

## **Statistical Modeling and Literary Criticism: The Case of Economic Language in US Fiction**

### **Introduction: Modeling, not Measurement**

The digital humanities (“DH”) is a field without a method. This, at least, is the conclusion one might arrive at when one reads the increasingly numerous critiques of DH, and even the pronouncements of some of its leading practitioners. Franco Moretti, whose name has long functioned as a metonym for DH, has provided openings for its critics who accuse the field of lacking methodological sophistication or coherence. In 2013, he wrote, “the need for a theoretical framework was for a few years forgotten in the heady mood of permanent exploration. As I write, the results of the explorations are finally beginning to settle, and the un-theoretical interlude is ending” (122). Yet, as recently as 2017, Moretti has reinforced the notion that DH is un-theoretical. “Fact is, big data has produced a decline in theoretical curiosity, which, in its turn, has made our results often mediocre. ‘More’ data is not the solution here; we have enough data already. Only a resolute return to theory may change the way we work” (687). These comments have abetted the ubiquitous belief in DH’s methodological shortcomings—and occluded the work of practicing digital humanists, who have, for several years, been developing a robust methodology around the concept of statistical *modeling*.

Meanwhile, we have entered a time of widespread awareness of the damage quantitative models can do when wielded by corporations or the state. Reviewing a spate of recent books that have reached large audiences and showcase “the dark side of Big Data,” Christopher Newfield expresses a series of concerns: “numerical measurement can too readily take on an unquestioned objectivity”; “metrics aren’t seen as emerging from the intellectual compromises and culturally conditioned choices that go into their making”; and, of special concern for literary critics, Newfield observes “a particularly subtle and difficult limit of the numerical: its aversion to the *interpretive* processes through which the complexities of everyday experiences are assessed” (O’Neil 13; np).<sup>1</sup> We agree. But quantification isn’t going away, and while we admire the work of Newfield and other scholars focused on critique, we can do more than subvert or expose the misuse of data and statistical models. We can work towards greater literacy around statistics and put these methods to use from a position of critique and interpretation.

As evidenced by a series of recent essays in *New Literary History* and *PMLA*, current debates in the digital humanities continue to fixate on Moretti’s nearly two-decades-old polemic against close reading as theological in arguing for distant reading.<sup>2</sup> Moretti’s founding gesture has largely locked critics into an outdated debate over whether close reading or distant reading represents a superior form of interpretation. Few practicing digital humanists take this binary seriously. In *Macroanalysis* (2013), Matthew Jockers advocated using computational analysis to contextualize close reading. Soon after, digital humanists began developing methods that move recursively between scales of reading to better understand the inherent limits of each.<sup>3</sup>

Much of this work has coalesced around the concept of statistical modeling. Models are ubiquitous in the natural and social sciences, as well as nearly every professional scientific field,

such as medicine. Modeling names the process that mediates and parses data. “Model” can be understood as a synonym for frame or lens. In particular, quantitative modeling uses tools such as algorithms and mathematical formulas to interpret data. Underlying the usefulness of any quantitative model is the recognition, as Johanna Drucker notes, that “designing a text-analysis program is necessarily an interpretive act,” one with “cultural, historical, and other prejudices built into their design” (631). To avoid the naturalization of models as objective—and, further, to nurture a culture of critique—scholars must always make visible the design and decisions that go into building their models. As scientists know, models present crude representations of reality. They, and we, insist: they are renderings of reality, not reality itself.

What does modeling look like for literary studies? Andrew Piper provides an answer in *New Literary History*, where he states, “my aim is to begin the long overdue process of reflection on the act of computational modeling—as the construction of a hypothetical structure that mediates our relationship to texts” (67). Piper understands close and distant reading as complementary and to be used recursively, construing his essay as a “polemic” against the ossified “either/or” debate (69). Building a hermeneutic process to analyze texts at scale, Piper envisions beginning with a research question and a belief, based on close reading. Then one tests that belief with a model for the purpose of validation and refinement. The model directs one back to a new sample to close read, from which one goes back to a model revised based on that close reading, and so on. The model’s requisite simplification enables “understanding complexity at a greater degree of scale,” while we return to close reading to refine with the granularity that models miss. Piper offers this movement as an iterative, recursive, dialectical process that moves in the shape of a spiral, approaching, if never reaching, “an imaginary conceptual center” (68).

Models are mechanisms to reason with. We can argue with them; they change our minds as we change them. In literary studies, scholars typically read a set of texts from which they build a claim about literary theory or history. The disciplinary norm, based the dissertation process, is to read four texts from which to build one’s claims, often supplemented later, for the monograph, with further texts. Modeling allows us to situate our work amid the breadth of the literary field, to use the output and the process of modeling itself to question the implicit biases that shape our theses, and to intervene in long-standing debates. Seen this way, DH is more continuous with practices in literary studies than is often thought.

In this essay, we specifically advance modeling as a methodology for literary studies by drawing attention to the concept of *error*. All models are wrong.<sup>4</sup> What defines a model is less how it is right and more how it is wrong. As coarse approximations of social or cultural reality, they must *of course* be in error. Every model thus includes as a feature an error term, which indexes precisely what the model cannot capture or explain. If all models are wrong, why are they useful? They are useful because even if they possess error, they still produce results that nonetheless identify meaningful patterns in the data. They produce local insight. In this article, we show how an attention to error necessarily returns us to close reading as a means to understand *why* a model is wrong, but also, how to improve the model within (following Piper) an endless and dialectical process of revision and insight.

We pursue this methodological intervention through a case study focused on the diffusion of economic language in the American novel published between 1950 and 2000. We wanted to

know: how has the language of economics, as codified by economics as a discipline, migrated into the US novel in the post-war period? Have economists influenced novelists at the level of language, and if so, how and how much? Readers will detect a certain irony in the relationship between our method and case study. In the past fifty years, no academic discipline has valorized and embraced the use of quantification for social analysis more than economics. As a discipline, their language has become saturated with the language of “modeling.” Cultural and literary critics have long argued that economics (and implicitly, its epistemological assumptions rooted in statistics) have done great harm to society and culture by creating unrealistic and false accounts of how humans behave and think. Could we take their tools, however, and make them ours as a method to critique economics itself? In what follows, we not only make an argument about the uses of statistical models for literary criticism; we also show how such a method can reveal new things about literary history—how, for example, novelists adopted more economic language in the 1970s, and how Black women writers use less of such language than other groups, telling us, as much as anything else, about our model’s limits.

### Data

This essay attempts to identify discursive trends in the post-war US novel at scale. We begin by describing our corpus, which represents “the post-war US novel.” With colleagues at the University of Chicago, we constructed our corpus in the following way. First, we identified the 35,089 most commonly held US novels in libraries across the world based on Worldcat records. Why 35,089? We found that novels outside of the top 35,089 most held texts in libraries tend to be held by fewer than two libraries. We felt that a cut-off of two novels would allow us to produce a corpus of reasonable size for computational analysis (fewer than 100,000) but one large enough to represent a non-trivial cross-section of the US literary field. If a novel was held by fewer than two libraries, we believed that few ordinary readers read that novel at the time of its publication, and thus, it did not powerfully contribute to the field. But again, we wanted to generate a genuinely broad corpus, and so if a novel is held by at least two libraries—meaning that at least a handful of ordinary readers read it—we included it in our corpus. One more point: what percentage of the actual field of US novel production does this sample represent? Precisely calculating the number of novels published in this period is notoriously difficult. Yet, based on research by R. R. Bowker and others, we estimate the total number of US novels published between 1950 and 2000 to be approximately 350,000 texts (~5000 a year). Thus, our Worldcat sample represents slightly more than 10% of all the novels published in that period.<sup>5</sup>

We seek to perform text mining on this corpus, and so we also had to acquire digitized versions of these texts. Again, with colleagues at Chicago, we acquired such versions of as many texts as possible through a combination of purchasing digital books, web-scraping versions of texts available online, and hand scanning novels. Of course, we could not get electronic versions of all 35,089 novels. We acquired 5931 e-texts or about 17% of the Worldcat corpus. An obvious concern is that the texts we have found digital versions of represent a skewed version of the Worldcat corpus. After running several simple tests, we found the following: (1) the number of novels published per author is roughly the same, and (2) the average number of libraries that hold each text in the corpus as a distribution is roughly the same. However, we did find one major skew: compared to novels in our Worldcat novel corpus, the novels in our acquired list lean heavily towards the present, likely reflecting a bias among consumers to buy and read

recently published books. In sum, we found one non-trivial skew in our filtered list of electronic texts. Later in the essay, we take measures to address this skew such that it does not negate our overall results.

