CHARTING GENDER: THE SUCCESS OF FEMALE ACTS IN THE U.S. MAINSTREAM RECORDING MARKET, 1940–1990

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ABSTRACT

Research on creative workers speaks to the relative lack of job opportunities available, the role that changing production logics play in shaping such opportunities, and gender disparities in success. Tracking the 22,561 hits found on Billboard's mainstream charts, we examine various factors that may spur or hamper the success of female recording acts. We find that the expanding logic of decentralized production eliminates the negative effect of concentration on the success of female acts and that the presence of successful female acts in one period bodes well for subsequent female acts, until a glass ceiling of sorts is reached.

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INTRODUCTION

Research that addresses creative workers (e.g., authors, musicians) in media industries reveals a number of patterns, of which we mention a few. First, relatively few individuals enjoy success in terms of employment and/or contracts with media firms, as the pool of potential workers frequently exceeds the actual number of positions available (see Menger, 1999), and fewer still enjoy success in terms of career longevity. Of the 1,048 fiction authors that published their first book in the U.S. during 1940, 1955, or 1970 – more than half never published a second book, and only eight published 50 or more books (Ekelund & Börjesson, 2002). Of the 1,078 directors of films released in the U.S. from 1965 to 1980 – more than half never directed a second film, and only six directed ten or more films (Faulkner & Anderson, 1987). Second, a range of factors – which are not reducible to the individual worker – exacerbates such disparities in success, including assumptions regarding the capabilities of women. In nascent media industries, for instance, women achieved prominence in certain types of creative work – by comprising at least half of all novelists in the early 1800s, by editing the groundbreaking *Ladies Home Journal* in the late 1800s, and by constituting a notable portion of screenwriters for silent films in the early 1900s. However, as these industries prospered and as business operations were formalized, women were often relegated to limited tasks that were now deemed suitable for feminine sensibilities (e.g., writing “women’s films”) while the creative work that they formerly pursued was largely re-defined as the purview of men – and would be so defined for decades to come (Bielby & Bielby, 1996; Damon-Moore & Kaestle, 1991; Tuchman, 1989).

Finally, changing production logics in media industries shape how such success unfolds for creative workers. By a contested process, for example, the early film industry went from a logic of exploiting technology – such as gaining competitive advantage via patents and releasing films that merely showed the novelty of the medium (e.g., short snippets of physical activity) – to a logic of exploiting content, whereby films with extended narrative plots, multiple camera angles, and close-ups became common. With this shift in logics, actors went from being nameless participants to “stars” around which films were constructed and marketed. Consequently, career opportunities changed markedly for film actors, including the amount of money that they earned (Jones, 2001; Kerr, 1990).

We add to this research on creative workers by examining longitudinally the success of female performing acts in the U.S. mainstream recording

1 market. In doing so, we also speak to a growing literature in the social
2 sciences and humanities that addresses the opportunities that women face in
3 music. Historically, women have encountered barriers that men did not,
4 ranging from differentially distributed resources to gender stereotypes (e.g.,
5 Bayton, 1998; Macleod, 1993). For example, the association of masculinity
6 with both musical genius and the playing of certain musical instruments
7 placed women at a relative disadvantage by casting them as interlopers in
8 composition and performance (e.g., DeNora, 1995, 2002; Walser, 1993).
9 Despite these historical barriers, however, a strand of scholarship shows
10 that women persisted in music-making, though not in as visible a fashion as
11 their male counterparts (e.g., Citron, 1993; Rohlfing, 1996; Tucker, 2000).
12 Moreover, another strand of research shows that women musicians have
13 made recent inroads – enjoying expanded opportunities, for example, as
14 instrumentalists in orchestras and rock bands (e.g., Allmendinger & Hack-
15 man, 1995; Clawson, 1999). This paper, then, highlights factors that account
16 for changing opportunities of female musicians in a specific setting – with a
17 critical factor being a shift in production logics.

18 This paper proceeds in several broad sections. It begins by describing the
19 context of our study. It next turns to factors that could account for the
20 aggregate success of female acts in this market. Drawing on scholarship that
21 ranges from organizational sociology to social movement theory, we glean
22 hypotheses regarding *general* factors at work in media markets (e.g., shifting
23 production logics) and we control for the impact of specific *historical* factors
24 (e.g., the flourishing of the women's movement). By attending to this range
25 of factors, we take seriously the point made by Keith Negus (1999): the
26 recording industry obviously produces culture in the music that it offers, yet
27 its production is also shaped by the cultural environment in which it is
28 located.

29 The final section of the paper empirically tests our hypotheses. We track
30 the 22,561 recordings found on *Billboard's* mainstream charts from 1940 to
31 1990, documenting the quarterly number of these hits by female performing
32 acts. We then use Poisson regression to assess which factors significantly
33 predict such success by female acts across this 50-year span. Beyond con-
34 tributing to the literature on creative workers and complementing interdis-
35 ciplinary scholarship on women and music-making, the present results build
36 on a companion study addressing the success of African-American per-
37 formers in the mainstream market (Dowd & Blyler, 2002).

WOMEN AND THE MAINSTREAM RECORDING MARKET

The mainstream is the oldest and largest market in the U.S. recording industry, encompassing a variety of musical styles and performer types over its many years of existence (Dowd, 2003); the collective success of women performers in this market, while sometimes impressive, has often been limited, if not sporadic, when compared to that of male performing acts. In the early 1900s, the songs of Tin Pan Alley composers (e.g., Irving Berlin, George Gershwin) dominated the mainstream market (Garofalo, 1997; Pessen, 1985). This stylistic dominance continued into the 1940s, when big bands and their vocalists (both male and female) included such songs in their repertoires. Women typically did not appear as instrumentalists with big bands (Tucker, 2000), serving instead as “canaries” who were “beautifully coiffed and made up, costumed in an elegant gown” (Hoke, 1991, p. 259). However, this elaborate physical presentation did not extend to musical arrangements; as DeVeaux (1988) suggests in one account, female singers provided the basic melody as male instrumentalists created complex arrangements and improvisations.

A number of changes occurred in the mainstream market from the 1940s onward. The ongoing success of “crooners” (e.g., Frank Sinatra) and the emergence of “cowboys” (e.g., Gene Autry) further legitimized male vocalists, thus encroaching on one of the few musical roles in which women potentially achieved prominence (Dickerson, 1998; see McCracken, 1999). Still, female vocalists who were once associated with big bands sometimes retained their popularity into the 1950s, long after the popularity of these bands had waned. Though not always enjoying mainstream success to the extent of their male counterparts who had likewise originated with big bands (e.g., Bing Crosby, Perry Como), the now-solo vocalists included such prominent performers as Doris Day, Ella Fitzgerald, Peggy Lee, Kay Starr, and Margaret Whitting (see Garofalo, 1997; Hamm, 1979). These women were soon joined in the mainstream by a new cohort of female vocalists, including soloists (e.g., Teresa Brewer, Connie Francis, Brenda Lee) and “sister” groups (e.g., DeCastro Sisters, Lennon Sisters, McGuire Sisters) (Gaar, 1992). From the mid-1950s onward, however, the explosion of rock music in the mainstream market arguably hampered the success of female vocalists, as this genre was (and still is) largely defined as the domain of men (see Clawson, 1993; Walser, 1993). Against that backdrop, the 1960s saw the rise of a particular type of “girl group” that stressed tight vocal harmonies

1 and choreographed appearance (Cyrus, 2003). Hirshey (2001, p. 50) explains
that in the wake of “congressional payola scandals and parental backlash”
3 that accompanied the rise of rock music, the recording industry “...with a
formula for mass-market success: fewer moving parts on stage, lots of well-
5 crafted hooks and cute, carbonated lyrics.” The Shirelles demonstrated the
formula’s success in 1961, topping the mainstream charts and paving the
7 way for such girl groups as the Chiffons, Dixie Cups, and Shangri-Las
(Bradby, 1990; Gaar, 1992). The ultimate demise of the this girl group
9 phenomenon is sometimes attributed to the British Invasion, when music
with a strictly vocal emphasis was unable to compete with the electric guitars
11 of groups like The Beatles (Bayton, 1998).

Shifting stylistic tendencies continued through the end of the century,
13 occasionally benefiting women performers. The folk revival of the 1960s
created opportunities for some female performers, such as Joan Baez, Ode-
15 tta, Judy Collins, and Joni Mitchell. However, even major festivals of the
time (e.g., Monterey, Woodstock) presented fairly few women on their
17 stages (Hirshey, 2001). In the male dominated scene, women were more
frequently cast as backup singers or groupies (Dickerson, 1998). While the
19 diffusion of R&B music into the mainstream market in the 1960s obviously
benefited men performers (e.g. Stevie Wonder, Marvin Gaye), it also fostered
21 the success of such women as The Supremes, Diana Ross, Aretha
Franklin, and Dionne Warwick (see Dowd, 2003; Gaar, 1992; Ward, 1998).
23 The feminist movement of the 1970s allowed women to see their partici-
pation in historically male endeavors – including music – as a political
statement (Bayton, 1998). Nevertheless, all-women rock bands (e.g., Fanny,
25 ISIS, and Birtha) enjoyed little to no mainstream success when encroaching
on this decidedly masculine genre (Skinner, 2004). Instead, mainstream
27 success mostly flowed to those female vocalists working on the edges of
rock, such as the country-tinged work of Anne Murray, Olivia Newton-
John, Helen Reddy, and Linda Ronstadt and the R&B influenced work of
31 the Pointer Sisters and, on occasion, Sheena Easton (Gaar, 1992). As the
1970s gave way to the 1980s, the “glamour queens” of disco (Hirshey, 2001)
33 recalled the “canaries” of the big band era (Hoke, 1991), while the emer-
gence of punk and new wave music actively subverted gender norms and
35 sometimes allowed women easier entry to music-making (Bayton, 1998;
Clawson, 1999; Leblanc, 1999). The 1980s witnessed a brief revival of girl-
37 groups – with this variant including female vocalists *and* instrumentalists
(e.g., The Go-Go’s, The Bangles) who achieved mainstream success (Hirs-
39 hey, 2001). As the old century gave way to the new, divas with vocal dex-
terity benefited from the continued presence of R&B in the mainstream (e.g.,

1 Mariah Carey, Christina Aguilera), as did female rappers who also
 2 achieved mainstream success (e.g., Queen Latifah; see Emerson, 2002;
 3 Keyes, 2002).

