



# The online environment's adverse effect on the sustainability of the retail workforce

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## ABSTRACT

The retail environment has undergone seismic changes over the past couple of decades with respect to the predominant venue in which consumers can procure their personal, family, and household goods. This transformation of the retailing landscape means that consumers can engage in “retail” activity via a variety of mediums, including exclusively online. These changes have residual effects on employment dynamics for the individuals who work in this arena. In particular, the retailing operational changes that result in significant shifts to the online arena beg the question of what becomes of the individuals who were formerly employed on the ground. Using Census data, we analyze employment trends among retail workers, disaggregated by race and gender. Our analysis indicates that the digitalization of the retail economy has so far contributed to a continuation of the wage stagnation and job loss for women (especially women of color) that has been a historical part of the undercurrent of the American workplace landscape. We employ the theory of compensating differentials to provide an explanation for these disparities, while also analyzing the validity of previous application of the theory.

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## 网络环境对零售业劳动力可持续性的不利影响

在过去的几十年中, 零售环境发生了巨大的变化, 主要是消费者可以购买个人、家庭和家庭用品的场所。零售业格局的这种转变意味着, 消费者可以通过连续的多种媒介参与“零售”活动, 从以传统的实体店为主到以电子商务为主, 到相反的实体极端情况下, 仅在网上运营。这些变化会对工作环境产生影响, 从而影响到在这个领域工作的个人的就业动态。尤其是, 零售业的经营变化导致了向在线领域的重大转变, 这就要求人们考虑以前在当地就业的个人会变成什么样。对这一问题的调查发现, 零售环境中存在的性别薪酬差距和少数族裔被剥夺选举权的问题, 由于向在线经营的过渡而更加恶化。利用人口普查数据, 我们分析了按种族和性别分类的零售业工人的就业趋势。我们的分析表明, 零售经济的数字化迄今为止促成了女性工资停滞和失业的持续, 这是美国职场格局暗流的历史组成部分。我们发现这对有色人种的女性来说尤其严重。我们还发现, 总

体上, 男性没有女性受到的不利影响大。这也符合传统零售环境中存在的现实。我们处理补偿差异理论的历史背景, 既从以前解释这些差异的理论的立场出发, 也从后来在某种程度上驳斥了为不平等提供“理由”的观点。

## Introduction

Like other complex adaptive systems, industries are often impacted by phenomena that start off outside their sphere of influence but ultimately impact how these systems function. Such systems respond by adapting to changes imposed upon their operations; folding these changes into existing processes and regenerating themselves into something slightly different than what existed before, while keeping the overall system intact. While these adaptations are necessary to ensure the survival of the overall system, they cannot ensure that all the entities within the system will survive the change. Industrial ecosystems have historically been thrust into adaptive change brought on by outside forces. Geo-political events, migration, and policy shifts are just a few examples of external and seemingly unassociated events impacting commerce. Other, more frequently impactful external phenomena like technological advancements and globalization have indelibly transformed the industrial landscape, including the retail industry.

The retail environment is ever evolving from one whereby retail establishments were primarily brick-and-mortar, to a continuum where retail establishments range from brick and mortar, to hybrids of bricks and clicks, and further still to exclusively online venues. At the height of the brick and mortar retail industry format, the retail buying experience was characterized by consumers shopping at physical locations. During this period, there were immeasurable employment opportunities for a range of jobs and careers for individuals in the retail labor force. Those opportunities ranged from low skill jobs to professional career positions. Conversely, according to *Time* magazine, from 2002 to 2017, department stores lost 448,000 jobs while the online segment added 178,000 jobs (Time, 2017). Multiple market and social phenomena such as globalization, mergers, acquisitions, and continuing technological innovations, have converged to create the perfect storm of growth in sales coupled with stagnate and often declining employment numbers.

This paper investigates what happens to retail employees when the trend is that bricks-and-mortar retail establishments are declining. Our research found that like in traditional retail settings, women and minorities have experienced adverse employment effects as a result of the movement of retail establishments to the online arena.