Finally, we performed one more additional filtering of the corpus. In advance, we knew that our analysis would be interested in dynamics of gender and race. For our list of 5931 novels, we identified the gender and racial background for each author. We used a rigorous standard for this process given the complexity of social identity: two scholars independently researched each author, and each scholar would only tag the author by gender and/or race if he or she found a reliable scholarly source that identified the author as such, and/or if the author him or herself identified his or her gender and/or race. To confirm this information, both scholars had to arrive at the same findings. Only then was an author tagged. After this process, we were left with 4756 novels and 1646 authors. Last, we performed the same analysis of the corpora as above, and found that our newly filtered corpus was commensurable with our first filtered corpus based on the phenomena initially tested for (number of books per author, average number of books held by libraries, distribution of texts over time). Statistics for the final corpus: 60% male, 40% female; 95% white, 3% black, 1.6% Asian-American, Latino/a, and Indigenous. Concerned that this corpus contains too few novels by African American writers to arrive at significant conclusions, we supplemented it with novels from the period collected by colleagues at the University of Kansas. This added an additional 101 novels and 30 authors.

4857 novels and 1676 authors, all authors identified by gender and race. This is the final form of our corpus for analysis in this essay. Importantly, we acknowledge that several of the decisions leading to the construction of this corpus introduce bias: the decision to restrict our Worldcat list to novels held by at least two libraries; the fact that our filtered list of e-books skews heavily towards the present. Yet, our final corpus of texts represents a non-trivial version of the US literary field—namely, those texts deemed worth holding by libraries and, in some cases, maintaining in electronic form by publishers—and while it is not perfect, we contend that it is representative enough to capture major trends in this literary field.

### *Oxford Dictionary of Economics*

Our model, and thus its results, relies on the *Oxford Dictionary of Economics* (or *ODE*) as its source text in identifying a set of terms we regard as indexing “the economic.” An immediate and reasonable challenge one might mount to this approach is: why did we choose *this* dictionary, and, more pointedly, why did we choose such a *normative* dictionary, reflective of economics as a hegemonic political and social discourse? We chose the *ODE* because it is the most popularly used economic dictionary based on Worldcat library holdings. 701 libraries currently hold the *ODE*, while 626 hold the *American Dictionary of Economics*, 460 hold the *New Palgrave Dictionary of Economics and Law*, and 446 hold the *Routledge Dictionary of Economics*. These latter three dictionaries represent the *ODE*’s competitors.

One might ask why we chose the *ODE* rather than the *American Dictionary of Economics* (or *ADE*) to test the prevalence of economic language in a corpus of US novels, given the relatively small difference in the number of libraries that hold the two dictionaries. The latest edition of the *ADE* was published in 1983, which means it lacks terms that appear in the latter third of the

corpus. We also note that the transnationalism of US economics as a discipline obviates the risk that national variation would skew our results. To name only the most influential site of this transnationalism, consider the Mont Pelerin Society, formed in 1947 to counter the sway held by John Maynard Keynes (UK).<sup>6</sup> The Mont Pelerin Society included economists from Europe and the US, notably Nobel Prize winners F. A. Hayek (Austria), Ronald Coase (UK), Maurice Allais (France), and US Nobel Prize-winning economists Gary Becker, James M. Buchanan, Milton Friedman, Vernon Smith, and George Stigler. To ensure the general correctness of this approach, we hand checked each term in the *ODE* to make certain that national variation would not influence our results.

Of course, the *ODE* provides a highly standardized account of “the economic,” but this is precisely what we are interested in measuring: the diffusion of the language of economics in its most codified form into US novels after World War II. Therefore, we did not choose a dictionary that reflects, for example, African-American vernacular conceptions of the economic as lived in more everyday terms. Such a lexicon would obviously index the economic as substantially as a dictionary of terms developed by professional economists, but again, we stress that for this essay, we are interested in how normative economic language manifests and exerts force on the post-war US novel. We believe that understanding how this language works then offers a basis to study its mutation and the resistance to it in other contexts.

We used the Third Edition of the *ODE* published in 2009 by John Black, Nigar Hashimzade, and Gareth Myles. The First Edition was written solely by John Black, a British economist who was previously active in the 1970s and 1980s. It was published in 1997. In 2009, Hashimzade and Myles, two British economists currently active, completed a substantial revision of the *ODE*. They strove to balance “formality and accessibility” (Hashimzade 11). The dictionary should be rigorous enough to reflect modern economic scholarship but general enough to be useful to non-academics interested in understanding economic terms. Appropriately, the revising authors imagine the ideal users of the dictionary as both “students taking a first course in economics” as well as more advanced graduate students and professional economists (Black 1). This approach is confirmed by a book review, which notes that, “it is comprehensive enough for advanced users, yet it uses simple language to keep concepts accessible to newcomers” (Mossman 123).

One might object that a dictionary published in 2009 might lead to skewed results given the introduction of new terms that emerged later in the period under consideration. To test for this, we checked every term that appears at least one hundred times across the corpus against its first noted use in the *Oxford English Dictionary*. (A term that appears one hundred times accounts for .006% of the total number of appearances.) The first term that aroused our suspicion was “takeover,” which appears 608 times in the corpus. According to the *OED*, takeover was first used as an economic term by *The Economist* in 1936. Next, we considered, with 369 appearances, “buyout”—which only shows up as an economic term, according to the *OED*, in 1976, in the journal *Mergers & Acquisitions*. We wondered about “trickle-down,” which appears 336 times in the corpus, though President Harry Truman spoke about abandoning trick-down economics in 1949. Finally, we flagged “multinational,” which *OED* has first appearing in *Business Week* in 1968. It appears 281 times in the corpus. So: “buyout” and “multinational.” Together, they appear 650 times in the corpus, accounting for .04% of the total. More terms, new

to the period, appear fewer than one hundred times, but altogether, these new terms do not meaningfully skew our results.

To summarize: the 3227 keywords found in the *Oxford Dictionary of Economics* reflect the terms and concepts most prevalent and significant in the economics discipline. Our account of “economicness” is, then, based on the instantiation of these dispositions.

### Model / Error

We developed a model to determine the “economicness” of each novel in our corpus. The model is straight-forward: it relies on simple counting. By “counting,” we mean that our first step was to count how often the terms from the *ODE* appear in our corpus of novels. In the *ODE*, economic terms include both individual words and short phrases. Once we computed this value for each novel, our next step was to normalize these counts. By “normalize,” we mean that we took the total number of economic terms that appear in a novel, and divided that sum by the total number of words that appear in the novel. This is a common strategy to control for the length of the novel and thus make each novel’s count of economic terms comparable, despite differing lengths. This calculation produced a score for each novel, but after ranking each novel in the corpus, and then studying that list, it became clear that this simple computation was not adequate to measuring the “economicness” of the novels.