4 Despite the periodic successes of female performers in the mainstream
 5 market, women have historically faced challenges in the industry. Production
 6 roles and other decision-making positions have been disproportionately
 7 filled by men (Bayton, 1998; Dickerson, 1998; Gaar, 1992; Parsons, 1988),
 8 leading to concerns about sexism. Women performers have been frequently
 9 construed as “novelty acts” (Bayton, 1998). This narrow definition leads to
 10 the clumping of disparate groups together and, in turn, affects the abilities
 11 of female performers to disseminate their music. For example,

12 Ask a contemporary female performer about getting radio airplay and you’ll hear the
 13 same story. “I can’t put you into the rotation this week,” says the DJ in Anytown. “I’ve
 14 already added Alanis, Tori, Sarah, or *anyotherwoman*, so I can’t add another.” The
 15 assumption behind this absurd argument is that women all occupy the same space in
 16 music, so why would you need two? The flawed logic doesn’t end there. Not only does it
 17 restrict the number of women getting on radio playlists, but it’s also why concert promoters
 18 feel that two women on the same touring bill is strictly *verboten* (Childerhose,
 19 1998, p. 18).

20 Considering this obstacle-ridden environment leads us to question, which
 21 factors are at work when women do overcome barriers and achieve success.
 22 The mainstream market thus provides an ideal setting in which to explore
 23 the intersection of gender and career at the aggregate level.

24 25 26 27 28 29 **GENERAL FACTORS ACCOUNTING FOR** 30 **MAINSTREAM SUCCESS OF FEMALE ACTS**

31 In this section, we mostly draw upon organizational sociology to detail
 32 general factors that longitudinally shape the mainstream success of female
 33 acts. While organizational sociology has not typically focused on women
 34 musicians, we show how it pertains to female acts in the aggregate. The
 35 general hypotheses that we derive thus complement the scholarship beyond
 36 organizational sociology that admirably documents the barriers (and opportunities)
 37 that have confronted specific female acts at particular points in
 38 time.
 39

Concentration

When addressing the careers of creative workers, a common starting point is the impact of dominant firms. This starting point is conceptually reasonable. Proponents of the new institutionalism in organizational sociology (Scott, 1995) theorize that firms which dominate a given market also shape the manner in which the entire market operates (e.g., Fligstein, 1996). Media scholars similarly argue that dominant firms usually define the business environment that confronts both creative workers (e.g., Farrell, 1994; Peterson & Anand, 2002) and small firms (e.g., Lee, 1995; Miller, 1999). However, institutionalists and media scholars also point to the potentially tenuous position of dominant firms (e.g., Leblebici, Salancik, Copay, & King, 1991; Powell, 1991). Various “shocks” to the market – including new competitors, new technologies, and/or new governmental regulations – can undermine the dominance of particular firms and create opportunities for other firms to attain dominance; when the latter occurs, the market now operates in a fashion dictated by newly dominant firms. This starting point is also empirically reasonable. Creative workers affiliated with dominant firms often enjoy more opportunities than those at small firms (e.g., Bielby & Bielby, 1999; Janssen, 1998), and the ascendance of newly dominant firms can expand opportunities for some creative workers (Dowd, 2003; Jones, 2001).

A noteworthy literature brings together these conceptual and empirical issues by examining the impact of “concentration” – the extent to which a few firms dominate a given market – on a variety of outcomes, including the careers of creative workers (e.g., Bielby & Bielby, 2003; Mezas & Mezas, 2000; Neiva, 1996). The seminal work of Peterson and Berger (1972, 1975) also Peterson, (1990) offers an important example, especially their examination of the rupture that occurred around 1955 when rock’n’roll and rhythm and blues (R&B) swept into the mainstream market. Note first the historical significance of this rupture. In its wake, once-dominant record firms (“majors”) did not hold sway over the mainstream market; instead, a flood of small firms (“independents”) enjoyed considerable success. Hence, RCA, Columbia, Decca, and Capitol saw their combined market share plummet as Atlantic, Chess, Dot and a host of other independents posed competitive challenges. Likewise, performing acts associated with the majors (e.g., Doris Day) lost their once-sizable advantage over those acts associated with independents (e.g., Gogi Grant). However, after grappling with this rupture for several years, the old-guard (e.g., RCA) and ascendant (e.g., Warner Bros.) majors eventually re-established dominance through a

1 number of strategies, such as signing performers away from independents
(e.g., Dion and the Belmonts) and signing unknown acts adept at rock music
3 (e.g., The Beach Boys). From their vantage in the 1970s, Peterson and
Berger (1975) expected that retrenched majors would eventually offer a
5 limited variety of music and performers – especially when compared to the
variety found in the mid-1950s.

7 The explanation that Peterson and Berger (1975) offer regarding this
rupture stresses both “concentration” and “diversity” – with the latter re-
9 ferring to much variability among the market’s firms (e.g., a large number of
new recording firms), personnel (e.g., a sizable number of new acts), and
11 content (e.g., an expansive range of lyrical themes). They argue that con-
centration and diversity are inversely related, with long periods of high
13 concentration and low diversity occasionally ruptured by short periods of
low concentration and high diversity. On the one hand, their argument
15 draws on scholarship in industrial organization economics and media stud-
ies which notes that dominant firms tend toward conservatism and away
17 from innovation because of constraints associated with large size (e.g., the
red-tape of bureaucracy) and because they lack a credible challenge from
19 competitors and, hence, can ignore consumer demand without fear of re-
prisal. This provides the basis for the inverse relationship that Peterson and
21 Berger posit. On the other hand, they draw on scholarship in sociology
concerning the cyclical nature of cultural production and on the history of
23 the mainstream recording market. Based on such materials, they emphasize
the confluence of factors that gave independents access to an audience
25 whose demand was not met by the majors around 1955. For example, the
propagation of specialist radio targeting teen tastes and the growing influ-
27 ence of disk jockeys helped independents prosper in a dramatic but short-
lived fashion. This provides the basis for the longitudinal pattern that Pe-
29 terson and Berger posit, wherein the mid-1950s and, to a lesser extent, the
1960s witnessed the flourishing of diversity.

31 Although Peterson and Berger (1975) do not explicitly consider the gender
of performers, we suggest that the relative success of female acts is another
33 appropriate indicator of diversity. Given the historical barriers that women
have faced in the mainstream market, a burgeoning of female acts would
35 indicate heightened diversity because of, at the very least, a greater hetero-
geneity among performers. Furthermore, Barbara Bradby (1990) argues
37 that the rise of female acts in the 1960s can also heighten diversity with
regards to content. Contrasting the “girl groups” of the 1960s with male
39 rock bands, she makes the case that the relation between primary vocalists
and background vocalists – as well as the organization and delivery of lyrics

1 – was markedly different for these female acts. At a time when industry
 3 concentration had not returned to its highest levels (Peterson & Berger,
 5 doing so while based at independents rather than majors (Gillett, 1983).
 7 Brady (1990, p. 34) writes, “The equation of small with progressive and big
 9 with conservative can be easily overlaid with a gender analysis.” If Peterson
 and Berger’s (1975) argument holds, and if the success of female acts is an
 adequate measure of diversity – as Bradby’s (1990) work suggests – then we
 should expect the following:

11
 13 **Hypothesis 1.** Concentration has a negative effect on the success of female
 acts.

15 *Production Logics*

17
 19 While some emphasize “concentration” in their consideration of firms that
 21 dominate a given market, a growing number of scholars emphasize the
 23 production logics by which firms operate – that is, “the cognitive maps, the
 25 belief systems carried by participants...guide and give meaning to their
 27 activities...” (Scott, Ruef, Mendel, & Caronna, 2000, p. 20). In doing so,
 29 they problematize the treatment of firms found in some institutional and
 31 media scholarship, wherein the conservative nature of dominant firms is
 33 taken as given. In contrast, these scholars argue that the nature of firms
 35 *varies* rather than remains uniform; dominant firms may pursue drastically
 37 different logics in one period versus another. Patricia (Thornton’s 2001,
 2002; Thornton & Ocasio, 1999) work on higher education publishing pro-
 39 vides a telling example. Prior to the mid-1970s, dominant firms in this US
 industry embraced an editorial logic that stressed, among other things, the
 prestige of the publishing house, the reputation of its editors, and the nur-
 turing of authors. Under this logic, competition for resources had little or no
 bearing on the publishers’ rate of executive turnover, their merger activity,
 and their adoption of the multidivisional form (MDF). From the mid-1970s
 onward, however, dominant firms in the industry embraced a market logic
 that stressed, among other things, return on investments, sophisticated
 marketing, and profitability. In the wake of this logic, resource competition
 has great bearing on executive succession, mergers, and MDF adoption. The
 “nature” of these dominant firms changed markedly as one logic gave way
 to another.

