** p < 0.05, * p < 0.1
3.3.3.1 Are Gabe, Florida, and Mellander’s results robust when structurally sound occupations are removed from the Creative Class?

Table 10 contains the results for the regressions specified with McGranahan and Wojan’s Recast Creative Class (RCC). Without the class/period interaction variables, the estimated marginal effect of being a member of the RCC is a decrease in the likelihood of unemployment by 1.72 percentage points relative to the population in the Service and Working classes, or the segment of the Creative Class excluded from the Recast Creative Class\(^{11}\). The estimated likelihood of being a member of the Creative Class the recession was a reduction of 1.85 percentage points relative to those outside of the Recast Creative Class when interaction variables are included. There was not a statistically significant effect regarding the interaction between being a member of the Recast Creative Class and time period covariates.

| Table 11 Mean unemployment rates for base occupations that estimates are compared to |
|----------------------------------|--------|--------|--------|
| Service, Working, and remainder of Creative Class | 5.12% | 7.82% | 10.70% | 7.89% |


Placing the estimated values for the Creative Class, from Table 8, and Recast Creative Class, from Table 10, in the context of the base unemployment rates they refer to, Tables 9 and 11 respectively, demonstrates that the estimated effects are comparable. In absolute terms, the effect of holding a Recast Creative Class occupation is smaller than

\(^{11}\) See Table 1 for list of excluded occupations.
that of the Creative Class. However, the estimated effect of holding an occupation in the Recast Creative Class is comparable to that of the Creative Class because the reference population’s unemployment rate is lower for the Recast Creative Class. This result corresponds to the results of *Recasting the Creative Class*, that found that when structural biases were controlled for, the Creative Class still had effects that corresponded to the results of the Floridian literature (McGranahan & Wojan, 2007). Similar results despite the exclusion of structurally resilient occupations, those that featured an inelastic demand within communities like educators, doctors, and state officials, suggest that the Creative Class is robust to the exclusion of such occupations.

### 3.3.3.2 Testing the role of creativity in the favorable unemployment outcomes of the Creative Class

Turning attention to the effects of the Creative Professional and Creative Core sub-classes, variation in creativity is an inadequate explanation for the variation in unemployment rates. Two tests are performed. The first limits the sample population to just the Creative Class which allows for a direct comparison of the two classes by specifying two probit regressions. The first is specified with the Creative Professional sub-class as the occupational class independent variable. The second is specified with the Creative Professional sub-class as the occupational class independent variable and interaction terms for period. The direct comparison of the two sub-classes demonstrated that the Creative Professional sub-class had a lower likelihood of unemployment than the Creative Core, which suggests that creativity is not the primary driver of Gabe, Florida, and Mellander’s results.
The second test returns to the full sample population and specifies four probit regressions. The first is specified with the Creative Professional sub-class as the occupational class independent variable. The second is specified with the Creative Professional sub-class as the occupational class independent variable and interaction terms for period. The third is specified with the Creative core sub-class as the occupational class independent variable. The fourth is specified with the Creative core sub-class as the occupational class independent variable and interaction effects. When regressing on the entire sample population, the results corroborate the results of the earlier test and indicate that membership in the Creative Core does not confer statistically significant protection from unemployment relative to the rest of the population, while the Creative Professional Class does.