We saw two problems. One: a number of words in the *ODE* have meaning as both common non-economic terms and economic terms. An example is the word “bond,” which has of course a clear economic and non-economic signification. To address this issue, we manually identified all of the words in the *ODE* that have such dual meaning, and wrote code to instruct the computer to count only the economic instances of the terms. Two: we discovered that a small set of economic terms accounts for the majority of the counts. Specifically, we calculated that 70.2% of the occurrences of economic words in the corpus are clustered in the most common twenty-five terms, or less than 1% of the *ODE*. When a novel uses an economic word, it tends to use one of only a handful of economic terms. These are everyday economic terms, like “dollar,” “money,” “bank,” “business,” “rent,” “cash,” “property,” and “credit.” In fact, 34.5% of the occurrences are accounted for with just two terms: “work” and “job.”

The first model, then, presented us with a novelistic world of everyday economics. This would be fine, if that was what we had wanted to model, but given that we wanted to model the diffusion of *disciplinary* economics into the literary field, this first model was profoundly in error. To control for this effect, we computed another value to identify the amount of unique economic words that appear in a novel. Then we divided this value by the total number of unique words in the novel as a “normalization.” Finally, we took our two computed values and added them together to produce a final score.

Mathematically, the model consists of the following equation:

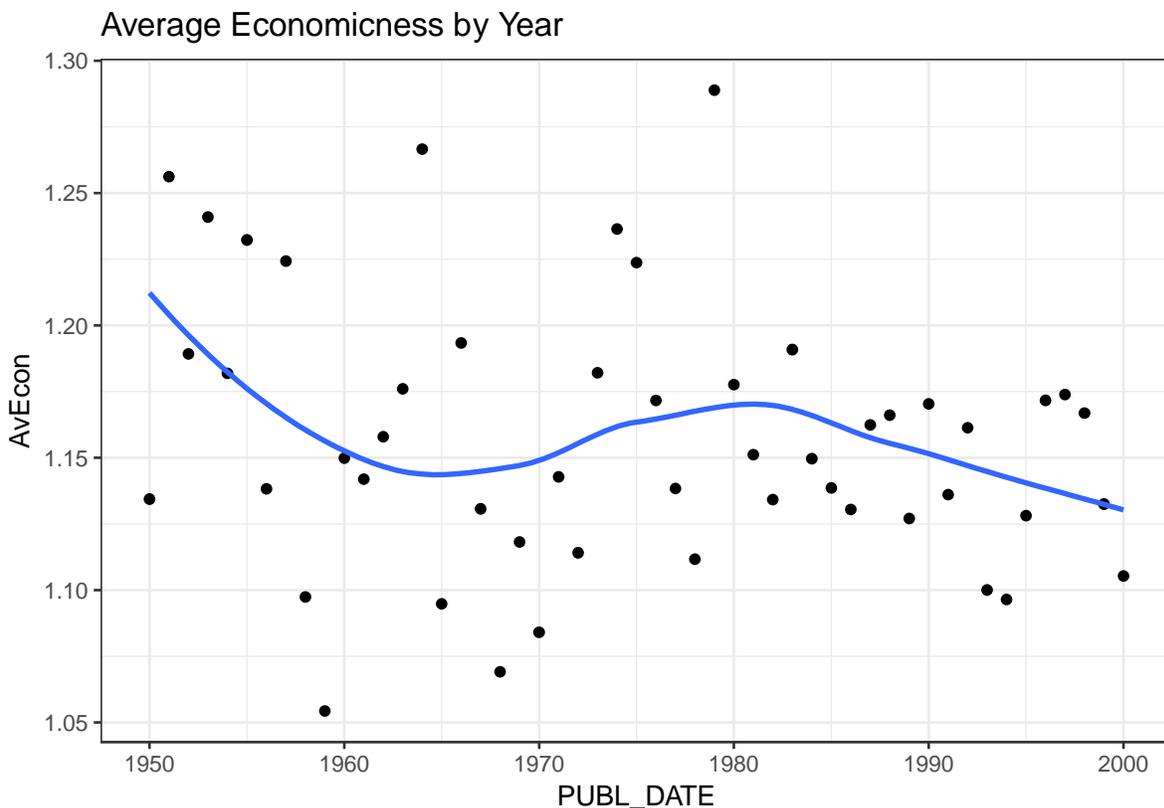
$$Economicness = 100 \times \left( \frac{\text{total economic words}}{\text{total words}} + \frac{\text{total unique economic words}}{\text{total unique words}} \right)$$

The first term corresponds to our normalization of total economic terms per novel; the second term corresponds to our efforts to measure the breadth of economic terms per novel by considering the number of “unique” economic terms in each novel. Summed, and multiplied by one hundred to give us more legible numbers, they give us a quantitative measure of “economicness” per novel.

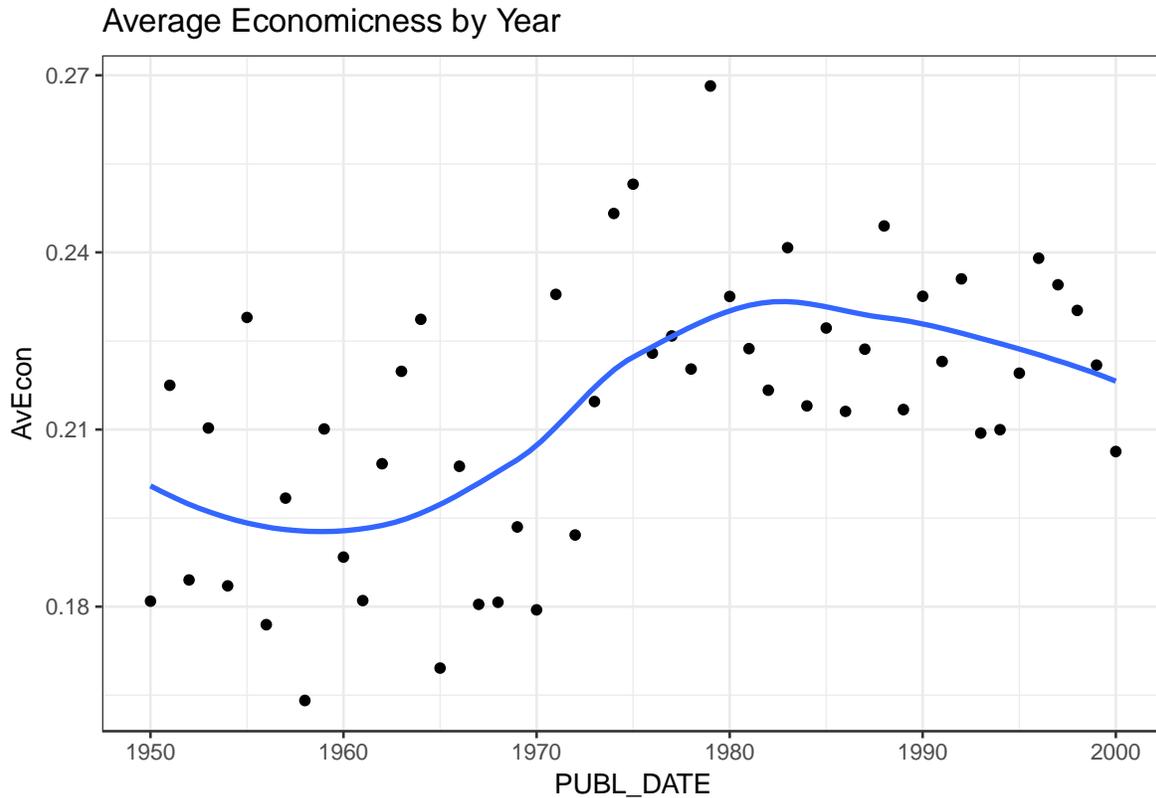
## Analysis

1973

We plotted the rate of use of the terms throughout the corpus across the period. Does the rate of use of economic terms in US novels change between 1950 and 2000? Our first graph suggested that it does not.