One line of argument within this growing literature is particularly relevant for this paper: the impact of concentration on various market outcomes – including the careers of media workers – is not uniform but, instead, is *contingent* upon logics of production (see Dobbin & Dowd, 2000; Dowd, 2003). A group of researchers demonstrates such contingent effects in the mainstream recording market. When assessing the applicability of Peterson and Berger’s arguments for the 1970s and beyond, they find that diversity (e.g., number of new acts and firms, musical complexity) need not decline in the face of rising concentration (e.g., Burnett, 1992b; Dowd, 1992; Frith, 1988; Hellman, 1983). Lopes (1992) and Dowd (2004) reconcile these arguments with that of Peterson and Berger (1975) in the following manner: In the era described by Peterson and Berger (1975), dominant firms embraced a logic of centralized production; the majors relied on an extensive bureaucracy for production of recordings and simultaneously sought to quash the success of independents. High concentration levels resulted when majors succeeded and led to reduced diversity in the mainstream market. In a later era, however, dominant firms embraced a logic of decentralized production; the majors dismantled once-sizable bureaucracies by turning to freelance producers, establishing a host of subsidiary labels¹ and pursuing contractual alliances with numerous independents. The successful pursuit of this logic led to high concentration but not to low diversity. Indeed, diversity could now thrive amidst high concentration as majors seek to coopt an expanding range of performers and genres via this decentralization.

Recent work documents the diffusion of decentralized production in the mainstream market (Dowd, 2000, 2003, 2004; Dowd & Blyler, 2002). In the early 1940s, the era of centralized production was in full bloom and concentration was relatively high. Three majors (Columbia, Decca, and RCA Victor) accounted for all mainstream hits and 99% of all recorded music, and they faced few competitors. As the 1940s and early 1950s unfolded, however, a swarm of competitors entered the mainstream market. Capitol Records, for example, rose to the ranks of the majors by exploiting an innovative strategy at the time – providing radio DJs with free recordings for broadcast – while two others (with formidable parent companies) attained major status, MGM and Mercury. The new majors were joined by hundreds of independents – with many of the latter dealing in musical styles that lay beyond the purview of the majors (e.g., rock’n’roll, R&B). As the dominance of the majors declined, each took steps to address the emergent genres (and demand) that their centralized approach had mostly ignored. By 1955, each major had established subsidiary labels to target particular gen-

res and/or audiences, thereby expanding and bolstering their range of music while decentralizing their respective organizations.

Decentralized production grew more pronounced in the years that followed – with each major presiding over a growing web of subsidiary labels and inter-firm alliances. Warner Brothers, for instance, began the 1960s with one label, but by the early 1990s, its operations spanned some 90 labels. In the latter period, it acquired Tommy Boy Records, a specialist in rap and dance music; its new subsidiary label, in turn, entered into a joint-venture with Steps on Records and contracted to distribute Ill Records and Living Large Records – thereby extending Warner’s reach into rap and dance music. It made similar moves with alternative rock: its Atlantic subsidiary label distributed Interscope Records and entered joint-ventures with two other specialists, Mammoth and Matador (Davies, 1993; Hilburn & Philips, 1992; McAdams, 1992; Nathan, 1992). Because of this new logic, then, the majors are less conservative in their approach than they once were. The relative lack of bureaucracy – as well as freelance producers – helps limit the routinization of music-making found in the earlier era, while the web of labels and alliances help the majors pursue and coopt new musics and performers. While high levels of concentration are not necessarily desirable, their effects are more benign under the logic of decentralized, rather than centralized, production.

Decentralized production has implications for women musicians in the mainstream market. If the relative success of female acts is an indicator of diversity, then female acts will likely benefit from decentralized production, as have other indicators of diversity. For example, in an era where concentration increased dramatically – decentralized production facilitates a growing range of musical genres in various recording markets (Burnett, 1992a; Lopes, 1992; see also Hesmondhalgh, 1998) and heightens musical dissimilarity in the mainstream (Dowd, 2000). The expansion of decentralized production also spurs the number of new performing acts and recording firms entering the mainstream market, with high levels of decentralized production completely eliminating the negative impact of concentration (Dowd, 2004). Most notably, amidst rising concentration, the expansion of decentralized production also fosters the relative success of another group that has historically faced barriers in the mainstream market: African-American performers. It would not be surprising if women performers likewise enjoyed greater success as decentralized production expands. Some scholarship already hints at this pattern, noting that women performers from once-marginal genres have enjoyed mainstream success during an era when majors absorb such genres via their web of labels and alliances (see

Clawson, 1999; Lont, 1992; Keyes, 2002). Gottlieb and Wald (1994, pp. 251–252) observe

In the case of the bands, Hole, Babes in Toyland and L7...major-label contracts carry with them certain undeniable perks – like an audience of more than a few thousand people and enough money to concentrate exclusively on the production of new music...the signing of the three most recognizable ‘angry women bands’ to major labels may signal mainstream commercial acceptance of a new role for women in rock and, most optimistically, the beginnings of a new role for women.

If the argument regarding production logics holds, and if the success of female acts is an appropriate indicator of diversity, then the following should occur:

Hypothesis 2. The negative effect of concentration on the success of female acts is reduced by the expansion of decentralized production.

Legitimacy

Some approach the careers of creative workers by emphasizing the uncertainty entailed in the production of aesthetic goods (e.g., music, motion pictures) rather than the dominance of particular firms. Given that aesthetic goods do not typically address utilitarian needs, demand for them can be extremely difficult to predict (Hirsch, 1972, 2000). Many firms respond to this uncertainty by selecting creative workers who have attained success in the past (e.g., Bielby & Bielby, 1994; Faulkner, 1983) and workers who, in some fashion, resemble those who previously attained success (e.g., Baker & Faulkner, 1987; Grazian, 2003). Such a response allows firms to legitimate their actions (Bielby & Bielby, 1994).² That is, whether or not these creative workers will again succeed when given opportunities, firms can defend their selections by pointing to the track records of said personnel (see Jones, 2002). Nevertheless, some creative personnel can unexpectedly attain success, thereby altering which individuals and types will be selected and legitimated in the future (see Phillips & Owens, 2004; Watkins, 1998).

This approach to creative careers resonates with much organizational theory. Its portrayal of selection routines harks back to notions of bounded rationality: firm managers make decisions based on limited information searches rather than on gathering all possible information; they rely especially on information that has served them well in the past and do so until it proves ineffective (e.g., Cyert & March, 1963). The widespread use of these selection routines calls to mind institutional theory: firms in uncertain markets imitate the routines of their successful competitors, with extensive im-

1 itation giving way to taken-for-granted ways of operating; firms collectively
2 rely on these institutionalized routines until an arguably “better” alternative
3 comes along – as when new and unexpected successes undermine extant
4 routines (e.g., DiMaggio & Powell, 1983). Finally, its treatment of legiti-
5 macy evokes an emphasis found in organizational ecology: legitimacy is not
6 a dichotomous outcome, where it is either present or absent, but an outcome
7 that rises and falls along a continuum (e.g., Dobbin & Dowd, 1997). Put
8 another way, some “track records” are more legitimate than others.

9 The ecological emphasis on the waxing and waning of legitimacy is par-
10 ticularly useful for our purposes. Consider first the general argument. Ecol-
11 ogists describe a curvilinear pattern for the total number (“density”) of
12 market actors, whether these actors be firms or creative workers (e.g., Han-
13 nnan & Carroll, 1992; Haveman, 2004). As a new type of actor emerges and
14 increases in number, their growth is enabled by a market that is flush with
15 relevant resources. Their initial growth thus denotes increasing legitimacy,
16 as producers and consumers deem these actors to be acceptable (see also
17 Scott, 1995). However, continuing growth can prove problematic. Once
18 density reaches relatively high levels, the once-flush supply of resources is
19 now divided among a large number of actors. As a result, relatively high
20 density denotes competition rather than legitimacy.

21 Now consider the implications of the density argument. On the one hand,
22 it nicely captures claims that the initial success of a few female acts paves the
23 way for subsequent female acts by legitimating the market (and aesthetic)
24 viability of women performers (e.g., Clawson, 1999; Gaar, 1992; Keyes,
25 2002; Lont, 1992). Accordingly, the impressive success of Jo Stafford, Patti
26 Page, and the Andrews Sisters in the mainstream market of the 1940s and
27 early 1950s (Hamm, 1977) should bode well for the subsequent success of
28 female acts. On the other hand, the density argument also addresses the
29 possible “glass ceiling” that women performers face because of stereotypes
30 and biases that shape the selection process (e.g., Bayton, 1998; Parsons,
31 1988; Rohlfling, 1996). It suggests, in particular, that only a limited number
32 of female acts can enjoy success in the mainstream market; when the total
33 number crosses a certain threshold, a high number actually dampens sub-
34 sequent opportunities for the mainstream success of female acts. This might
35 explain, then, why the collective success of female acts in the 1940s and early
36 1950s (e.g., Stafford, Page) was later followed by the dearth of success
37 described by Garofalo (1997, p. 14), “While some women were able to
38 achieve a certain status as vocalists in the decades preceding the emergence
39 of rock’ n’ roll...status could be achieved, disappeared rapidly with the
40 advent of rock’ n’ roll. Indeed, rock ‘n’ roll actually reduced the presence of

women in popular music.” If the density argument holds for women performers, then we expect the following:

Hypothesis 3. The total number of female acts (density) has a curvilinear relationship with the subsequent success of female acts.