## Literature Review

### *The Retail Industry*

Over the past thirty years, the retail industry has undergone transformations that reflect strategic tactics and responses to market forces and environmental changes in the commercial landscape. In a report commissioned by the Organization for Economic Cooperation and Development (OECD), Wrigley and Lowe (2010) lay out the transformation of the retail industry by market concentration, buyer driven supply-chain

leadership, and lean retailing. For most of this three-decade time span, the United States' retail industry has outpaced Germany, the UK, and France in value added per hour worked in retail (Griffith & Harmgart, 2005). The advent of e-commerce resulted in a more robust lean retailing model that rivaled the US's dominance in retail globally (Kawa & Maryniak, 2018; Wamba et al., 2006). However, this advancement has come at the cost of job growth, even while productivity and marginal contribution per worker has increased.

### ***Employment and The Retail Industry***

Overall retail sales growth is projected to average 2% per year for the next 10 years. This statistic falls well below the national jobs growth rate of 7% annually (Bureau of Labor Statistics, 2018). Department store employees are characterized as 40% minority and 60% female. Given these statistics regarding the disproportionate number of women and minorities who have typically been employees in *traditional* retail industries, it is interesting as well as important to note the impact and repercussions of these population shifts. In addition, from January 2017 to October 2017, retail employees dropped from 15.9 million to 15.8 million, representing 10.8% of total US employment (Bureau of Labor Statistics, 2018). This precipitous decline in jobs at a rate of 10,000 per month during this period, may serve as an ominous bellwether of employment prospects in the retail sector, particularly for women and people of color.

### ***Women in the Workforce***

The existence of women in the workforce is characterized by a history of workplace challenges regarding the equitable treatment of women, vis-à-vis their gender. In the US, these challenges are intertwined with a history of women being in the workplace out of necessity for the country versus being in the workplace out of personal and economic necessity. During wartimes, it was essential for women to be in the workplace, handling a spectrum of jobs ranging from factory-oriented jobs, to domestic service work, to white collar positions. This was out of necessity, based on the fact that much of the US male population was off to war. As a case in point, between 1870 and 1910, the percentage of wage-earning adult women rose from 15 percent to 24 percent (Turk, 2015). During this time, many jobs (e.g., domestic and garment industry jobs) became dominated by women. When the 1938 fair labor standards act set protection laws for minimum wage and premium overtime pay rates, the female-dominated jobs were not protected under those laws. In general, during this period many labor protection laws were established at state levels, thus enabling a smorgasbord of inconsistencies of protection for the labor force.

According to Turk (2015), with respect to protections in the retail industry, in 1938, the state of Illinois, as an example, limited the working hours of women to eight hours a day and 48 hours per week. Between 1943 and 1952 both the state of Illinois and the state of Massachusetts (a state which has historically been a forerunner in rights for workers in general and women in particular), enacted equal pay laws. However, in Illinois, the equal pay laws applied only to manufacturing. During this time period, Florida conversely continued to offer very limited protections to its workers in general. By the 1950s, labor protection laws expanded but remained inconsistent on a state-by-state basis. According to

Housh (2011), from 1970 to 2010, women's participation in the labor force increased from 43.3% to 59.2% in 2010. In this same time frame, the percentage of employed women who either entered or graduated from college tripled. Furthermore, the rates of women earning college degrees and master's degrees outpaced that of men.

Unfortunately, the combination of legislative regulations for strengthening equity between men and women in the workplace, the increased participation of women in the workplace, and the significant increases in higher education attainment for women have not had a commensurate impact on the status of women in the workplace. This in part is attributable to the fact that "... industries are, on average, still sex-segregated" (Housh, 2011).

Even though women's participation in the workplace has increased, the pay wage difference between men and women remains very prevalent. AAUW (2017) reported that women generally earned 80% of what White men earn. The numbers are worse on a state level in that half of US states have an even greater disparity. In the worst case, women in general earn 70% of their White male counterparts. Even worse, African-American women earn 63% of what white men earn. According to US Labor Secretary Hilda L. Solis, when women start at a disadvantage, they stay at a disadvantage. When a woman starts a new job or attempts to negotiate a pay raise, she is starting at a lower base salary. The result is that the pay gap widens over time (Elmore, 2012).