If anything, the use of economic terms, here, slightly declines. But the trend is small enough as to be insignificant. All we see is noise. But when we investigated what we were modeling with this graph, we realized that, though our model works well when balancing the influence of terms in ranking individual novels, when aggregated we were capturing the effects of the most common terms, those that appear in everyday life. Our first graph tells us that, when considering everyday economic language, we see no trends. But we wanted to explore the use of disciplinary economic language. We decided to test what would happen if we removed the top two, twenty-four, and hundred terms. Nothing much changed if we removed the top two or twenty-four, but when we removed the top one hundred, the result changed dramatically.



This graph is striking. It shows a clear increase in the use of economic language across the period. And it establishes the importance of understanding post-45 US fiction as consisting of two distinct periods, roughly divided by 1973. After 1973, the rate of use climbs. The second half of the period has a rate about 20% higher than the first half. This marks a major shift in novelistic discourse.

Why would we see such a change after removing the top hundred terms? The top hundred terms remain largely quotidian. Even toward the bottom, we see terms like “economy,” “employee,” “budget,” “pension,” “employment,” “mortgage,” “saving,” “bonus,” and “lease.” Once we pass that threshold, we start seeing terms like, “economics,” “consultant,” “capitalist,” “marketing,” “commodity,” “tariff,” “monopoly,” and “subsidiary.” If the former list consists of everyday terms, the latter suggests the world of economists, business, and policy. Consider the difference between “economy” and “economics.” The former is part of commonplace discourse; everyone gripes about the state of the “economy.” “Economics,” though, names a discipline of study; it signals a certain amount of professionalization. (James Carville’s line wasn’t “It’s economics, stupid.”) This is the difference we wanted to isolate and model, and when we did, we found a clear trend.

Economically-oriented literary critics will be unsurprised to learn that 1973 marks a pivot in fiction writers’ use of economic language—or, they will be surprised only by the haste with which we see writers responding to shifting economic conditions and discourses. David Harvey begins *The Condition of Postmodernity*: “There has been a sea-change in cultural as well as in political-economic practices since around 1972” (vii). Famously, for Harvey, the early-1970s

pivot from Fordism to post-Fordist flexible accumulation compressed our experience of time and space, necessitating new artistic forms. Hence, postmodernism. (Jameson, in *Postmodernism*, located the shift a bit earlier, in the late 1950s, early 1960s.) Economically-oriented literary critics also turn to Giovanni Arrighi, for whom 1973 heralds the rise of US finance capitalism. Historian Robert Brenner identifies 1973 as the year in which the US fully pivoted from the postwar boom economy to the long economic downturn in which we still remain, an extended period governed by structural limits to economic growth. From Harvey, Arrighi, and Brenner, among others, we have come to understand 1973 as the year in which major changes crystallized for global cycles of accumulation with implications for labor, finance, and wealth distribution.

Scholars inclined more toward discursive analysis than materialism, Foucault over Marx, also have reason to home in on the 1970s. Foucault, Wendy Brown, and Daniel T. Rogers, among others, point to the rising hegemony of markets, originating in economics departments but quickly proliferating across conservative think tanks and into popular culture. In short, according to this argument, the early-1970s instituted neoliberalism, defined, following Foucault and Brown, as the extension of market values into all realms of life. The migration of the language of economics departments into US novels after 1973 corroborates and extends this neoliberal narrative into the field of literature.

Some scholars within the subfield of literature and economics privilege 1989 over 1973, as discussed by Mitchum Huehls and Rachel Greenwald Smith in the introduction to their collection of essays, *Neoliberalism and Contemporary Literary Culture*. Huehls and Smith, for their part, agree, arguing that neoliberalism does not affect literature until the 1990s. These are not either/or options, but both/and: not 1989 *or* 1973, but *and*. As our findings indicate, an account of the importance of 1973 ought to be central to our post-45 US literary histories.

### *Genre?*

Before we continue our analysis, a note on genre. Genre is typically a major determinant in how novels function, and we wanted to see if genre was determining the “economicness” scores of our texts. We created a subcorpus divided by four major categories of genre: best-sellers (a proxy for the popular), prizewinners (a proxy for “literary fiction”), detective fiction, and science fiction. A novel was categorized as a best-seller if it was recognized as such by *Publisher’s Weekly*; a novel was categorized as a prizewinner if the novel won a major US literary prize, such as the Pulitzer or the National Book Award; texts were identified as detective fiction or science fiction by a manual tagging process carried out by a team of research assistants. We gathered approximately 200 examples of each genre category for a subcorpus of ~800 novels tagged by genre.

Results: literary genre is not significant in determining a text’s “economicness” score. We found that, on average, detective novels tend to have slightly higher scores than science fiction novels, likely due to detective stories often involving theft and science fiction often taking place in fantastical worlds far from modern economic life. But the genre factor was not strong enough to impact our trends in economicness.

### *Themes*

We now know that, dispersed across the discourse of thousands of widely-disseminated US novels, economic language appears with considerably more frequency after 1973. What does this mean for individual novels? Can we discern any trends regarding what, within the broad category of economics, these novels address? For example, do we see a disproportionate rise in novels about finance? Are these novels critical of neoliberalism, or do they tacitly endorse it? What can we say about this economic imagination?

To answer these questions, we hand-coded each term in the *ODE* according to metadata standards, cross-checking with Paul Samuelson's *Economics*, the leading economics textbook during much of the postwar period. We arrived at eight categories: finance, public, international, labor, money, macroeconomics, microeconomics, and other. The language of labor dominated the top 100 terms: "work," "job," "wage," "skills," et cetera. Four money terms ranked very high: "dollar," "money," "cash," "coin." When we eliminated the top 100, the discourse shifted considerably. Labor dropped to the fourth most common category ("overtime," "payroll," "entrepreneur," "strike," "automation"). Finance comes in third, just above labor ("banking," "credibility," "stock market," "creditors," "dividend," "brokerage," "investment bank"). Terms so general they fit in no single category are second most common ("distribution," "capitalist," "economics").

The most common category of discourse, though, is microeconomics: that branch of economics that studies the behavior of individuals and firms. Here we find terms like "utility," "marketing," "thrift," "liability," "coupon," "expenditure," "innovation," "consumer," and "altruism." Theorists who follow Michel Foucault, such as Wendy Brown and Michel Feher, argue that the saturation of the citizen by microeconomic logic, producing the human as *homo economicus*, is what is most characteristic of neoliberalism. Whether or not these theorists are correct, we show that the language of microeconomics is the dominant discourse of economics as it increases its presence in the US novel from 1973 to 2000. This ought to surprise us, given that, as Leigh Claire La Berge argues, "finance" has, since the late-1970s, come to stand in for "the economy" (4) Such a narrow view of economics obscures the variety of economic phenomena that appear in post-73 fiction.

Our model, which ranks texts according to "economicness," allows us to see what this breadth means at the scale of the individual novel. (NB: we do not equate a novel's use of economic language with its adequacy at representing economic conditions.) This model offers a rich new archive for scholars interested in literature and economics, identifying dozens if not hundreds of novels that rely heavily on economic language, novels, often, with large readerships, but which have never before been studied. This model also allows us to survey the top tiers of economic novels to interpret further the significance of the post-73 pivot.

Consider the table below (**Table 1**). It lists the ten most economic literary novels, according to our informal sense of what counts as literary. Some of the topics that prevail in this small sample include academic economics, corporate politics, Wall Street, the publishing industry, and the life of a merchant in post-colonial African country. Beyond the table, Don DeLillo (*Great Jones Street*), Stanley Elkin (*The Franchiser*), Jonathan Franzen (*The Twenty-Seventh City*), and John Updike (*S.*, *The Coup*) are among the literary writers who most often use economic language.