Legitimacy may flow from the most recent successes of creative workers rather than from the entire span of their careers (i.e., density). At the level of individual creative workers, for instance, Bielby and Bielby (1999) find that the latest success has more bearing on subsequent opportunities than does past success. Put another way, legitimacy has an “expiration date” of sorts in the selection process, as the track record of a creative worker is “only as good as [his/her] most recent hit” (Bielby & Bielby, 1999, p. 80). At the aggregate level of creative workers, organizational ecology provides an example of how to approach such short term legitimation (Dobbin & Dowd, 1997; Singh & Lumsden, 1990). Ecologists find that when a market is conducive to a particular type of actor (e.g., a new firm), then a rising number of these actors in one period will encourage comparable numbers in the subsequent period because eager producers and consumers provide a hospitable market for such actors. However, there are limits to this positive contagion: an excessively high number of actors in one time period may take resources away from subsequent actors, as producers and consumers are now sated with such actors. While comparable to the density argument, this contagion argument is nevertheless distinctive in its ability to capture the brief flurry of a particular type of actor in the market-place – a flurry that fades as quickly as it emerges.

Taking our cue from organizational ecology, we posit how short-term legitimation may unfold in the mainstream market. When recording industry personnel witness the current popularity of female performers, they may be willing to support and feature them in the immediate future. However, if personnel in the recording industry are not particularly enamored with female acts, which some scholarship suggests, then a high number of successful acts may have a backlash affect – leading to reduced efforts and, hence, lowered success for female acts in the future. Such short-term legitimation may underlie the faddishness described earlier in the paper, where particular types of female acts enjoy but a short bout of success, as was the case with the girl groups of the 1960s and the disco glamour queens of the 1970s. That is, the faddishness may stem from a contagion associated with the number of female acts rather than the ebb and flow of particular genres. This is comparable to Gillian Gaar’s (1992, p. xiii) lament about a general pattern that transcends genre:

When given the opportunity, women performers have proved again and again that they can sell records, but doubts about the ability of women artists to make records that people will actually want to buy remain – even today, managers relate that they still have trouble finding a record deal with companies who continue to claim “But we already have a girl singer.”

If the legitimization that success offers is brief, then we expect the following to hold at the aggregate level:

Hypothesis 4. The previous success of female acts will have a curvilinear effect on the subsequent success of female acts.

HISTORICAL FACTORS ACCOUNTING FOR MAINSTREAM SUCCESS OF FEMALE ACTS

The previous section details general factors that likely shape the careers of creative workers in a wide range of markets. However, existing scholarship also suggests that unique factors can operate within a specific market, shaping the careers of particular types of creative workers. In a previous study, for example, we find that the success of African-American performers in the mainstream market was hampered by *de facto* segregation of both the musician’s union and radio airplay (Dowd & Blyler, 2002). While women musicians have not been hampered by such segregation, the literature does suggest other historical factors that may hinder or promote their mainstream success. We now turn to these for devising control variables.

Wartime Shortages

Several shortages that arose during World War II challenged the music business and, in turn, may have held implications for female acts. Specifically, these shortages may have augmented the mainstream success of women performers. First, WWII created a general labor shortage in the U.S., as a massive number of men relocated due to wartime efforts abroad. This resulted in new work roles for women in manufacturing and electrical industries (Milkman, 1987), yet it also created new opportunities for women musicians, especially those female jazz and swing bands that had received little attention in the 1930s. “As the draft and enlistment whittled away at the ranks of men’s bands, women’s bands profited from the range of jobs available to them” (Tucker, 2000, p. 48). Perhaps a similar dynamic played out in the mainstream recording market. Second, WWII also witnessed a

1 particular type of labor shortage – a strike among the majority of instru-
 3 mentalists (but *not* vocalists) in the U.S. and Canada. Concerned about the
 loss of performance opportunities to technology (e.g., prerecorded music
 5 used by movie houses and radio stations), the American Federation of
 Musicians imposed a ban on commercial recording until record companies
 7 agreed to pay into the union’s unemployment fund (Anderson, 2004). This
 ban lasted from 1942 to 1944 and opened the door for new mainstream acts
 that filled the gap created by absent AFM members (Dowd, 2004). It could
 9 very well be the case that women (e.g., vocalists) were well represented
 among these new acts. Finally, a shortage of manufacturing materials (e.g.,
 11 the shellac used in record discs) limited the number of recordings released by
 the industry. Just as the dearth of recordings directed increased attention to
 13 a once-marginalized group – R&B performers (Dowd, 2003) – this dearth
 may have also directed attention to female acts in the mainstream market.

15 Then again, these shortages may have hampered the mainstream success
 of female acts. While employment opportunities did expand for women
 17 musicians in the hinterlands, the established big bands (e.g., Benny Good-
 man, Glenn Miller, Tommy Dorsey, Kay Kyser) continued to dominate the
 19 most prestigious concert venues in urban centers, as well as the mainstream
 recording market (DeVeaux, 1997; Hamm, 1979; Millard, 1995). Regarding
 21 the recording ban, instrumentalists in women’s bands were likewise mem-
 bers of the musician’s union and, hence, constrained in their studio efforts.
 23 In fact, few of these women’s bands would ever make a recording (Tucker,
 2000). Meanwhile, notable vocalists who emerged during the ban were male
 25 – Frank Sinatra (formerly the vocalist for Tommy Dorsey) and the Mills
 Brothers (Garofalo, 1997; Hamm, 1979). In the face of labor and material
 27 shortages, the dominant recording companies (a) focused their efforts on the
 most commercially successful of their acts (e.g., Glenn Miller) at the expense
 29 of moderately successful acts (e.g., Duke Ellington), (b) re-issued past
 records, and (c) issued a backlog of previously unreleased records (And-
 31 erson, 2004; DeVeaux, 1988). Such shortages, then, could have worked
 against a flurry of female acts in the mainstream. Rather than privilege
 33 either the positive or negative effects of wartime shortages, we control for
 either possibility in our analysis.

37 *Industry Recession*

39 Some research suggests that, not only do female acts enjoy less success than
 their male counterparts, they are also less likely to enjoy success when the

1 recording industry faces economic instability (Anderson, Hesbacher, Etz-
2 korn, & Denisoff, 1980; Hesbacher & Anderson, 1980; Hesbacher, Clasby,
3 Clasby, & Berger, 1977). As explained by Lisa Lewis (1990, p. 69), “Poor
4 economic conditions threatened to curb for the foreseeable future the music
5 industry’s awards of new contracts to ‘risky’ musicians. This translated into
6 dim prospects for female musicians.”

7 During the time frame of our study, the recording industry underwent a
8 period of considerable economic instability – an industry recession that
9 lasted from 1979 to 1982. This recession represented a significant downturn,
10 as production levels and sales had risen somewhat steadily since World War
11 II and had peaked in the late 1970s. In 1978, the industry produced more
12 than 700 million recordings and generated more than 4 billion dollars in
13 sales. The boom then turned to bust. Total sales of recordings declined by
14 11%, dropping from \$4.1 billion in 1978 to \$3.6 in 1979. This recession
15 continued until the end of 1982, when the massive sales of Michael Jackson’s
16 *Thriller* revitalized the industry (Frith, 1988; Garofalo, 1997; RIAA, n.d.).
17 We have already found that this recession dampened the mainstream success
18 of Black performers, as hard times eroded their promotion and support by
19 recording firms (Dowd & Blyler, 2002). We now control for the possibility
20 that a similar dampening occurred for female acts.

23 *Impact of MTV*

25 The emergence of Music Television (“MTV”) in 1981 represented a major
26 development for the mainstream market, as well as for the broader music
27 business in the U.S. and abroad (Banks, 1997; Regev, 1997). Although
28 variants of music videos had been around for decades (Goodwin, 1992),
29 MTV’s arrival meant that the use of videos for promotion became common-
30 place in the mainstream market. To be sure, record companies did not
31 immediately embrace MTV, but they did so when it became apparent that
32 MTV provided an ideal medium for launching new performing acts (espe-
33 cially compared to radio) and for stimulating album sales (Banks 1996;
34 Garofalo, 1997). Jack Banks (1997, p. 293) describes the growing acceptance
35 of videos as follows:

37 Record label reliance on music video grew so extensive that video clips became con-
38 sidered a necessity for an artist to achieve success in the pop market. While only twenty
39 three of the top 100 hit singles listed in Billboard’s “Hot 100” chart had accompanying
40 videos in May 1981, the number of singles with videos increased to eighty-two in May
41 1986, and rose even further to ninety-seven of the top 100 hits by December 1989.

Many scholars have focused on the gendered nature of music videos (e.g., Walser, 1993), with particular emphasis given to depictions of women (e.g., Banks, 1997; Emerson, 2002; Pegley, 2000). While acknowledging the extent to which music videos objectify women, some also emphasize the benefits that videos have afforded certain female acts. “Whereas the rock era celebrated male superstars...the rise in popularity of female performers in the post rock era coincided with the emergence of MTV as a format for integrating feminine based icons with visual and aural performances” (Katovich & Makowski, 1999, p. 141). Sometimes conforming to stereotypical portrayals – and sometimes subverting them – Madonna, Pat Benatar, Cyndi Lauper, and Janet Jackson used their respective music videos to attain mainstream success (see Banks, 1997; Gottlieb & Wald, 1994; Lewis, 1990; Whiteley, 2000). We control for MTV’s impact to see if an increasing reliance on videos benefited women performers in general, rather than just a select few.

Women’s Movement

Recent music scholarship examines how social movements provide a seedbed from which artists and their critique-laden content³ can spring, as well as a receptive – if not readymade – audience. This work considers, for example, how particular movements may have fostered the commercial and/or critical success of hillbilly (Roscigno, Dahaner, & Summers-Effler, 2002), folk (Eyerman & Barretta, 1996; Skinner, 2006), and rap musicians (Keyes, 2002; Watkins, 2001). Given the focus and time frame of our study, a consideration of the role played by the women’s movement is eminently reasonable.