The usefulness of Florida’s framing of creativity and the basis for his Creative Class is called into question. This is because the more creative Creative Core is estimated to have worse employment outcomes than the less creative Creative Professional sub-Class. The variations in outcomes between the two sub-classes, and the similar levels of creativity according to O*NET survey responses (O*NET, 2021) between the Creative Professional sub-class and the Service Class, suggest that the causality lies elsewhere. Alternatively, Florida’s ambiguous notion of creativity must be refined to describe the specific type of creativity or skills embodied in the work of business professionals.
Table 12 Probit regression results with Creative Professional sub-class specified as the occupational class term. Sample population is restricted to Creative Class workers. Estimates are reported as marginal effects.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Creative Professional Class</th>
<th>(2) Creative Professional Class with period interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Core (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Professional Class</td>
<td>-0.00619*** (0.00158)</td>
<td>-0.00620*** (0.00136)</td>
</tr>
<tr>
<td>Creative Professional Class during recession</td>
<td>-</td>
<td>-0.000435 (0.00202)</td>
</tr>
<tr>
<td>Creative Professional Class after recession</td>
<td>-</td>
<td>0.000380 (0.00214)</td>
</tr>
<tr>
<td>Before (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During</td>
<td>0.0151*** (0.00140)</td>
<td>0.0154*** (0.00201)</td>
</tr>
<tr>
<td>After</td>
<td>0.0265*** (0.00139)</td>
<td>0.0262*** (0.00213)</td>
</tr>
<tr>
<td>High school diploma or equivalent (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No high school diploma or equivalent</td>
<td>0.0120*** (0.00328)</td>
<td>0.0120*** (0.00328)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>-0.00542*** (0.00114)</td>
<td>-0.00542*** (0.00114)</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>-0.00990*** (0.000932)</td>
<td>-0.00990*** (0.000931)</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>-0.0147*** (0.00106)</td>
<td>-0.0147*** (0.00106)</td>
</tr>
<tr>
<td>White (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.00929*** (0.00205)</td>
<td>0.00929*** (0.00205)</td>
</tr>
<tr>
<td>Black</td>
<td>0.0177*** (0.00178)</td>
<td>0.0177*** (0.00178)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.000828 (0.00150)</td>
<td>0.000822 (0.00150)</td>
</tr>
<tr>
<td>Other Race</td>
<td>0.0141*** (0.00423)</td>
<td>0.0141*** (0.00423)</td>
</tr>
<tr>
<td>Female (base)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>-0.00141* (0.000852)</td>
<td>-0.00141* (0.000852)</td>
</tr>
<tr>
<td>Observations</td>
<td>156,230</td>
<td>156,230</td>
</tr>
</tbody>
</table>


Note: The results of each probit model, specifying a binary occupational class variable, are in a single column. Regression (1) shows the estimated marginal effect of being in the Creative Professional sub-class on an individual's likelihood of unemployment. Regression (2) shows the marginal effect of being in the Creative Professional sub-class on an individual's likelihood of unemployment with interactions between occupational class and time period.

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
3.3.3.3 A direct comparison of the Creative Professional and the Creative Core subclasses

Table 12 presents the results of probit regressions following Gabe, Florida, and Mellander’s method (2012) with the Creative Professional sub-class specified as the occupational class. The sample population is the set of all creative class workers, which means the results give a direct comparison of the effects of Creative Professional and Core membership on the likelihood of unemployment. The base unemployment rates faced by the Creative Core sub-class are found in the first row of table 13.

Table 13 Base Unemployment rates for probit regressions specified in tables 10 and 12

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Core sub-Class†</td>
<td>2.03%</td>
<td>3.47%</td>
<td>3.47%</td>
<td>3.43%</td>
</tr>
<tr>
<td>Creative Core sub-class, Service Class, Working Class</td>
<td>5.17%</td>
<td>7.94%</td>
<td>10.93%</td>
<td>8.01%</td>
</tr>
<tr>
<td>Creative Professional sub-class, Service Class, Working Class</td>
<td>4.86%</td>
<td>7.48%</td>
<td>10.32%</td>
<td>7.56%</td>
</tr>
</tbody>
</table>

† Sample population only includes members of the Creative Class

The results of the regression specified with no interaction between Creative Professional membership and time period suggest that Creative Professionals had a .62 percentage point decreased likelihood of unemployment relative to the Creative Core. All else equal, the likelihood unemployment faced by the Creative Professional class faced over the whole period was estimated to be 81.95% of the Creative Core sub-class. there were no interaction effects that were statistically significant within a 90% confidence interval the regression specified with the interaction between occupational class and time period. However, the general effect of being in the Creative Professional sub-class was
statistically significant for a 99% confidence interval and within .01 percentage points of the effect estimated in the regression specified without interaction terms.