**Table 1: Sample of US Novels, Ranked by “Economicity”**

Author	Title	Year	Description	Rank
John Kenneth Galbraith	<i>A Tenured Professor</i>	1990	satire about an econ professor	1
W.E.B. Du Bois	<i>Mansart Builds a School</i>	1959	account of Af-Am education in Jim Crow south	2
Richard Powers	<i>Gain</i>	1998	corporate intrigue	3
William Gaddis	<i>J R</i>	1975	financial satire	14
Jerzy Kosinski	<i>The Devil Tree</i>	1973	misadventures of the son of a steel tycoon	23
Kurt Vonnegut	<i>Jailbird</i>	1979	Watergate; history of labor movement	30
John Cheever	<i>Oh: What a Paradise It Seems</i>	1982	love affair of computer industry executive	40
V. S. Naipaul	<i>A Bend in the River</i>	1979	merchant in a newly post-colonial African country	48
Karen Tei Yamashita	<i>Through the Arc of the Rainforest</i>	1990	satire about destruction of rainforest	56
Jay McInerney	<i>Brightness Falls</i>	1992	publishing industry intrigue	61

Turning to high-ranking genre fiction, we find financial thrillers, novels that espouse neoliberalism (J. Neil Schulman’s *Alongside Night*, at 8, is blurbed by Milton Friedman), neoliberal dystopias, bank heists, and whodunits. Katherine Neville’s financial caper, *A Calculated Risk*, ranks 4. Crime writer Donald E. Westlake has three novels in the top 100. Pat Robertson’s Christian apocalyptic novel, *The End of the Age*, comes in at 21, in the top half of a percent. *The Redhunter*, William F. Buckley’s attempt to redeem Joseph McCarthy, ranks 556, just outside the top ten percent. This is to say, economic language representing a range of economic phenomena and political positions migrates into US novels across political orientations, and with greater frequency after 1973.

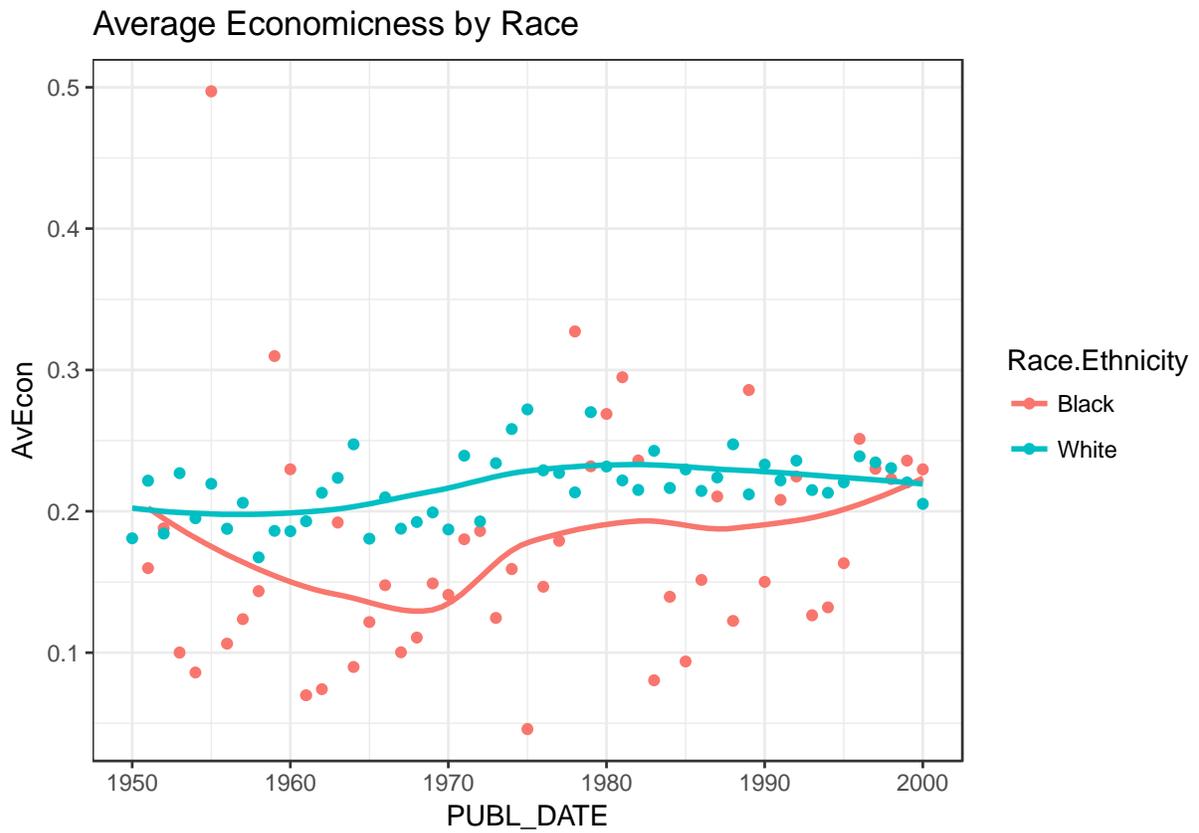
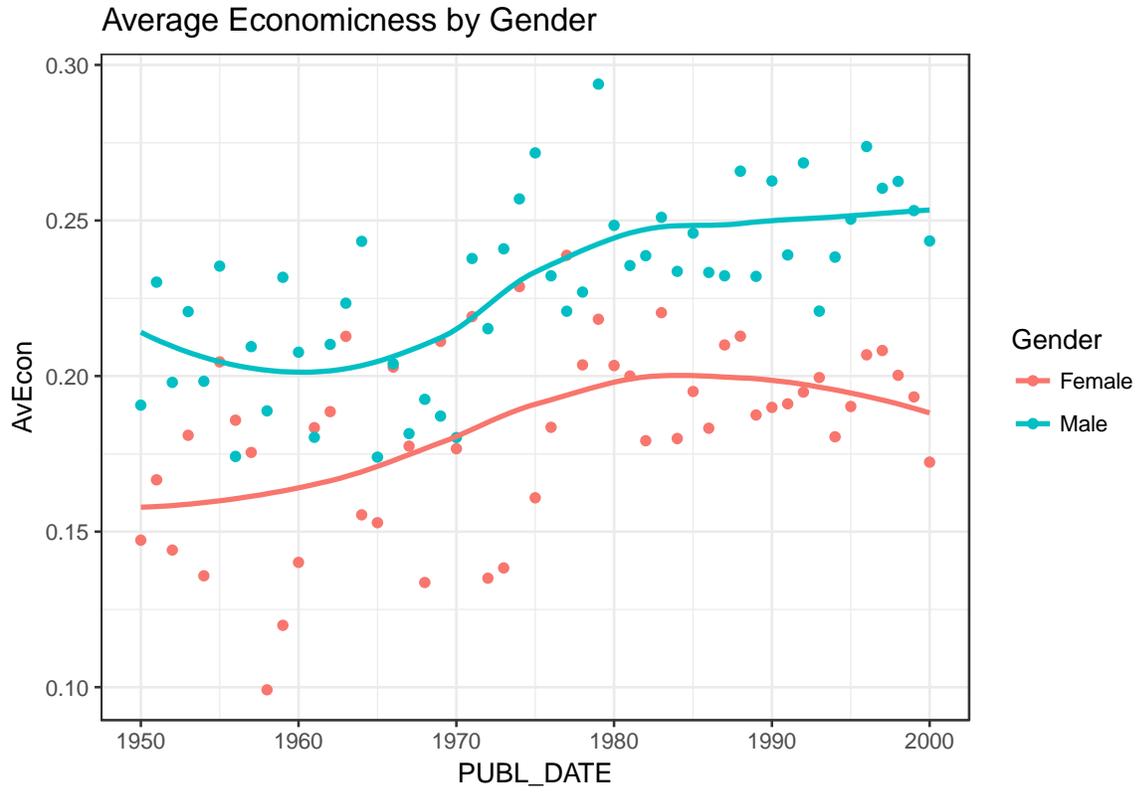
The most economic novel, according to our model—Harvard economist John Kenneth Galbraith’s *A Tenured Professor* (1990)—illustrates well this breadth. The novel is a satire that sends up Ivy League academia, American optimism, and the kind of free market fundamentalism, with its protagonist the rational actor, promulgated by F. A. Hayek and Milton Friedman that became increasingly in vogue after 1973. Montgomery Marvin, a young Harvard economist, educated at Philips Exeter, Harvard, and Berkeley, with a specialization in refrigerator pricing, develops an economic model based on the euphoria of irrational actors that allows him to invest in securities, hedging against the faith of others in endless economic growth, earning him immense wealth. His profits peak after he notices, in the months leading up to the Black Monday crash—October 19, 1987—that “irrationality was becoming general; euphoria was becoming endemic and universal” (83). Galbraith, a Keynesian, aims, with his novel, to

undermine the ascendant moralism in which “the good man” must show uncritical “faith in America, faith in the free enterprise system” (66). The object of Galbraith’s attention is the ambition of economics to account for the behavior of individuals and firms, its failure, and the consequent hypocrisy. That is, it is a microeconomic novel. We might best describe its genre as microeconomic farce.

