WEIGHING PRIORITIES FOR PART-TIME WORKERS

An Early Evaluation of San Francisco’s Formula Retail Scheduling Ordinance

Dr. Aaron Yelowitz
University of Kentucky

Dr. Lloyd Corder
CorCom, Inc.
Carnegie Mellon University

May 2016
The Employment Policies Institute (EPI) is a nonprofit research organization dedicated to studying public policy issues surrounding employment growth. In particular, EPI research focuses on issues that affect entry-level employment. Among other issues, EPI research has quantified the impact of new labor costs on job creation, explored the connection between entry-level employment and welfare reform, and analyzed the demographic distribution of mandated benefits. EPI sponsors nonpartisan research that is conducted by independent economists at major universities around the country.

**About Dr. Aaron Yelowitz**

Dr. Aaron Yelowitz is an Associate Professor in the Department of Economics at University of Kentucky. He also is a joint faculty member in the Martin School of Public Policy and Administration at University of Kentucky, and an adjunct scholar with the Cato Institute. He serves on the editorial board of Journal of Labor Research. Dr. Yelowitz received his Ph.D. from MIT in 1994, and has previously worked at UCLA as an assistant professor. He has published articles in the Journal of Political Economy, Quarterly Journal of Economics, Journal of Health Economics, Journal of Public Economics, Journal of Human Resources, Economic Inquiry, Southern Economic Journal, Health Services Research, Real Estate Economics, Cityscape, Economics Letters, Applied Economics Letters, Economic Development Quarterly and Pediatric Neurology. He has taught graduate classes on public economics and health economics, and undergraduate classes on labor economics, public economics, housing economics and poverty and welfare programs.

**About Dr. Lloyd Corder**

Lloyd Corder, Ph.D. is a senior marketing strategist and researcher with more than 25 years professional experience, with the past 15 operating CorCom, Inc. He serves on the graduate business school faculty at Tepper School of Business at Carnegie Mellon University, where he teaches marketing research, brand strategy and international marketing. In addition to serving on the Department of Communication faculty at the University of Pittsburgh, he is also a frequent keynote and convention presenter. The results of his studies have been printed in over 200 magazines and newspapers, and he has published over 50 business articles on marketing communication, leadership and measuring marketing return on investment (ROI). His book, The Snapshot Survey: Quick, Affordable Marketing Research for Every Organization, is published by Kaplan.
WEIGHING
PRIORITIES FOR
PART-TIME WORKERS

An Early Evaluation of San Francisco’s
Formula Retail Scheduling Ordinance

Dr. Aaron Yelowitz
University of Kentucky

Dr. Lloyd Corder
CorCom, Inc.
Carnegie Mellon University

May 2016

Employment Policies

INSTITUTE
1090 Vermont Avenue, NW
Suite 800
Washington, DC 20005
WEIGHING PRIORITIES FOR PART-TIME WORKERS

An Early Evaluation of San Francisco’s Formula Retail Scheduling Ordinance

Table of Contents

Executive Summary ................................................................. 7

Characteristics of the Part-Time Retail Workforce in San Francisco ..................... 9

Assessing the Initial Impact of San Francisco’s Scheduling Ordinance ...................... 9

Appendix A: Survey Script .......................................................... 14

Appendix B: Methodology .......................................................... 21
EXECUTIVE SUMMARY

In recent years, San Francisco has led the charge for additional workplace mandates. These include a higher minimum wage, paid sick leave, and the availability of a “fair” schedule.

The city was the first to enact legislation on this latter point, passing the Formula Retail Employee Rights Ordinance in late 2014. San Francisco’s law requires most “chain” stores, as well as their contractors, to provide schedules to employees two weeks in advance, establishes a series of financial penalties for schedule changes that occur less than a week before the scheduled work day, and requires additional work to be offered to part-time staffers before additional employees are hired.

To better understand the initial impact of this ordinance, this study provides two key pieces of data: A profile of the affected part-time workforce in San Francisco, California, and direct feedback from 52 “formula retail” establishments that have been affected by the law.

Dr. Aaron Yelowitz of the University of Kentucky used data from the Census Bureau’s American Community Survey, the Current Population Survey and the Survey of Income and Program Participation to examine the part-time workforce in the specific industries impacted by San Francisco’s law. He finds the following:

- Just one in seven (13.9 percent) of part-time workers in San Francisco are estimated to be working that schedule involuntarily;
- Formula retail establishments have a higher proportion of students as part-time workers – 28.3 percent versus 6.7 percent at all establishments.