This set of results demonstrates that the estimated benefits, in terms of a reduced likelihood of unemployment are, are greater for those in the Creative Professional sub-class. These results are consistent with the summaries of unemployment rates by class and period reported in Table 3 and Figure 14 which, showed that Creative Professionals had consistently lower unemployment rates than all of Florida’s classes and sub-classes. It can be inferred from this that creativity as framed by Florida (Florida, 2002) and Gabe, Florida, and Mellander (Gabe, Florida, & Mellander, 2012), is not the basis for the difference in employment outcomes. This is because members of the Creative Core sub-class were found to be more likely to be unemployed despite being rated as more creative relative to the Creative Professional sub-class by O*NET survey results and by Florida’s own specification.
Table 14 Probit regression results with the Creative Professional and Creative Core sub-classes specified as the occupational class. Estimates reported as marginal effects. Regressed on entire sample population.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Creative Professional sub-class</td>
<td>Creative Professional sub-class with period interactions</td>
<td>Creative Core sub-class</td>
<td>Creative Core sub-class with period interactions</td>
</tr>
<tr>
<td>Creative Core (base)</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>(0.000986)</td>
<td>(0.00153)</td>
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<tr>
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<td>-</td>
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</tr>
<tr>
<td></td>
<td>(0.00260)</td>
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<td></td>
<td></td>
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<tr>
<td>Creative Professional Class after recession</td>
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<td>(0.00247)</td>
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<tr>
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<td>Creative Core sub-class during recession</td>
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</tr>
<tr>
<td>Creative Core sub-class after recession</td>
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<td>-</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>(0.00294)</td>
</tr>
<tr>
<td>Before (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During</td>
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<td>0.0275***</td>
<td>0.0275***</td>
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<tr>
<td></td>
<td>(0.00147)</td>
<td>(0.00150)</td>
<td>(0.00149)</td>
<td>(0.00153)</td>
</tr>
<tr>
<td>After</td>
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<td>0.0519***</td>
<td>0.0516***</td>
<td>0.0521***</td>
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<td>(0.00182)</td>
<td>(0.00187)</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No high school diploma or equivalent</td>
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<td>0.0216***</td>
<td>0.0232***</td>
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<td>-0.0134***</td>
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<tr>
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<td>(0.00106)</td>
<td>(0.00105)</td>
<td>(0.00105)</td>
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<tr>
<td>Bachelor's degree</td>
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<td>-0.0215***</td>
<td>-0.0215***</td>
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</tbody>
</table>

137
<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Degree</td>
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<td>(0.00110)</td>
<td>-0.0225***</td>
<td>(0.00110)</td>
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<td>(0.00106)</td>
<td>-0.0270***</td>
<td>(0.00106)</td>
</tr>
<tr>
<td>White (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>Hispanic</td>
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<td>(0.00111)</td>
<td>0.00117</td>
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<td>0.00263</td>
<td>(0.00106)</td>
<td>0.00262</td>
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<td>Black</td>
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<td>(0.00111)</td>
<td>0.0423***</td>
<td>(0.00111)</td>
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<td>(0.00106)</td>
<td>0.0444***</td>
<td>(0.00106)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.00171</td>
<td>(0.00117)</td>
<td>0.00171</td>
<td>(0.00117)</td>
<td>0.00341**</td>
<td>(0.00106)</td>
<td>0.00339**</td>
<td>(0.00106)</td>
</tr>
<tr>
<td>Other Race</td>
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<td>(0.00507)</td>
<td>0.0265***</td>
<td>(0.00507)</td>
<td>0.0274***</td>
<td>(0.00501)</td>
<td>0.0274***</td>
<td>(0.00502)</td>
</tr>
<tr>
<td>Female (base)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>-0.00208**</td>
<td>(0.000948)</td>
<td>-0.00208**</td>
<td>(0.000948)</td>
<td>-0.00177*</td>
<td>(0.000945)</td>
<td>-0.00176*</td>
<td>(0.000945)</td>
</tr>
</tbody>
</table>