In the end, Congress summons Marvin for a hearing where his “serious absence of faith in the American free enterprise system” is assailed as “un-American” (159-160). Congress passes a law to prohibit his model, criminalizing his behavior and stripping him of his wealth—ironically regulating the market in the name of its freedom. Congress acts, in part, because Marvin had begun using his wealth to influence politics, financing liberal candidates against conservative incumbents. Earlier, he and his wife, Marjie, had fought for gender equity among corporate executives, endowed academic chairs in peace studies, and bought Harvard’s investments in South African apartheid. Galbraith’s novel—in its engagement with disciplinary specialization, finance, theories of the free market, money in politics, gender in the labor force, institutions and bureaucracy, and global justice—shows off part of the wide range of economic phenomena that have migrated into novelistic discourse. It also helps explain why economic language increased after 1973: a quarter century or so of economic stability gave way, in 1973, to sustained instability, inspiring the invention of behavioral economics, based on a critique of rational choice theory; post-73 witnessed the dissemination of economic thought into the public sphere and everyday life, exemplified by Milton Friedman’s rise as a public intellectual; finance grew increasingly influential in public life; feminists began to fight for equity in the workplace. For these reasons and more, 1973 marks a sea change for the role of economic language in novelistic discourse.

### *Race and Gender*

Yet a focus on the range of economic phenomena that appear in post-73 novels risks obscuring disparities in the use of economic language based on the race and gender of the author. Consider the below graphs, which break down our previous graph by race and gender. On average, women use 20% fewer economic terms than men, and African Americans use 10%-15% fewer than white authors. Historical and systemic factors created a situation in which normative economic language came to signal the privilege associated with white men, and, at times, provided authors and their characters access to this privilege. In terms of novels by white male authors, what does this privilege look like within individual texts?



In *A Tenured Professor*, Montgomery Marvin is a liberal concerned with social justice. He aspires to make his “small contribution to the liberal agenda. Peace, a better break for the poor and the inner cities, greater equality in income distribution” (38). He is in a position to do so thanks to his prestigious education, paid for by his father—who worked as an ad man on Madison Avenue in the 1950s, a job off-limits to women and non-whites—and also thanks to his wife’s inheritance. As Thomas Piketty has shown, the growth of inherited wealth outpaces earned wealth, exacerbating racial economic inequality in the US, to the benefit of the Marvins. Those who begin wealthy, stay wealthy. Deep race- and gender-based privilege, in other words, enables Marvin’s lifestyle and his “small contribution to the liberal agenda.”

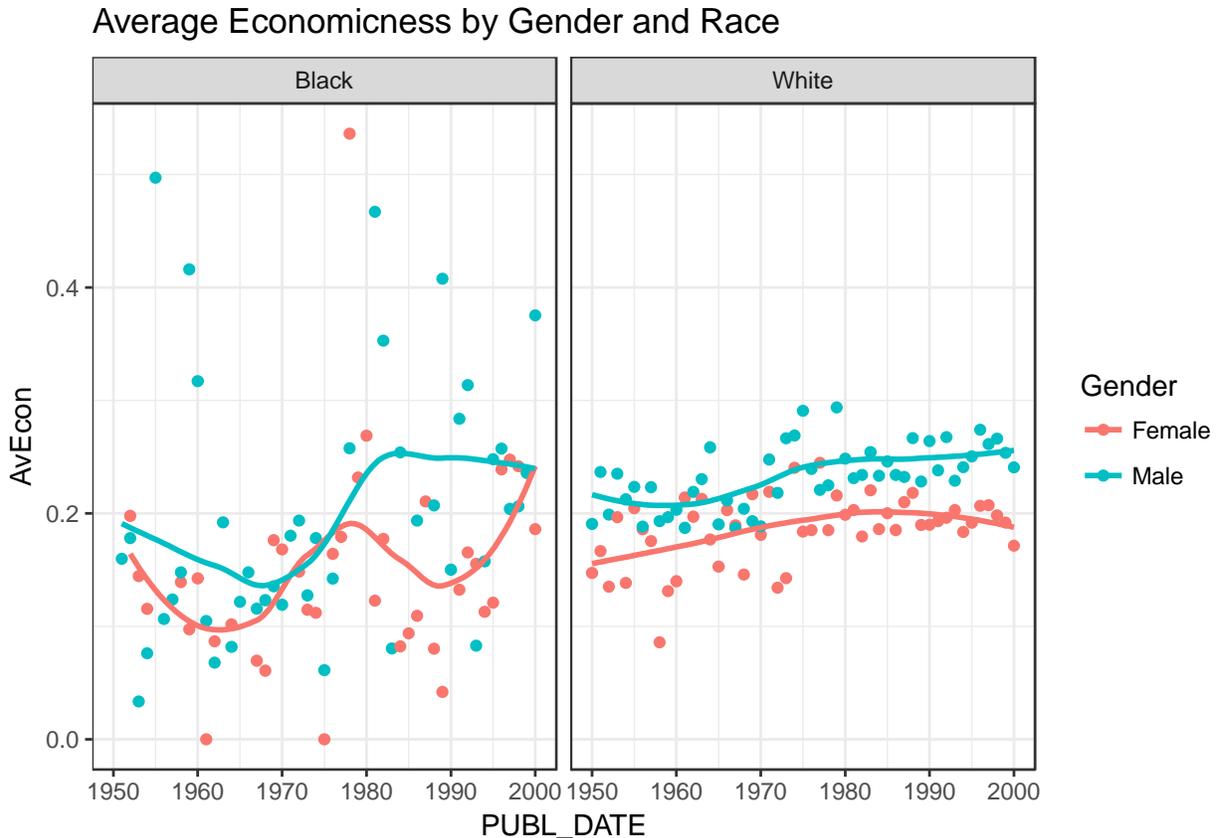
Marvin’s wife, Marjie, holds great sway over her husband’s decisions. The narrator contends that, because she audaciously made investments based on her husband’s economic model early on, when he was yet too timid, she gained “powerful leverage in influencing and, indeed, governing Marvin in the years to come” (59). And yet, we learn almost nothing about her that does not pertain principally to her husband. It is difficult not to arrive, finally, at the sense that however much she influences him, her greatest value, in the end, to quote Marvin, is that “she added impressively to his standing” (44).

In this novel of which Marvin, with his aspirations to help inner cities, is the protagonist, there are no evidently non-white characters. If any characters are non-white, the text makes no note of it. *A Tenured Professor*, like the market according to widely-held economic theories, is colorblind. Again and again, policies that disproportionately affect non-whites become recoded as class issues, a recoding accomplished with normative economic language. Welfare, migrant farming, Critical Legal Studies, and South African apartheid appear in the novel without reference to race; instead, normative economic language facilitates a liberal colorblindness.