### ***The Theory of Compensating Differentials***

The theory of compensating differentials (McCrate, 2005) suggests that individuals, particularly women, willfully seek out jobs in which they willingly accept a tradeoff of better compensation for a more flexible work schedule. Thus, the theory infers that the underlying phenomenon for gender pay inequity is a "choice" that individuals often make in order to balance their work lives with other lifestyle responsibilities (e.g., marriage, household, and childcare). This dynamic is quite often manifested with part-time employment, particularly among women. Scholars who have dug into some of the underlying phenomena regarding the theory of compensating differentials have found that other mitigating factors challenge the notion. One such challenging factor begins with the revelation that the key underlying factors in the operationalization of the theory do not often materialize. For instance, the theory essentially posits that individuals knowingly and conscientiously accept lesser compensation as a tradeoff for an attractive benefit (e.g., a flexible work schedule).

Flexibility is also often touted as an attribute of part-time work that is desirable. However, Hudson (1989) asks the question, whose flexibility? They further beg the question of who is in control. Wickham's (1997) work in Ireland concluded that it was the employers' desires that dictated the flexibility of the work schedule, not so much the employee. In the case studies by Tormey (1999), this inflexibility was manifested in workplace realities such as having hours cut after having phoned in sick with the flu or having hours cut after declining to work previously unscheduled hours that were inconvenient to work on last minute notice. There also seemed to be ongoing tradeoffs between having an inadequate work schedule (and subsequently low pay) but having great co-workers or having reasonable pay but a poor working environment. In any of the scenarios, poor management styles characterized by arbitrary decisions that adversely affected the income of the part-time employee, was a consistent part of the dynamics. In

the majority of the cases, because of the adverse working conditions, the part-time work situation was viewed as a temporary means to an end.

Another supposition of the theory of compensating differentials is that workers with flexible schedules will earn less than other workers (McCrate, 2005). According to many scholars, this fact alone is a major contributor to the gender pay gap in the United States. McCrate's findings on this subject yielded a few significant realities, "... women workers do not have more flexible schedules than men." Secondly, an evocative finding was that Black workers have much more rigid schedules than their white counterparts. Thirdly, it is the managers who have more authority in the workplace who have the greater degree of flexibility as compared to their subordinates (2005). These findings are particularly disturbing given the fact that the theory of compensating differentials infers that individuals willfully accept lesser pay because of a tradeoff of better working conditions, especially greater flexibility with work. The realities of a work situation that on the contrary is not flexible, undermines any perceived willful acceptance of the inferior pay. Even more exacerbating is the fact that mothers tend to make less money than women who do not have children. The opposite is true for fathers (Cooke, 2014; Hodges & Buding, 2010; Killewald, 2012; Petersen et al., 2014; Zhang, 2009). In that regard, parenthood is not an insignificant aspect of the gender pay gap. Furthermore, with the increased incidents of single female headed households, the "motherhood" aspect of the gender pay gap takes on even greater meaning and inferences for ramifications.

### ***The Retail Environment and Wage Inequity***

The work environment that is often at the crossroads of these issues is that of the retail establishment because of its routine utilization of part-time employment which in turn attracts women (and often times especially mothers) and minorities who end up in a cycle of lower wage earnings and employment instability, because of organizational practices. The evolution of the retail environment particularly over the last couple of decades has added an additional burden to the pay gap inequity. That is, the increased utilization of online retailing resulting in the continued depletion of brick-and-mortar establishments, and therefore the very foundations of the opportunity for some individuals to have an entry into the workforce.

The retail industry is one whereby traditionally, women could find opportunities to enter the workplace. Part-time (retail) work affords a woman the opportunity to enter or re-enter the workplace (Tormey, 1999). A part-time schedule in particular has also often afforded women the ability to combine their responsibilities at home with the opportunity to earn money. However, a study in Ireland by the National Economic and Social Forum (1996) pointed out that there was no evidence that part-time work is something that women have *voluntarily* pursued. This is especially true given the fact that such work also often means low wages. With the retail sector often serving as the "employer of last resort," (e.g., offering service jobs) in the past, according to a *Wall Street Journal* article (McCracken et.al, 2008), questions arise as to where low skilled workers will seek and find employment, and how they will sustain themselves if they are unemployed (e.g., unemployment insurance, health insurance, retraining). For women in particular, given that oftentimes they have family responsibilities, they are particularly vulnerable with respect to work schedules and work locations.