The women’s movement that blossomed during the 1960s and 1970s is commonly acknowledged as a turning point for women in the United States. Increased activity in the quest for equal rights, heightened visibility of women’s issues, and the spread of consciousness-raising groups began transforming society on multiple levels. The organization building that accompanied and enabled this movement was especially impressive (see Liddle, 2004; Whittier, 1997). For example, Debra Minkoff (1995) documents more than 400 organizations in operation between 1955 and 1985 that were devoted to women’s issues – including women’s organizations focused on advocacy (e.g., National Association of Women) and culture (e.g., Women Make Movies). She finds a marked increase in the total number (density) of women’s organizations beginning in 1969. For example, while the annual

1 increase in the density of women's organizations ranged from zero to three
2 organizations between 1955 and 1968, their density increased by 11 organ-
3 izations in 1969. In subsequent years, through 1980, the annual increase
4 ranged from 10 to 36. Such organization-building reflects how the women's
5 movement inspired an impressive mobilization of resources and broad sup-
6 port for a variety of women's activities.

7 Music was one area in which the women's movement prompted activity,
8 especially during the 1970s. Frustrated by a male-dominated recording in-
9 dustry and performance venues that were not often receptive to female acts,
10 women began creating alternative opportunities for themselves (Lont, 1992;
11 Morris, 1999; Skinner, 2004). "Women-identified" music featured feminist-
12 or lesbian-focused lyrics combined with popular music idioms (Petersen,
13 1989). Women trained themselves and one another in sound recording and
14 concert production (Hogan & Hudson, 1998; Morris, 1999; Sandstrom,
15 2000). In 1973, the first festival devoted to women's music took place at
16 Sacramento State University (Morris, 1999), presaging such sizable gath-
17 erings as the annual Michigan's Womyn Festival (Dowd, Liddle, & Nelson,
18 2004). A collective of women formed Olivia Records in 1973 and two years
19 later released the first long-playing album that was produced completely by
20 women. By 1979, there were enough distributors to warrant the formation
21 of WILD – the Women's Independent Label Distribution Network (Petersen,
22 1989). These activities were vital in creating women's audiences and
23 demonstrating the viability of the women's market (Baxandall & Gordon,
24 2000; Hogan & Hudson, 1998; Post, 1997). Indeed, a number of women who
25 later received mainstream recognition – including Melissa Etheridge and
26 Tracy Chapman – began their careers on the women's music festival circuit
27 (Lont, 1992; Morris, 1999).

28 The women's movement could have at least two effects on the mainstream
29 market. On the one hand, its flowering in the 1970s could have fostered the
30 success of female acts in the mainstream, as music business personnel and/or
31 audiences grew increasingly receptive to female acts. This would parallel the
32 situation of African-American performers, where the civil rights movement
33 accompanied a rise in the success of Black acts in the mainstream market
34 (e.g., Dowd, 2003; Dowd & Blyler, 2002). On the other hand, the women's
35 movement in the 1970s could have led to limited success for female acts – as
36 the alternative market for women's music siphoned off potential artists and
37 listeners from the mainstream market. We allow for either effect by controlling
38 the flourishing of the women's movement in our analysis.

DATA AND METHODS

In an ideal world, researchers would have complete data on the economic performance of all firms in a given market, as well as the products offered by all firms. This ideal world, however, typically does not exist for researchers investigating U.S. media markets (see Thornton & Ocasio, 1999). The privately owned firms that populate these markets are not legally required to divulge such data (and most do not). Publicly owned firms typically provide only the most basic of data, as when multinational corporations detail the overall performance of their respective firms rather than the performance of specific media divisions within the firms. Moreover, there are no systematic data for U.S. sales of particular recordings across the time frame of our study. Facing this less than ideal world of data, we follow the lead of previous researchers (e.g., Lopes, 1992; Peterson & Berger, 1975) and rely on the popularity charts of *Billboard* to construct a dataset. By summarizing weekly sales and airplay of recordings, the charts of this industry trade paper detail *which* firms and acts enjoyed mainstream success (i.e., hit recordings) in a given week. Working from that information, we can longitudinally gauge the dominance of particular recording firms (“concentration”) and careers of performing acts (“density”), as well as examine our dependent variable – the number of female acts that succeed in a particular period. Given the larger project in which this paper is situated (Dowd, 2000, 2004; Dowd & Blyler 2002), we similarly track the weekly *Billboard* charts from 1940 to 1990.

While some have drawn on *Billboard* charts that address the most popular *albums* (e.g., Lopes, 1992), we instead draw on the mainstream charts that address the most popular *songs* (“singles”). We do this because the singles charts span the entire time frame of our study, whereas the album charts did not begin until the mid-1950s. From 1940 to 1957, *Billboard* supplied separate singles charts based respectively on retail sales, radio play, and jukebox play. We tracked performers and firms in all three of these weekly charts. From 1958 to 1990, *Billboard* provided weekly *Hot 100* charts, which were based on a combination of sales and radio play. We used these to track all performers and firms listed in each of the weekly 100 spots. All the charts we used report how successful an individual song is relative to others; in fact, the charts report *only* such rankings (e.g., Number 3 on the charts versus Number 99) rather than actual sales or radio play. Thus, the 22,561 hits that we track from 1940 to 1990 share a consistent metric.

Our reliance on *Billboard* charts entails more than convenience. Its charts offer key information by which recording industry personnel apprehend their various markets – including the mainstream market (Anand & Peterson, 2000). In fact, widespread acceptance of a particular market – be it the R&B market in the 1940s or the world music market in the 1990s – is symbolized by the establishment of its own chart in *Billboard* (Dowd, 2003; Taylor, 1997). Consequently, when we use hit singles to assess success within the mainstream market, we are drawing on a measure that industry personnel likewise use when evaluating the success and careers of performing acts.

Dependent Variable

Our dependent variable is the quarterly number of hit recordings performed by female acts. To construct this variable, we examined the performers listed on each of the hit singles in the mainstream market. For hits by a single individual (e.g., Ella Fitzgerald), we coded the performer as “female” if the individual is a woman (as is the case for Fitzgerald). However, for hits that feature acts with multiple individuals (e.g., Peter, Paul, and Mary) or feature a combination of acts (e.g., Ella Fitzgerald and the Ink Spots), we coded them as “female” only if *all* the performers are women. Hence, recordings by “Peter, Paul, and Mary” and “Ella Fitzgerald and the Ink Spots” were not coded as “female.” We use this coding approach so as to highlight when female performers have success independent of males. We employed a variety of sources to ascertain the gender composition of performing acts, including album covers, reference books (e.g., Hardy & Laing, 1991; Whitburn, 1994), and music websites (e.g., <http://www.allmusic.com>; <http://www.ubl.com>). Fortunately, we were able to identify the gender composition of performing acts in all but 33 of the nearly 23,000 hits in our dataset. We did not include these 33 cases in our analysis.

Fig. 1 shows that the quarterly number of hits by female acts is quite low in the early 1940s, at its height in both the mid-1950s and -1960s, and is moderate in subsequent years. Fig. 2 reveals that female acts never account for more than 40% of all hits in a given quarter; in fact, they typically account for a small minority of hit recordings – averaging 16% per quarter. Given the relative lack of variation in the quarterly percentage of female acts, we focus our attention on the quarterly numbers in Fig. 1.

Fig. 1. Quarterly Number of Mainstream Hits by Female Acts.

Fig. 2. Quarterly Percentage of Hits by Female Acts.

Independent Variables

Concentration

We rely on the Herfindahl index to measure market concentration. This index simultaneously assesses the total number of firms and their respective market shares via the following formula:

$$\text{Herfindahl Index} = \sum (Si)^2 (i = 1, 2, 3, \dots, n) \tag{1}$$

where S represents the percentage share of individual firm and i and n is the number of firms in the market. The Herfindahl index (when divided by 10)

1 ranges between 0 and 1,000, with “0” indicating perfect competition and
“1,000” indicating perfect monopoly (Dobbin & Dowd, 2000).

3 We use the Herfindahl index to gauge the quarterly share of hit singles
5 enjoyed by each firm. We credited a firm with a hit when it owned or
distributed the label on which the hit was released, thereby replicating pre-
7 vious research (Lopes, 1992) and capturing the growing alliances among
recording firms (Peterson & Berger, 1996). We attributed a hit’s firm on a
9 case-by-case basis and, as a result, recognized the numerous changes in
ownership and distribution arrangements that occurred over the 50-year
11 time frame. We relied on a number of firm and industry sources when
identifying ownership and distribution, including weekly issues of *Billboard*,
13 annual issues of *Billboard’s Buyer’s Guide*, annual editions of *Moody’s In-*
dustrial Manual, annual corporate reports, and various editions of *The Re-*
cording Industry Sourcebook and *The Yellow Pages of Rock*. We also relied
15 on the work of other scholars who have documented ownership and dis-
tribution, including Gart (1989), Gillett (1983), and Sanjek and Sanjek
17 (1991). Fig. 3 shows that concentration is at its highest in 1940, when Co-
lumbia, Decca, and RCA completely dominated the market. Concentration
19 declines throughout the 1940s and 1950s, rebounds in the early 1960s, and
increases almost steadily thereafter.

23 *Decentralized Production*

We measure decentralized production by noting the quarterly number of
25 *labels* that enjoyed hits relative to the number of recording *firms* that did so,
thereby following the example of Lopes (1992). We constructed this ratio by
27 relying on the same sources used for constructing the concentration variable

Fig. 3. Concentration in the Mainstream Recording Market.