Consider the novel’s treatment of apartheid. The narrator categorizes apartheid, when debated by professors in the Harvard Faculty Club, as regarding “financial matters”: “a professor of romance languages was wondering if, given the general economic prospect, the university could really afford it. Others thought it could” (91). Marvin buys Harvard’s South Africa-tainted securities, relieving the school of its embarrassment, but he does so because the purchase will realize for him a “not insignificant profit” (124). Never is apartheid, a policy of segregation on the basis of race, discussed in terms of race. Or consider Marvin’s efforts to require farms to offer toilet facilities for migrant workers, who are disproportionately Latinx. The debate unfolds in economic terms. *The Wall Street Journal* notes “the spacious natural equivalent on every farm of a hundred septic-tank leaching fields,” praising “the congressional resistance to toilets, saying they were an egregious assault on free enterprise” (141). The whiteness of economic language manifests in this recoding of debates that entail the intersection of race and class as singularly economic.

Race does come up explicitly once in the novel. During Marvin’s tenure review, one member of the faculty “drew attention, as often before, to the department’s continuing failure to find women and minority candidates” (74). This concern is passed over in silence.

Perhaps the most striking feature of our analysis of race and gender in relation to our category of “economicness” happens at their intersection: Black writers generally have a lower economic score than white writers, and women writers generally have a lower economic score than male writers. Yet, it is *Black women writers* who most consistently have the lowest score of all the writers in our corpus. In other words, with regard to our model, Black women writers are exemplary insofar as they represent a limit to what the model can capture. Given the economics our model is attempting to index, texts by Black women authors present forms of discourse that remain opaque.



For scholars of late twentieth-century Black women’s writing, especially novels by authors associated with the “Second Black Renaissance,” such as Toni Morrison, Gayl Jones, Toni Cade Bambara, and others, this opacity to our model should come as hardly surprising. Black women’s literature, particularly from the mid-to-to late 1970s and into the 1980s, contributed to the period’s broader Black Aesthetic movement in subverting traditional norms of American mainstream literature. It also signaled a parting from the Black Aesthetic in challenging that movement’s masculine and patriarchal bias. As Madhu Dubey argues, Black women’s texts “restructure and supplement the ideological program of black cultural nationalism” (Dubey 1). Scholars such as Barbara Christian and Mae Henderson have thus contended that Black women’s fiction is formed through a double alterity: as *other* to normative white American fiction, and as *other* to Black male fiction. Now-canonical essays, such as Henderson’s “Speaking in Tongues,” reveal the formal and discursive manifestations of this alterity. While Black women’s writing enacts literary features common across much of Black literature, such as an interest in oral forms

of storytelling, it also possesses a heightened form of narrative dialogism in which it negotiates both hegemonic and non-hegemonic discourses in deliberately ambiguous or unresolved terms. Henderson writes: “Black women must speak in a plurality of voices as well as in a multiplicity of discourse” (Henderson 5). If this plurality and multiplicity is shaped in part to subvert prevailing norms—formed, again, through a double alterity—then it makes sense that Black women’s writing would appear separate according to our model. Yes, but why also *least* economic?

It would be naïve, incorrect, and possibly offensive to interpret our results as indicating that Black women writers do not write about “the economic.” Such an interpretation would pathologize Black women’s writing as failing to engage in “serious” economic thinking. It would reproduce stereotypes around Blackness and poverty. Susan Willis has already argued that Black female writers exist outside of normative forms of economic discourse, producing alternative modes of expressing the economic and financial: “In black women’s writing...money is never perceived as a fact of life.... In black women’s novels [economic] endeavors are transformed out of grim reality of marginality and dependency and become instead metaphoric statements of alternative economics not incorporated within capitalism” (Willis 11). Here, the particularities of topic and language in Black women’s writing come together. In Black women’s writing, economics—normative, disciplinary, dominantly white male economics—is opaque because Black women often experience financial precarity, and this opacity is intensified in novels due to the specific way that Black women novelists employ language to apprehend and narrate that precarity.

So far, we find nothing that is very surprising. If we use normative criteria, such as the *ODE*, to measure “economicness,” we find that texts that use non-normative forms of expressing the economic, such as Black women’s writing, are opaque to that criteria. We might then argue that the *ODE* is flawed and perhaps racist as the basis for our model, and move on. But this adversarial response would prevent us from asking further questions, such as: *how exactly* does the *ODE* fail to account for Black women’s writing? If we think of our model as a tool that delivers simple and intractable “facts” that one accepts or rejects, we end here. But our model, to reiterate an earlier point, is a *mechanism to reason and think with*. We can analyze how the model thinks to better grasp the meeting between the *ODE* and Black women’s writing.

In the final part of this essay, we close read *Corregidora* by Gayl Jones, published in 1975. We chose this text for two reasons: first, the novel is very low scoring, according to our model, in the bottom ten percent; second, the novel marks an inflection point for Black women’s novels. Shortly after the publication of *Corregidora*, Black women’s novels drop in economicness until they become forty percent less economic than Black men’s novels, the largest disparity we see between any demographic groups across the period. Prophetically, Toni Morrison, upon its publication, said: “No novel about any Black woman could ever be the same after this. *Corregidora* had changed the terms...of the whole enterprise” (qtd. in Dubey 72). Accepting *Corregidora* as a precedent for forthcoming Black women’s writing, we can identify it as marking the moment in which the *ODE* begins to fail to register Black women’s writings with special severity. If a single text can help us understand why, it is *Corregidora*.

*Corregidora* tells the story of a Black woman, Ursa, a Blues singer, and her relationships with both her estranged husband, Mutt, and her extended family. The novel is set in the late 1940s and takes place primarily in Kentucky, but it also weaves in a story about Ursa's parents and grandparents, who were slaves owned by a Brazilian, Simon Corregidora, in the previous century. Therefore, chronologically and geographically, the narrative pivots between past and present, the US and South America, via the common thread of slavery. Critics, such as Cheryl Wall, have drawn attention to the way that the novel maps out continuities between the sexual violence that animated the relations between white slave-owners and Black slaves during the time of slavery, and the relations between Black men and women in the post-slavery period (Wall 5). Such relations persistently frame Black women as sexual objects and mere producers of offspring. When the novel begins, Mutt has battered Ursa, causing her to miscarry and to need an emergency hysterectomy. In the rest of the story, Ursa searches for a new reason to exist beyond reproduction now that she is no longer able to give birth. As she sets upon this journey of self-discovery, she learns more about the history of her parents and grandparents as former slaves, finding troubling links between their time and her own. But she also intuits a possible way to break the cycle of sexual violence between and among Black men and women.

According to our model, *Corregidora* has an “economicness” score far below the mean. Even a cursory reading of the novel makes clear why this is the case. The novel occasionally uses words deemed “economic” by our model, such as “job” and “work,” but other key words that tend to drive up the “economicness” score for our other texts, such as “business,” “bank,” and “wealth,” are absent. Indeed, *Corregidora* includes a mere fourteen words out of the more than three thousand from the *ODE*. Thus, relative to the other books in our corpus, Jones' novel appears to lack any discernable “economic” content in terms of its diction. One might point to the novel's heavy use of dialogue as one factor; or its focus on sexuality; or the fact that the novel fixates so heavily on domestic life, rarely leaving the space of the home; or simply that most of the characters are poor and don't talk about what they don't have.

But this would ignore the fact that a central narrative arc concerns the history of slavery in the Americas. Frequently punctuating the present-day (1948 in Kentucky) of Ursa's life, which functions largely through dialogue, are long narrative recollections of Simon Corregidora and his mid-nineteenth-century plantation, where Ursa's grandmother and mother grew up. The point of such long and regular interludes is to provide a form of historical explanation for contemporary familial dynamics and relations amongst the post-slavery generation. And this “explanation” is entirely “economic” in nature—that is, pertaining to things that the *ODE* generally cares about and aims to register, such as “wealth,” “property,” “value” and so forth.