## ***Women and Minorities and the Retail Industry***

The fact is women and minorities do not experience the “spoils” of the espoused *flexibility* in their work lives that the theory posits as cited in Fuller (2018), “While often couched in terms of individual choice, the necessity of such trade-offs rests on employment norms that presume a worker able to devote herself entirely to the organization (Acker, 1990; Vosko, 2009; Williams, 2000). Constraints around the need to attend to dependent others challenge this ideal.” “However, the availability of particular work arrangements is often conditional on one’s employer” (Haley-Lock, 2011; Heywood et al., 2007; Sweet et al., 2014). Even worse, these individuals’ plight becomes further exacerbated by the fact that they are often saddled with the assumption of them lacking the *human capital* needed to thrive in a work environment (Mincer 1962). Contrarily, what is evident is a system of inequity whereby employees are left vulnerable to adverse work demands that severely penalize them for leveraging the very “flexibility” that their employers promote.

Many theories have been posited to explain the disparities that have constrained both the employment and earnings outcomes of African Americans, particularly women, in low-skilled jobs (Davis, 2016; Corak, 2013; Davis, 2013; Browne 1997). While researchers such as Browne (1997) have put forth the premise that stratified disparities such as the ones that exist between black single working mothers and their white counterparts are more an artifact of human capital differences such as black women having higher rates of high school dropout, higher incidents of being on welfare, and having more children six years of age and younger, compared to white single mothers, other researchers have put forth more nuanced theories. In fact, some of the latest research espouses that African-American females have the highest within-group levels of achieving a college enrollment. They constitute 62% of the college enrollment of African-Americans enrolled in college (Musu-Gillette et al. 2017). There is abundant evidence in the literature that it is not the lack of human capital but organization level management (or lack thereof) of these workers that are the underpinnings of these disparities. As cited in Fuller (2018), “While past research has suggested that lost human capital tied to employment breaks for caregiving contributes to motherhood pay gaps, human capital variables do not typically account for its entirety” (Budig & England, 2001; Avellar & Smock, 2003).

Wilson and Rodgers found even when controlling for degree attainment and job skill level, Black Americans earned on average approximately 28 percent lower than their white counterparts (Wilson & Rodgers, 2016). When disaggregated by sex, Black men earned 22.2 percent less than white men. However Black women earned 31 percent less than white women (Wilson & Rodgers, 2016). The researchers’ findings also showed that race-based pay inequality has been an upward, trending phenomena for over forty years, with only punctuated moments of parity; typically characterized by moments in the nation’s economy wherein the economic penalty of pay discrimination made it fiscally untenable (Wilson & Rodgers, 2016). Set against such a prolific backdrop, these inequities are exacerbated when contemplating the circumstances faced by vulnerable populations working in low-skilled jobs.

Davis (2013) research on employment inequities within the low-skilled labor force indicates that structural phenomena such as workforce de-skilling and increasing proportionality of contingency workers in many low-skilled jobs often interplay with systemic inequities that adversely impact vulnerable populations such as people of



color and Black women in particular. Described as a “ [starkly color coded], two track economic system with high skilled positions often filled by white workers and low skilled jobs occupied primarily by people of color” (Center for Social Inclusion, 2011), chronic employment and pay inequities exacerbate the gaps in wealth and life outcomes, particularly among women and people of color.

In their 2011 study, the Center for Social Inclusion produced a study which found that occupations with increasing wages rise as the proportion of whites working in those occupations rise. Consequently, these groups are also likely to experience one or more of what Brand (2015) refers to as a multiplicity of residual effects such as long-term earnings losses, lower job quality, declines in psychological and physical well-being, loss of psychosocial assets, social withdrawal, family disruption and lower levels of children’s attainment and wellbeing.

## Methodology

We used demographic information regarding retail employment trends derived from census data to identify the shifts in the types of retail employment during a given time period. We specifically looked at particular “positions” in the traditional retail industry that would be considered ones that are entry point positions and we looked at positions that could potentially be vulnerable to industry shifts toward online retailing. Thus, we analyzed first-line supervisors, cashiers, and retail supervisors.