Observations: 453,690, 453,690, 453,690, 453,690


Note: The results of each probit model, specifying a binary occupational class variable, are in a single column. Regressions (1) and (3) shows the estimated marginal effect of being in the Creative Professional and Creative Core sub-classes, respectively, on an individual's likelihood of unemployment. Regressions (2) and (4) show the marginal effect of being in the Creative Professional and Creative Core sub-classes on an individual's likelihood of unemployment with interactions between occupational class and time period. Both are specified relative to all other occupations.

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
The variations between the Creative Professional and Creative Core sub-classes are consistent when models are specified with Creative Professional sub-classes as the occupational class. When specified without interaction terms for period the Creative Professional sub-class was estimated to be 2.26 percentage points less likely than those not in the Creative Professional sub-class to be unemployed. When regressed on the entire sample population with interaction terms for time period, the general effect of being in the Creative Professional subclass was estimated to be 2.10 percentage points without any of the interaction terms being statistically significant at the 90% confidence interval or greater. These are substantive reductions in the likelihood of unemployment relative to the reference group, which had a mean unemployment rate of 8.01%. In both specifications it was estimated, all else equal, that Creative Professionals’ unemployment rate was less than 75% the reference group’s.

The probit regressions specified with the Creative Core sub-class as the occupational class reported in columns 3 and 4 of Table 14 further support the claim that the Creative Core’s protection from unemployment was weaker than the Creative Professional sub-class’s. In column 3 the estimated effect of holding a Creative Core occupation was a .408 percentage point reduction in the likelihood of unemployment relative to the mean unemployment rate of those holding Creative Professional, Service, or Working Class occupations. As shown in Table 13 the mean unemployment rate for the reference population was 7.56%, meaning that the estimated unemployment rate for the Creative Core sub-class, all else equal, would be 7.15% or 95% of the reference population’s.
The results from columns 3 and 4 indicate that the effect of being in the creative core was either relatively small or statistically insignificant reduction in the likelihood of being unemployed relative to the reference population. Thus, the creative class was minimally shielded from the effects of the recession based on their likelihood of unemployment. At worst, those holding Creative Core occupations were no better off than the rest of the workforce in terms of unemployment.

3.4 The relevance of the results to the role of creativity in determining unemployment

Taken as a whole, these results cast significant doubt on the claim made by Gabe, Florida, and Mellander that creativity is the key determinant in the relatively lower
likelihood of unemployment than the Service and Working Classes. When Florida’s Creative Class was decomposed into its constituent parts, the Creative Professional and Creative Core sub-classes, their respective estimated effects on the likelihood of unemployment diverged. Results showed that the Creative Professional sub-class was less likely than the Creative Core sub-class to experience unemployment rates. Consequently, the less creative sub-class, the Creative Professionals, had a lower estimated rate of unemployment than the Creative Core. This result indicates that creativity is not positively correlated with lower rates of unemployment.

When comparing means, the Creative Professional sub-class’s unemployment rate was lower than the average unemployment rates of the Creative, Service, and Working Classes as well as the Creative Core sub-class. Further, the Creative Professional sub-class was estimated to have significant and substantive reductions in the likelihood of unemployment. In comparison, the Creative Core sub-class’s unemployment rate was consistently less than the average unemployment rate for the Creative Class as a whole.

When probit regressions were specified with the Creative Core as the occupational class of interest the results indicated that if there was a benefit, it was small compared to the reduction in the likelihood of unemployment for Creative Professionals.