Consider one scene that Ursa's mother narrates about her time on the plantation. She begins by talking about the work of “making generations” (sexual reproduction) (124) and how Simon Corregidora rigorously monitored her sexual life, prohibiting her from having sex with dark-skinned Black men; then she describes how the slave-owner particularly favored her because of her good looks, and that she was his “little gold pussy” (124) that he would “cultivate” (125) by all means; she ends with general memories of life on the plantation and the life of slaves, with a passing reference to “Palmares,” (126) a free slave colony in Brazil that arose in the seventeenth century.

What we have here, of course, is an elaborate description of one of the major economic systems of the Americas in the eighteenth and nineteenth centuries: slavery and the plantation. What is confounding to our model is the language used to describe slavery, which mixes apparently “uneconomic” language associated with the body, such as “making generations” or “cultivation,” with “economic” terms like “property.” The phrase “little gold pussy” illustrates this semantics in its most grotesque form. Our model will register “gold” but it will miss the broader signifying chain of the economic in the context of slavery—a chain that relies on words like “cultivation,” discourses about the body, and of course “slavery” and “plantation.” None of these words are in the *ODE*. In short, this dictionary does not recognize slavery as “economic.”

One might defend the *ODE*'s elision of slavery by arguing that the dictionary is only interested in defining terms related to the *contemporary* practice of economics. But *Corregidora* precisely blends past and present and confuses temporality through its use of narrative dilation in order to argue that the economic effects of slavery persist into the present. In fact, the novel insists that the semantics of slavery are required to register present-day economic life for Black men and women. For example, Ursa often uses the expression “making generations,” a holdover from her mother's era, to describe her relation to modern-day economic productivity (her main “job” is to make children, an echo of her mother's life as a slave). The economic has not attenuated for Black women in *Corregidora*; the semantics of slavery simply remain more relevant than the semantics of “contemporary economics.” What we see when our model presents low scores for Black women's writing in the 1980s is an encounter between models of economic life, a challenge from Black women to the discipline of economics to rethink its entire basis as a discipline.

Yet, in accounting for Black women's fiction and normative economic discourse, there is a more surprising discovery. If we return to our gender and race graph, what is distinct about the trend associated with Black women writers is not only the downturn in the late-1970s, which we have argued is keenly embodied by Gayl Jones' novel, but an equally rapid reversal starting in the mid-1990s (arguably the apex of US multiculturalism). That is, what is surprising is less that the *ODE* erases the economic language of Black women and more that this erasure appears short lived. In our close reading of *Corregidora*, we identify slavery as an economic discourse that the *ODE* is ill-equipped to register, and that is why Black women writers drift down our model's grid. But again, this drift is ephemeral. How does the economic language of Black women's writing change by the mid-1990s to make it more directly engaged with normative economic discourse? We would have to do more close reading of more novels, and perhaps develop a new model, to understand. But our point is this: there are obvious lacunae in the *ODE*, particularly in relation to the language used by minority authors. Yet at the same time, minority authors are not content to let this elision stand; from our distant reading results, we can infer that within a short fifteen-year period Black women writers start to extend their representation of the economic, no doubt still invoking tropes of slavery but also taking on normative economic discourse. As Nikki Giovanni writes: “It's not a ladder that we're climbing, it's literature we're producing.... We cannot possibly leave it to...economics to tell the story of our people” (qtd. in Evans 205).

### **Conclusion: On Literary Modeling**

A very likely critique of our model is that because it relies on a disciplinary academic source (the *ODE*) as the basis for how we define “the economic,” it erases large swaths of cultural-literary expression that imagine the economic in non-hegemonic terms. We agree. This was our intuition as we began this research, and this intuition was confirmed in our results. Indeed, novels by Black women writers score low based on this model’s measurement. The point of modeling, however, is not to produce a set of results that we relentlessly defend as “the truth.” Rather, the point is to understand how *the model is wrong*, and to use its errors, first, as instructive in and of themselves, and, second, as the basis to revise and extend the model in a never-ending recursive process. As our close reading has shown, our model is in error insofar as it is incapable of identifying slavery as a basis for imagining the economic, especially when refracted through Black women’s experience. As an entire tradition of Black women’s writing contends, this is a significant shortcoming.

An obvious next step in this work is to reconstruct our model to account for articulations of the economic from a subaltern perspective; this might include incorporating a dictionary of African-American vernacular, or hand-curating a list of economic terms that occur frequently in novels by Black authors in the post-war period. Such a model would not only help to better document a vision of “the economic” as instantiated synchronically by our case study of Jones’ novel, but also to better understand how what appears to be a rejection of normative economic language is reversed by the mid-1990s. What would “economicness” in the US literary field look like if we took Black women’s writing as the basis of our model instead of the *Oxford Dictionary of Economics*? This ultimately is the real work of literary modeling. It is not to build a definitive measurement of X or Y. It is to dialectically think and rethink the phenomenon one is trying to understand.

A final point: if modeling is about error, what have we really learned? We have learned that the language of economics, as codified by the discipline, becomes roughly twenty percent more common in US novels in the mid-1970s—and that this is especially true of novels by white men. If we accept *A Tenured Professor* as exemplary of at least one trend in how white male authors adopt economic language, we see how these authors use that language to reinforce men’s authority over women and to adopt the racist colorblindness of neoliberalism, even when ostensibly criticizing the dominant economic ideology. We have also found, contrary to expectation, that the dominant discourse of economics in the US in the second half of the twentieth century is not finance but microeconomics.

Our brief case study focused on 1970s Black women’s writing has also produced local insights. *Corregidora* is an exemplary novel not only because it introduced a new type of literary vernacular but precisely in how it thinks about the economic. How it thinks about the economic is distinctive because it refuses normative economic disciplinary language, foregrounding the persistence of slavery as the basis for contemporary economic thought for Black women. And, finally, we discover that this trend, while strong in the late 1970s and 1980s, becomes reversed by the mid-1990s, for reasons that demand further investigation by close and distant readers. In sum, we contend that literary modeling recognizes the limits of empiricism as a basis for studying literature and language, yet nonetheless leverages the affordances of quantity and scale to build provisional arguments that provide local insights and generate further questions.

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<sup>1</sup> Lisa Gitelman shares a similar concern about data. In the introduction to a book she edited on theorizing data, she writes, "At first glance data are apparently before the fact: they are the starting point for what we know, who we are, and how we communicate. This shared sense of starting with data often leads to an unnoticed assumption that data are transparent, that information is self-evident, the fundamental stuff of truth itself" (2).

<sup>2</sup> See for example, Paul Fleming, "Tragedy, For Example: Distant Reading and Exemplary Reading" and a recent forum of responses to Franco Moretti's *Distant Reading* in *PMLA* (May 2017).

<sup>3</sup> Jockers writes in *Macroanalysis* (2013), that, in the context of studying genres, "micro scale (close reading) must be contextualized by the macro scale" (91). Since then, as Ryan Cordell notes "there have been many advocates in the digital humanities for methods and projects that shuttle between scales" (np). Cordell goes on to theorize about how scale, be it close or distant, deforms the literary object of study. Lauren Klein, writing in *American Literature* shortly after the publication of *Macroanalysis*, argued, "rather than put forth a rhetoric of Fordian potentiality—more efficient 'distant reading' or more effective 'macroanalysis,' to name two of the digital humanities' most well-known pursuits—the field must employ its tools and methods so as to produce humanities critique," a position she makes good on with a compelling historical and theoretical account of the implications of visualizing James Hemings' absences from Thomas Jefferson's archives (XX). See also Long and So, "Literary Pattern Recognition: Modernism Between Close Reading and Machine Learning" and Long and So, "Turbulent Flow: A Computational Model of World Literature" for two other applied examples of this approach.

<sup>4</sup> For an elaboration of this point, see Richard Jean So, "All Models are Wrong" (2017).

<sup>5</sup> See Matthew Wilkins, "Contemporary Fiction by the Numbers" (2011) for details.

<sup>6</sup> See *The Great Persuasion: Reinventing Free Markets Since the Depression* by Angus Burgin.