We looked at these data to first identify whether the positions themselves maintained consistent employment levels over the past several years. We also ascertained the earnings levels of men and women in these positions over the same time period to determine how the factors of gender and race affected occupational achievement in the retail arena. In addition, we reviewed data that provided any insight regarding marital statuses in particular with respect to changing demographic dynamics such as the proliferation of singles households and the ever-increasing single parent head of household, particularly single female-headed households. Finally, because women are often the individuals who seek jobs in the retail environment because of the perceived “flexibility” that the environment espouses and very often it is women who are “mothers” who seek these positions, we identified the jobs that tend to have a high percentage of mothers employed.

Data from the study were taken from the 2017 American Community Survey (ACS). The United States Census Bureau administers the ACS annually to residents in all fifty U.S. states. By regularly surveying U.S. residents, ACS supplements the decennially administered Census, thereby providing a more up to date reflection of housing and population trends within the United States (<https://census.gov/programs-surveys/acs/>).

We used publicly available Census information to determine the changes that have taken affect between 2010 and 2017 among the year-round civilian employed population of 16 years old, and over males and females (Table 1). In doing so, we specifically analyzed the cashier, first-line supervisor, and retail salesperson positions. Secondly, we analyzed the American Community Survey data (2017) that pertained to occupations that employ the largest number of mothers (Table 2). Finally, we looked to see how household configurations in the US have changed between the time period of 2010 to 2017 (Table 3). This information was derived from 2017 Census data as well. That data showed that the three positions we were analyzing for changes in employment in the

Table 1. Full-Time, Year-Round Civilian Employed Population 16 Years and Over (Total, Male, and Female)

	Total			Male			Female		
	2017 Count	2010 Count	Percent Change	2017 Count	2010 Count	Percent Change	2017 Count	2010 Count	Percent Change
Total	109,307,428	94,699,265	15.4%	62,188,941	53,248,404	16.8%	47,118,487	41,450,861	13.7%
First-line supervisors	2,693,008	2,487,428	8.3%	1,515,173	1,442,456	5.0%	1,177,835	1,044,972	12.7%
Cashiers	1,017,176	1,050,492	-3.2%	294,567	302,920	-2.8%	722,609	747,572	-3.3%
Retail salespersons	1,684,365	1,666,637	1.1%	1,039,912	1,016,234	2.3%	644,453	650,403	-0.9%
	2017 Earnings	2010 Earnings	Percent Change	2017 Earnings	2010 Earnings	Percent Change	2017 Earnings	2010 Earnings	Percent Change
Total	47,016	46,675	0.7%	51,421	46,740	10.0%	41,512	36,612	13.4%
First-line supervisors	41,186	42,126	-2.2%	47,774	42,995	11.1%	35,217	31,152	13.0%
Cashiers	21,822	22,246	-1.9%	23,008	21,929	4.9%	21,471	18,947	13.3%
Retail salespersons	34,075	34,826	-2.2%	40,182	36,270	10.8%	27,800	24,560	13.2%



**Table 2.** Occupations Employing the Largest Number of Mothers (Partial List)

Occupation	Total employed	Number of employed mothers	Number of employed non-mothers	Share who are mothers	Share who are non-mothers	Gap between mothers and non-mothers
Total employed	47,016,125	21,961,050	25,055,075	0.47	0.53	−0.07
<b>Cashiers</b>	<b>973,023</b>	<b>437,099</b>	<b>535,924</b>	<b>0.45</b>	<b>0.55</b>	<b>−0.10</b>
Accountants and Auditors	897,374	430,814	466,560	0.48	0.52	−0.04
<b>First-Line Supervisors Of Retail Sales Workers</b>	<b>1,023,831</b>	<b>415,396</b>	<b>608,435</b>	<b>0.41</b>	<b>0.59</b>	<b>−0.19</b>
Personal Care Aides	683,491	325,703	357,788	0.48	0.52	−0.05
Childcare Workers	631,877	325,624	306,253	0.52	0.48	0.03
Teacher Assistants	587,034	323,580	263,454	0.55	0.45	0.10
<b>Retail Salespersons</b>	<b>760,067</b>	<b>306,807</b>	<b>453,260</b>	<b>0.40</b>	<b>0.60</b>	<b>−0.19</b>

Note: Civilian employed women ages 25 to 54.