Fig. 4. Decentralized Production in the Mainstream Recording Market.

(see above). Fig. 4 shows the last vestiges of an earlier era of decentralized production in the early 1940s (Dowd, 2004, p. 1418). By the mid-1940s, decentralized production is all but nonexistent, with the number of labels and firms nearly equal in some time periods, dropping to a ratio of 1.07. A slight increase in decentralization occurs in the 1950 and a sizable increase occurs in the 1960s. This upward trajectory continues for much of the remaining time period.

Density of Female Acts

We created this variable in two steps. First, we constructed a life history for each female act that enjoyed mainstream success, detailing when it secured its first and last mainstream hit singles and, if applicable, when it garnered hits in between. Some female acts could have experienced their first hit before 1940 (left truncation) while others could have had their last hit after 1990 (right truncation). We addressed left truncation by using Whitburn (1986) to see if each act enjoyed mainstream success prior to 1940; 11 of the acts did so. We addressed right truncation by tracking the *Billboard* charts through 1995; 55 acts had mainstream hits after 1990. Second, we aggregated the number of female acts that were in existence at the beginning of each quarter. From 1940 to 1965, the density of female acts rises steadily from 11 acts to its peak of 64 acts. Thereafter, the quarterly density hovers between 44 and 63 (see Fig. 5). Ecologists model the curvilinear impact of density by using the polynomial, $X - X^2$, which we do as well. The first term captures the positive impact of legitimacy and the squared term captures the negative impact of competition (Hannan & Carroll, 1992).

Fig. 5. Density of Female Acts in the Mainstream Market, 1940–1990.

All Hits and #1 Hits by Female Acts in Previous Quarter

We use two measures to address Hypothesis 4. First, we use the previous number of all mainstream hit singles by female acts – which is simply a lagged version of our dependent variable (see Fig. 1). It may be the case, however, that only the most prominent success by female acts matters for their subsequent success. We gauge such “prominence” by examining those hits that achieve #1 status on the weekly charts and, by definition, rank the highest in terms of popularity (e.g., sales, radio airplay). The quarterly number of #1 hits by female acts ranges from 0 to 5, with “0” being the mode and “1.8” being the mean. We use a polynomial, $X - X^2$, to assess the curvilinear impact of both measures (see *Hypothesis 4*).

Wartime Shortages, Industry Recession, and Proliferation of the Feminist Organizations

We rely on dummy variables to tap several factors, with “1” indicating the occurrence of each factor and “0” denoting its absence. Two dummy variables represent historical developments that span a delimited time, with wartime shortages coded as “1” from 1942 to 1945 and the industry recession coded as “1” from 1979 to 1982.

The remaining variable draws on data compiled by Debra Minkoff (1995) and graciously shared with us. Her dataset documents the annual number of women’s organizations that are founded, disbanded, and operative in the U.S. from 1955 to 1985, with additional data extending from 1986 to 1988. Given that her data span only a portion of our time frame, and are annual rather than quarterly, we rely on a dummy variable that assesses the height of mobilization in the women’s movement – when 20 or more organizations

are founded in a given year. As a result, this dummy variable is coded as “1” from 1970 to 1980. Given that such heightened mobilization did not likely occur before 1955 (the starting year for Minkoff’s project) and that the emergence of the Women’s Music movement occurred in the 1970s, we believe that this dummy variable, while rudimentary, nevertheless encapsulates the flourishing of the women’s movement at the aggregate level.

Impact of MTV

We inspect MTV’s impact via the quarterly percentage of all hit singles for which there is a music video, as listed in weekly *Billboard* charts. This measure depicts the increasing reliance on videos for promotion (see Banks, 1997), thereby showing the impact of MTV. The quarterly percentage of singles with accompanying videos is nonexistent before the 1980s, reaches 50% by 1985, and nears 80% by 1990.

Methods

We use Poisson and negative binomial regression to model the quarterly number of mainstream hits by female acts. Researchers use Poisson regression to model event counts (i.e., outcomes that can only take the value of an integer); however, this form of regression depends on the assumption that the conditional variance and mean of the number of events are equal,

$$\text{Var}(Y_t) = E(Y_t) \quad (2)$$

In cases where the conditional variance exceeds the mean, overdispersion can lead to underestimated standard errors and, in turn, erroneous rejection of the null hypothesis. The quadratic parameterization of negative binomial regression corrects this problem with the specification,

$$\text{Var}(Y_t) = E(Y_t) + aE^2(Y_t) \quad (3)$$

Barron (1992). We can assess overdispersion with a *t*-test of the hypothesis that the overdispersion parameter, α , in Eq (3) differs significantly from zero (Barron, 1992, p. 211).

Barron (1992, p. 193) writes, “Autocorrelation is the norm rather than the exception” in longitudinal data such as ours. One way that some address this, he notes, is to include a lagged count of the dependent variable as an independent variable – when such a lag is theoretically and substantively motivated. Given our Hypothesis 4, we take this approach in our paper and

1 use the previous number of mainstream hits by female acts to predict the current number. Barron 1992

3 We used LIMDEP to derive Poisson and negative binomial models via maximum likelihood estimation. Several points of interpretation are im- QA :2
5 portant for the regression models that follow (Berry & Feldman, 1985; Long, 1997). First, the fit of a given model is given by comparing the log-
7 likelihoods of nested models by using the following formula:

$$9 \quad (-2) * [(\log\text{-likelihood of Model A}) - (\log\text{-likelihood of Model B})] \quad (4)$$

11 This yields a likelihood-ratio χ^2 by which to gauge the improvement in fit, with the degrees of freedom corresponding to the number of variables unique to Model B.

13 Second, Hypothesis 2 poses a statistical interaction, where decentralized production offsets the negative impact of concentration. We thus rely on a multiplicative term (Concentration*Decentralized Production) because it is an acceptable way for modeling interactions (Friedrich, 1982). In doing so, however, we are examining the *combined* effects of concentration and decentralized production rather than their isolated effects. Consequently, we are interested in how the effect of concentration changes from, say, the lowest value of decentralized production (1.07) to its mid-point (2.69) and highest values (3.64; see Fig. 4). We do so via the following formula, with the bold portion showing a particular value of decentralized production, 1.07 (Friedrich, 1982):

$$\begin{aligned} 25 \quad Y &= b_0 + b_1 \text{Conc} + b_2 \text{DecentProd} + b_3 \text{Conc} * \text{DecentProd} + e \\ 26 \quad Y &= b_0 + b_1 \text{Conc} + b_2(1.07) + b_3(1.07)\text{Conc} + e \\ 27 \quad Y &= [b_0 + (b_2 * 1.07)] + [b_1 + (b_3 * 1.07)]\text{Conc} + e \end{aligned} \quad (5)$$

29 As it is necessary to examine the combination of coefficients (i.e., $b_1 + b_3$) in a statistical interaction, it is also necessary to calculate the standard error for this combination. We use the following formula, with the bold portion showing a particular value of decentralized production, 1.07 (Friedrich, 1982):

$$\begin{aligned} 35 \quad \text{standard error}_{(b_1+b_3)} &= (\text{var}(b_1) + [(1.07)^2 * \text{var}(b_3)] \\ 36 &\quad + [2 * (1.07) * \text{cov}(b_1, b_3)])^{1/2} \end{aligned} \quad (6)$$

37 To see the impact of concentration at other levels of decentralized production (e.g., 2.69, 3.64) and derive the appropriate standard errors, we respectively insert those values into formulae (5) and (6).

1 Third, the impact of variables on our outcome of interest is given by the
following formula:

3
$$100 * [\exp(\text{coefficient}) - 1]. \tag{7}$$

5 This demonstrates the effect that a one-unit change in a variable has on the
expected number of hits by women in the following quarter. Finally, when
7 faced with a curvilinear relationship ($b_4 X - b_5 X^2$), we can calculate the tip-
ping point at which the positive effect becomes negative via the following
9 formula:

11
$$b_4 / -2b_5 \tag{8}$$

13
15 **RESULTS**

17 Before turning to the regression analysis, we first offer descriptive results
that illustrate the challenges that women performers face in attaining career
19 success and longevity. From 1940 to 1990, 784 female acts appeared on the
singles charts in the mainstream market. Of these, 352 had only one hit
21 single, 37 had 30 or more hits, and only 5 secured 55 or more hit singles.
Most female acts thus have a brief stint in the mainstream market. In fact,
23 the density of female acts in any given quarter ranges from 11 to 64 (see
Fig. 5). For a point of comparison, the density of *all* performing acts (re-
25 gardless of their gender composition) ranges from 94 to 430 over the same
time period (Dowd, 2004). Table 1 lists the female acts that arguably enjoy
27 the most success and longevity during this time frame. These superstars, as
Fig. 2 would suggest, collectively account for a small minority of main-
29 stream hits, with their shares dropping across the decades, from 6.8% to
2%. However, these superstars also comprise a declining percentage of
31 mainstream hits by female acts, from 52.8% to 11.5%. Finally, the chal-
lenges seem particularly daunting when considering the most prominent
33 success in the mainstream singles charts. Ninety-nine female acts accounted
for just 179 of the 1,007 #1 hits from 1940 to 1990, with male and mixed-
35 gender acts accounting for the remainder. Of these 99 acts, 67 had but a
single #1 hit, and only 5 acts had five or more #1 hits (The Supremes, Diana
37 Ross, Whitney Houston, Madonna, and Janet Jackson).

Table 2 contains the models by which we test our hypotheses regarding
39 female performers in the mainstream market. The number of cases analyzed
($N = 201$) refers to the annual quarters for which we have complete data

Table 1. Top Five Female Acts with Hit Singles in the Mainstream Recording Market, by Decade and by Half-Century.