Two things can be inferred from the mean unemployment rates of the sub-classes, results of the probit regression analysis, and composition of the creative class. First, the Creative Professional sub-class is driving the results attributed to the Creative Class. This is because the Creative Professional sub-class workers make up a large majority of the Creative Class thus biasing the results toward the Creative Professional’s employment outcomes. Creative Professional sub-class’s unemployment rates were consistently lower
than the whole Creative Class’s. Consequently, being a majority and having a lower unemployment rate necessarily brings down the average unemployment rate for the class as a whole. The evidence from the means is corroborated by the probit regression analysis which showed that the Creative Professional sub-Class membership significantly reduced the likelihood of unemployment, while the Creative Core was shown to reduce the likelihood unemployment to a much smaller degree.

Second, it is also clear that creativity is not the decisive factor in the lower unemployment rates experienced by the Creative Class, because the less creative Creative Professional sub-class was shown to be the driver of those substantively lower rates. To claim that creativity is the deciding factor for the variation in unemployment rates between occupational classes requires evidence that the more creative segments of the population consistently outperformed those with lower levels of creativity. A less creative occupational grouping, one that had creativity comparable to the Service Class, – the Creative Professional sub-class--outperformed the most creative – the Creative Core.

Both points taken together indicates a lack of evidence in favor of the Gabe, Florida, and Mellander’s creativity hypothesis. Taken in aggregate the Creative Class performs as expected and suggests a narrative consistent with the Floridian literature’s claim about the centrality of creativity in the contemporary economy. However, when its component parts are investigated it is seen that the dynamics of those components are not entirely consistent with that narrative, the more creative occupations underperform the less creative. In this light the language of creativity obscures a more complicated story about the changing nature of the US economy and labor market.
3.5 Conclusions and paths forward

The results draw a sharp contrast between the Creative Core and Creative Professional sub-classes. Two conclusions can be drawn from these results. First, the role of creativity in the Creative Class’s resiliency is thrown into question because the more creative portion of the Creative Class had a minimal impact on the likelihood of unemployment. Second, the estimated protective effect of the Creative Class membership on the probability of unemployment is driven by the Creative Professional sub-class. This is evidenced by the fact that the Creative Professional sub-class members make up an overwhelming majority of the Creative Class and an estimated effect that was greater than the Creative Class’s.

The above conclusions have implications for an analysis of the Creative Class. If one wants to maintain that creativity is the causal characteristic, they must claim that it is creativity of a different sort--one that applies specifically to managerial and administrative tasks of white-collar Professional Creatives. However, because the method used by Gabe, Florida, and Mellander focuses on the occupation of the worker rather than a direct measure of an individual’s creativity, it is more likely that there are structural issues at work tied to the nature of the firm. For example, the professionalized workers that make up the Creative Class may experience lower unemployment rates because of the stickiness of white-collar work in the firm. Firms can adjust the level of output in response to variations in short term and in doing so adjust the workers employed in production or service. While workers immediately involved in the production process are hired and fired in response to production needs, professionalized workers involved in
business operations like management, financing, and accounting are required as long as
the firm exists. In concrete terms, a car manufacturer can hire and fire factory workers in
response to output needs, but the accounting department persists in its current form until
medium and long-run planning is adjusted.

The creativity and Creative Class framework used by Gabe, Florida, and
Mellander must be rethought and clarified if clear policy conclusions are to be drawn
from their work. In terms of reframing, the supporters of the creativity thesis must specify
a form of creativity that specifically applies to the sort of creativity embodied by
management, legal, and finance professions. Moreover, as noted at the beginning of this
essay the reframing of creativity must also involve a clarifying and demystification of
what the theorists mean when they use creativity as an operative idea in their work,
especially in the context of popular and public facing literature. This is because the
creativity that seems to be in mind for Florida and his co-thinkers—one that applies to
management, administrators, financiers, and attorneys—differs significantly from what is
popularly understood as creative, the type that is associated with artists, musicians,
writers, and designers. This is important because without a clear analysis city managers
and regional planners may incorrectly attempt development via the latter form than the
former.
REFERENCES