Data: American Community Survey 2017

**Table 3.** Changes in Household Configurations Between 2010 and 2017.

Year	Family households					Nonfamily households		
	Total households	Total	Married couples	Other family		Total	Male householder	Female householder
				Male householder	Female householder			
2018	127,586	83,088	61,241	6,424	15,423	44,498	21,017	23,481
2017	126,224	82,827	60,804	6,452	15,572	43,396	20,539	22,858
2016	125,819	82,184	60,251	6,310	15,622	43,635	20,542	23,093
2015	124,587	81,716	60,010	6,162	15,544	42,871	20,143	22,728
2014 <sup>s</sup>	123,229	81,353	59,629	6,304	15,420	41,877	19,658	22,219
2013	122,459	80,902	59,204	6,229	15,469	41,558	19,747	21,810
2012	121,084	80,506	58,949	5,888	15,669	40,578	19,195	21,383
2011 <sup>t</sup>	119,927	79,539	58,656	5,648	15,235	40,388	18,968	21,420
2011	118,682	78,613	58,036	5,559	15,019	40,069	18,835	21,234
2010	117,538	78,833	58,410	5,580	14,843	38,705	18,263	20,442

retail industry vis-à-vis the shifts to online retailing were positions that are among the occupations employing the largest number of mothers, cashiers, first-line supervisors, and retail salespersons.

## Findings

We first found that during the time frame between 2010 and 2017, while married couple households increased from 58.4 million to 61.2 million, female non-family head of households increased from 20.4 million to 23.5 million. This outpaced male non-family head of households that increased from 18.2 million to 21 million. Further findings were that the entry point retail positions we identified: cashier, first-line supervisors of retail sales workers, and retail salespeople, were also among the positions in which there were large percentages of mothers; forty-five percent of cashiers are mothers, forty-one percent of first line supervisors are mothers and forty percent of retail salespersons are mothers.

First-line supervisor positions increased by 8.3% from 2010 to 2017. During this time frame, the growth in women in these positions outpaced men by 12.7% for women as

compared to 5.7% were men. However, cashiers' jobs decreased by 3.2% during this same period. The rate of decrease for women in this gateway position, outpaced men. Women went down 3.3% as compared to a 2.8% drop for men. Retail salesperson positions were down 1.1% during this time frame as well. However, within this group, men were up 2.3% while women were down 0.9%.

Overall earnings for the first-line supervisors were down in 2017. However, the earnings disparities between men and women were palpable. Men were earning 47.7k USD annually as compared to women who were earning 35.2k USD, a 12.5k USD difference. This difference was greater than the 11.8k USD disparity in favor of men in 2010.

## Discussion

The retail environment has long been the place whereby individuals could gain entry level experience in the work place overall. The opportunities there have been particularly important to women and minorities who have often experienced the inequities of the work place. This study first illuminated the decline in traditional retail sales over the last several years. The study then infers that that drop would have an adverse effect on hiring for the entry level retail positions that are particularly dependent on a traditional environment such as the positions in our analyses.

We found that these positions often reflect disparities in income between men and women. The theory of compensating differentials would suggest that individuals willfully seek out positions that are known to provide flexibility in work hours in order to "compensate for other lifestyle preferences" (e.g., raising children). However, our research illuminated that this perceived flexibility often does not exist because managers expect individuals to work around the needs of the establishment, not vice versa. Moreover, establishment needs are often not known in time frames that afford employees the ability to make adjustments in their lives to accommodate employers' needs. Additionally, there are still disparities between men and women when it comes to compensation, even within the gateway positions of analysis (e.g., cashier, first-line supervisors, and retail sales people).

## Limitations

This study is based on census data, and as with all data, census data is fallible. This study obtains its data through the American Community Survey (ACS). ACS has an inherited limitation due mostly to the fact that its results are estimates. Despite the fact that biases may be non-existent when looking at these estimates, the estimates can be misleading. Hence future researchers should seek to utilize non-census data especially as census data may become out of date after it is collected. Future research is recommended to analyze if there is any linkage between the degree training for women and minorities in non-management jobs and upward mobility.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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