Time Period	Name of Act and Number of Hit Singles	Hits of the Top Five Acts Combined as a Percentage of Hits by	
		All female Acts	All mainstream acts
1940–1949	Dinah Shore (44)	52.8	6.8
	The Andrews Sisters (34)		
	Jo Stafford (32)		
	Margaret Whiting (17)		
	Peggy Lee (15)		
1950–1959	Patti Page (58)	24.5	4.7
	Kay Starr (30)		
	Doris Day (28)		
	Jo Stafford (28)		
	Teresa Brewer (27)		
1960–1969	Brenda Lee (47)	16.4	2.6
	Connie Francis (43)		
	Dionne Warwick (32)		
	Aretha Franklin (31)		
	The Supremes (28)		
1970–1979	Aretha Franklin (26)	14.6	2.0
	Linda Ronstadt (22)		
	Olivia Newton-John (21)		
	Helen Reddy (20)		
	Anne Murray (19)		
1980–1990	Madonna (23)	11.5	2.0
	The Pointer Sisters (19)		
	Sheena Easton (17)		
	Pat Benatar (16)		
	Diana Ross (16)		
1940–1990	Patti Page (79)	9.0	1.4
	Aretha Franklin (68)		
	Dinah Shore (62)		
	Jo Stafford (60)		
	Connie Francis (55)		

Table 2. Poisson Regression Estimates for the Quarterly Number of Hit Songs by Female Acts in the Mainstream Recording Market, 1940–1990.

Variables	Model			
	(1)	(2)	(3)	(4)
Intercept	1.611** (0.399)	2.940** (0.021)	1.700** (0.403)	1.605** (0.399)
Concentration, when Decentralized Production = 1.07	−0.054e ^{−02} * (0.086e ^{−02})		−0.039e ^{−02} (0.086e ^{−02})	−0.046e ^{−02} (0.085e ^{−02})
Decentralized Production = 2.69	0.150e ^{−02} ** (0.065 e ^{−02})		0.165e ^{−02} ** (0.064e ^{−02})	0.160e ^{−02} ** (0.064e ^{−02})
Decentralized Production = 3.68	0.275e ^{−02} ** (0.010e ^{−02})		0.290e ^{−02} ** (0.010e ^{−02})	0.287e ^{−02} ** (0.010e ^{−02})
Density of female acts	0.061** (0.014)		0.056** (0.014)	0.061** (0.014)
Density of female acts squared	−0.500e ^{−03} ** (0.142e ^{−03})		−0.442e ^{−03} ** (0.146e ^{−03})	−0.493e ^{−03} ** (0.142e ^{−03})
#1 Hits by female acts in previous quarter	0.019# (0.017)			
All hits by female acts in previous quarter	0.019** (0.003)		0.019** (0.003)	0.019** (0.003)
Wartime shortages (dummy)		−1.209## (0.115)	−0.194 (0.134)	
Industry recession (dummy)		−0.077 (0.064)		
Impact of MTV		0.001 (0.001)		
Proliferation of women’s organizations (dummy)		−0.023 (0.042)		
Log-likelihood	−582.67	−818.39	−582.22	−583.30

Note: Unstandardized coefficients and standard errors are shown in parentheses; *N* = 201.

**p* < 0.05

***p* < 0.01 (two-tailed tests)

#*p* < 0.05

##*p* < 0.01 (one-tailed tests)

(Oct.–Dec. 1940 to Oct–Dec. 1990). In negative binomial regressions not reported here, we found the overdispersion parameter, α , to be insignificant in Models 1, 3, and 4 (see Formula [3] in the methods section). As a result, we report Poisson regression estimates for these models in Table 2, as overdispersion is not an issue for them. Regarding Model 2, though negative binomial regression is warranted, we report Poisson estimates for purposes of symmetry and because the substantive results remain the same for both Poisson and negative binomial estimates. All the models in Table 2 offer a significant improvement in fit over the null model lacking any explanatory variables, with the latter having a log-likelihood of -904.25 (see formula [4] in the methods section). However, Model 2 is the least impressive in this regard, as it offers but a modest improvement when compared to the other models.

Model 1 addresses the hypotheses that lie at the core of our paper and, consequently, illuminates general factors at work in the mainstream market. First, this model adjudicates between Hypotheses 1 and 2, with the coefficients for the interactions coming from formula [5] and the standard errors coming from formula [6]. If concentration is what drives the quarterly number of hits by female acts (i.e., diversity), then its negative effect will not be mitigated by the extent of decentralized production (*Hypothesis 1*). However, if production logics condition the impact of concentration on diversity, then we should see the negative effect of concentration decline or disappear as the logic of decentralized production expands in the mainstream market (*Hypothesis 2*).

The results in Model 1 clearly support Hypothesis 2. When decentralized production is at its lowest (1.07) – as was the case in the mid-1940s – concentration has a negative and insignificant effect on the quarterly number of hits by female acts. However, when decentralized production reaches its mid-point value (2.69) – as was the case in the early 1970s – concentration now has a significantly positive effect. Each one-unit increase in concentration raises the subsequent number of these hits by 0.15%, as calculated by entering the coefficient into formula [7] of the methods section: $100 * [\exp(0.150e^{-02}) - 1]$. Put another way, each ten-unit, increase in concentration subsequently prompts a 15% increase in hits by female acts. As decentralization approaches its peak value (3.68) – as it did in the early 1980s – the positive effect of concentration likewise grows more pronounced: each one-unit increase in concentration spurs the subsequent number of such hits by 0.28% (see formula [7]). Thus, an increasing reliance on decentralized production mitigates the impact of concentration. A comparison of Figs. 1, 3, and 4 clarifies this. While portions of the 1940s and

1 1980s share comparable ranges of concentration (Fig. 3), those in the 1940s
 2 are marked by less decentralized production than the latter (Fig. 4). The
 3 success of female acts is more pronounced in the latter portion (Fig. 1),
 4 when decentralized production expands.

5 Model 1 also addresses key concerns regarding legitimacy. First, it shows
 6 the declining positive effect posed in Hypothesis 3. The significant effect of
 7 the density measure (0.061) indicates that a rising number of successful
 8 female acts in existence paves the way for more hits by women, as a growing
 9 number of such acts legitimates women in the realm of performance and, in
 10 turn, furthers opportunities. However, the negative and significant effect of
 11 the density squared measure ($-0.500e^{-03}$) shows that the positive effect
 12 grows less pronounced as density rises and eventually reaches a point where
 13 relatively high density reduces opportunities for success in subsequent pe-
 14 riods, as many acts now compete for limited resources and opportunities in
 15 a crowded market. Using formula [8] in the methods section, we find that the
 16 tipping point occurs when density reaches 61 female acts. To make this
 17 intuitive, we refer the reader to Fig. 2, as it shows the rather low ceiling that
 18 female acts encounter relative to male and mixed-gender acts. Second,
 19 Model 1 shows that a flurry of hits by female acts opens the door, so to
 20 speak, for such hits in the following quarter. This legitimating effect refers to
 21 *any* mainstream hit (as indicated by the significance of all previous hits by
 22 female acts) and is not limited to the most prominent hits (as indicated by
 23 the insignificance of #1 hits by female acts). Each additional hit by female
 24 acts in one quarter translates into a 1.9% increase in the subsequent number
 25 of such hits (see formula [7]). Furthermore, regression analyses not reported
 26 in Table 2 show that the impact of all previous hits by female acts is not
 27 curvilinear (*Hypothesis 4*). That is, while the measure for all previous hits is
 28 significant in Model 1, the squared term of this measure is insignificant. This
 29 is noteworthy because there is apparently no tipping point for the previous
 30 number of hits by female acts, as there is for the density of female acts.⁴

31 Models 2 and 3 allow an inspection of historical factors that some invoke
 32 when discussing female acts. Model 2 shows minimal effects for these his-
 33 torical factors. While MTV apparently promotes hits by female acts, its
 34 positive effect is insignificant. We thus find no evidence that MTV benefited
 35 female acts in general. Similarly, the negative effects of the industry reces-
 36 sion and the proliferation of women's organizations are also insignificant. In
 37 results not reported here, we find that none of these three variables attains
 38 significance in bivariate models; hence, we are not surprised by their lack of
 39 predictive power in Model 2. Only wartime shortages have a significant
 40 effect. Rather than benefiting from the potential gaps that resulted from the

1 AFM recording ban and the like, the WWII era proved a difficult time for
female acts – reducing their number of hits by 70% (see formula [7]). How-
3 ever, Model 3 shows that the sizable effect of wartime shortages disappears
in the presence of the other significant variables. During the wartime years,
5 for example, the density of female acts declines from 14 to 11 acts active in
the mainstream market – while decentralized production drops to its lowest
7 levels. These general factors capture the difficulties of WWII better than a
dummy variable.

9 Both Models 3 and 4 show the robustness of the effects associated with
decentralized production and legitimacy, with Model 4 showing their impact
11 when insignificant predictors are removed from consideration. The effects
found in Model 4 are parallel those found in Model 1. Decentralized pro-
13 duction continues to mitigate the effect of concentration on the quarterly
number of hits by women. The latter’s insignificant and negative effect –
15 when decentralized production equals 1.07 – becomes significant and in-
creasingly positive as decentralized production expands, with each one-unit
17 increase in concentration spurring the number of such hits by anywhere
from 0.16% (when decentralization is at 2.69) to 0.29% (when decentral-
19 ization reaches 3.68). The significance of the density variables continues to
reveal a “glass ceiling” of sorts; the effect of density grows less positive and
21 eventually becomes negative when density reaches 62 female acts. Each one-
unit increase in the previous numbers of all mainstream hits by women
23 contributes to a 1.9% rise in the current number of such hits. These results,
then, offer strong support for the arguments associated with Hypotheses 2
25 and 3 and moderate support for the argument associated with Hypothesis 4.

In results not reported here, we explored the robustness of the findings by
27 considering alternatives that could likewise shape the number of new acts.
First, we considered that the passage of time could affect the number of
29 mainstream hits by female acts. For instance, such hits could be more
plentiful in a mature rather than a nascent market. To assess this possibility,
31 we added a time trend variable to Model 4. The trend variable is insignif-
icant and does not alter the results of either model. Second, we considered
33 that a heightened number of hits by female acts merely results from an
increasing number of hits – as when the turnover of hits on the *Hot 100*
35 charts is quite rapid, with many new hits entering each week. To gauge this
possibility, we added a variable to Model 4 that tracked the number of all
37 hit recordings found in the previous quarter. This variable is insignificant
and does not change the results of the model. Finally, we added to Model 4
39 a variable representing the percentage of women in the U.S. labor force.
Given that this variable significantly predicts both the founding of women’s

1 organizations and feminist protests (Minkoff, 1997), we use it to tap a
 3 broader shift in demand, with the expansion of roles for women translating
 5 into a broader appeal of female acts. This variable likewise proves insignificant and does not alter the results of Model 4. These explorations therefore demonstrate that the above results are not artifacts of a secular trend, chart turnover, or a broader shift in demand.

9 CONCLUSIONS

11 Two observations made by Keith Negus – an influential sociologist of music – provide a convenient way to frame our findings. The first one is as follows:
 13 “The artists signed by record companies and the repertoire prioritized for recording and release are not in any straightforward way a reflection of the talent that is available” (Negus, 1999, p. 32). This observation squares with much scholarship addressing, in general, the careers of creative workers
 15 (e.g., Menger, 1999) and, in particular, the careers of women musicians. Indeed, the latter compellingly documents how female acts (especially instrumentalists) have been historically overlooked and/or underpromoted by record companies (e.g., Bayton, 1998; Gaar, 1992; Tucker, 2000). Our results show the implications of such inattention. On the one hand, we find that consumers are actually receptive to the female talent that is available in
 21 the mainstream market: increased retail sales and heightened radio airplay (i.e., hit singles) for *any* female act bode well for *all* female acts in the near
 23 future. Regardless of the genre of music involved, then, mainstream success is contagious for women performers at the aggregate level. There are limits to this contagion, however, as the quarterly number of hits by female acts only accounts for 25% or more of mainstream hits in just 16 of the 201
 25 quarters found in our study. On the other hand, we find that the number of female acts in the mainstream market is relatively small and is constrained
 27 by a glass ceiling of sorts. During the time frame of our study, the active number of female acts (density) never accounts for more than 25% of *all*
 29 active mainstream performers, as male acts or mixed-gender acts account for the vast majority. Furthermore, as the active number of female acts approaches the low 60s, the mainstream success for all women performers is subsequently dampened because too many now compete for the limited
 31 resources at their disposal. This stands in stark contrasts to other types of performers, as neither new performers nor African-American performers encounter a glass ceiling in the mainstream market (Dowd, 2004; Dowd & Blyler, 2002). Thus, while the commercial viability of female acts is legit-

1 imated by their short-term successes and long-term careers (density), the
limits of such legitimacy suggest that record firms have yet to heed fully the
3 available talent among women performers. Such inattention is especially
apparent in light of the Women's Music movement, wherein female musi-
5 cians, entrepreneurs, and consumers created a relatively self-contained mar-
ket as an alternative to the mainstream market (Lont, 1992; Skinner, 2004).

7 Negus (1999, p. 35) also observes that "...absorption of independent
labels has been a feature of the music business throughout the twentieth
9 century and has become increasingly institutionalized through a series of
joint ventures, production, licensing, marketing and distribution deals which
11 have led to the blurring of 'indie'/'major' organizational distinctions and
belief systems." Beyond documenting the expansion of such decentralized
13 production from 1940 to 1990 – where each major came to preside over an
expanding web of labels, some of which it owns and some of which are
15 owned by indies – we also show how this decentralization combines with
concentration to shape the careers of women musicians. When decentralized
17 production is at its lowest level, which was true in the early 1940s, con-
centration has a negative but insignificant effect on the mainstream success
19 of female acts. When decentralized production is at moderate levels, which
was the case in the early 1970s, concentration now has a positive and sig-
21 nificant effect on such mainstream success. When decentralized production
is at its highest level, which occurred in the mid-1980s, then the positive
23 effect of concentration is at its highest level for female acts. As decentralized
production grows more extensive, we argue, dominant firms become more
25 adept at using independents as both "barometers" of and "farm teams" for
emergent genres and performers. Besides blurring the distinction between
27 major and indie, as Negus notes, this decentralization also offsets the neg-
ative effect of concentration and, in turn, promotes increased diversity in the
29 mainstream market – as indicated by growing musical dissimilarity among
#1 hit songs (Dowd, 2000), heightened success among African-American
31 performers (Dowd & Blyler, 2002), an increasing number of new performers
and new record firms (Dowd, 2004) and, as shown here, a growing number
33 of hits by female acts.

While our findings detail general factors at work in the mainstream mar-
35 ket – and factors that obtain across the stylistic shifts occurring in this
market – they do not reveal the impact of any historical factors. That is, the
37 following fail to obtain significance in the presence of variables representing
legitimacy (e.g., density) and decentralized production: the shortages of
39 labor and materials associated with World War II, the flourishing of the
women's movement in the 1970s, the recording industry recession of the late

1 1970s, and the growing impact of MTV on mainstream production. These
non-findings are particularly intriguing given results of past studies. The
3 success of African-American performers, for example, was both hindered by
the industry recession and the initial rise of MTV (Dowd & Blyler, 2002),
5 and a shortage of musicians during WWII spurred the number of new performers
entering the mainstream market (Dowd, 2004). We suspect that the
7 relatively small presence that female acts have in the mainstream market
may be the reason that general factors alone account for the success, as
9 various barriers that have arisen and/or fallen for some types of performers
may remain somewhat constant for women performers. We concede that
11 extending the time frame of our study may reveal the import of historical
factors, as Parsons (1988), Clawson (1999), and others suggest that a shift is
13 underway, whereby women performers now have more opportunities for
success than in the past. Indeed, we would not be surprised if this is the case,
15 especially when the online distribution of music can take decentralized production
to a whole new level via peer to peer networks (see Lee & Peterson,
17 2004; McCourt & Burkhart, 2003). Of course, that remains an empirical
question, as the general factors detailed above may still be all that is needed
19 when accounting for the mainstream success of women performers.

Other empirical questions remain as well. For example, we believe that the
21 interplay between production logics and concentration matters for the careers
of creative workers in other settings. The over-the-air network television
sector in the U.S. (e.g., ABC, CBS) has grown more concentrated and
23 centralized in the wake of regulatory changes. Bielby and Bielby (2003)
show how this results in programming that is less diverse in terms of the
25 number of suppliers. Perhaps, the combination of low decentralization and
high concentration also hampers the careers of those writing such programs
– including women screenwriters (see Bielby & Bielby, 1996). Radio broadcasting
27 in the U.S. has also experienced regulatory changes in recent years,
growing more concentrated yet not necessarily more centralized in its production
29 (Ahlkvist & Faulkner, 2002; Lee, 2004); moreover, some evidence
suggests a blurring between the actions of major and indie stations (Rossman,
31 2004). This seems an ideal setting for investigating the impact of production
logics on the careers of various creative workers – including, once
33 again, women musicians. We also believe that the next step of this project
is to shift focus from the collective success of female or African-American acts
35 to the career trajectories of *each* mainstream act, so as to highlight the
intersection of race and gender rather than treat them as analytically distinct.
37 In doing so, this project will further elucidate, on the one hand, the
39

linkages between legitimacy, production logics, and selection routines and, on the other, the charting of race and gender in the mainstream market.

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NOTES

1. “Label” refers to the organizational identity and/or ‘ prominently displayed on each recording (see Peterson and Berger, 1975). At their most basic, “labels” are used by companies to target a particular audience and/or genre (see Sutton, 2000); at their most elaborated, labels represent distinct divisions within (or affiliated with) a given recording company (see Lee, 1995; Negus, 1999). During the 1940s and early 1950s, when centralized production reigned, the majors mostly relied on a few labels (sometimes even one) for popular music – such as Decca and its Decca label. From the mid-1950s onward, when decentralized production grew pronounced, majors increasingly relied on a range of labels, as when Decca emphasized its Decca, Coral, and Brunswick labels.

2. “Legitimacy” is a concept with an extensive history in social psychology and organizational sociology (see Johnson, 2004; Scott, 1995). Our usage of it is informed by Suchman’s (1995, p. 574) definition: “...a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions.”

3. Stamatov (2002) persuasively argues that individuals and social movements can perceive a critique in musical content that is arguably neutral in its politics.

4. We entertained the possibility that the critical success of female acts has an independent and positive effect on their subsequent commercial success (e.g., the number of mainstream hits). While no measures of critical success span our entire time frame (see Schmutz, 2004), we did utilize a crude measure that sums the annual number of female acts that received the top Grammy awards – those for Record of the Year (est. 1959), Album of the Year (est. 1959), and Best New Artist (est. 1961). This measure fails to attain significance in either Model 1 or in a model where it is the sole predictor.

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Queries and / or remarks