These data cast doubt on a basic premise of the legislation – that part-time workers in San Francisco are plagued by “insufficient” hours. Rather, most are voluntarily working part-time.

Also important for policymakers to understand is how San Francisco businesses have reacted to the scheduling mandate. Dr. Lloyd Cordor and his research team at
CorCom designed a survey of 52 formula retail businesses operating within San Francisco that were affected by this law.

To respond to these new requirements formula retailers are now less flexible with employees schedule changes (35 percent), offering fewer part-time positions (21 percent), scheduling fewer employees per shift (19 percent) and offering fewer jobs across the board (17 percent). (See table below.)

The law’s proponents may be satisfied with the unintended consequences of the formula retail law – fewer part-time position, and less flexibility for those that remain – but they appear to be at odds with the preferences of the employees.

<table>
<thead>
<tr>
<th>Operational Changes Made Since Adoption of Formula Retail Employee Rights Ordinance</th>
<th>Operational Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N=52)</td>
<td></td>
</tr>
<tr>
<td>Offering employees less flexibility to make schedule changes</td>
<td>35%</td>
</tr>
<tr>
<td>Changing the hiring composition of full-time vs. part-time employees</td>
<td>13%</td>
</tr>
<tr>
<td>Offering fewer part-time positions</td>
<td>21%</td>
</tr>
<tr>
<td>Offering fewer jobs across the board</td>
<td>17%</td>
</tr>
<tr>
<td>Scheduling fewer employees per shift</td>
<td>19%</td>
</tr>
<tr>
<td>Reducing customer service</td>
<td>6%</td>
</tr>
</tbody>
</table>
WEIGHING PRIORITIES FOR PART-TIME WORKERS

An Early Evaluation of San Francisco’s Formula Retail Scheduling Ordinance

Characteristics of the Part-Time Retail Workforce in San Francisco

A profile of the part-time workers that were likely affected by San Francisco’s formula retail legislation was created from the 2014 American Community Survey (ACS), the Current Population Survey (CPS) and the Survey Income and Program Participation (SIPP). (The full methodology is available in Appendix B.) A principal advantage of the ACS is the sizable samples, as well as the ability to identify those employed within San Francisco.

San Francisco’s formula retail legislation applies new labor market regulations for “chain” retail or service establishments with at least 40 retail sales establishments worldwide and 20 or more employees locally. There are roughly 48,000 workers in San Francisco in these industries, and about 8,950 of them work part-time (defined as less than 35 hours per week). Other notable characteristics of the part-time workforce include the following:

- Just one in seven (13.9 percent) of part-time workers in San Francisco are estimated to be working that schedule involuntarily;
- Part-time workers in formula retail are less-educated, with just 24.5 percent having a college degree, compared with 62.1 percent across all workers;
- Formula retail establishments have a higher proportion of students as part-time workers – 28.3 percent versus 6.7 percent across all workers.

Assessing the Initial Impact of San Francisco’s Scheduling Ordinance

To gauge the initial impact of San Francisco’s formula retail employee rights ordinance on businesses and employees, a survey of 52 restaurant and retail businesses was fielded in December 2015 and January 2016. CorCom, Inc, and FRANdata, an industry source for franchise information and analysis, created a profile of affected businesses using the criteria outlined in the section above.

A total of 609 businesses with at least one location in San Francisco, more than 40 establishments worldwide and more than 20 employees working within the city were identified. Affected businesses represented a range of sectors, including retail clothing (29 percent), retail food (23 percent), retail store (21 percent), professional or business services (6 percent), and lodging (6 percent). Businesses were asked to describe the initial impact of the proposed formula retail ordinance.
Table 1. Profile of San Francisco’s Formula Retail Workforce

<table>
<thead>
<tr>
<th></th>
<th>All Firms</th>
<th>Part-time Formula Retail*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Hours</td>
<td>2044 (673)</td>
<td>1117 (509)</td>
</tr>
<tr>
<td>Hourly Wage Rate</td>
<td>$39.68</td>
<td>$24.68</td>
</tr>
<tr>
<td>Median Wage Rate</td>
<td>$30.14</td>
<td>$15.43</td>
</tr>
<tr>
<td>Proportion Part-Time</td>
<td>0.158 (0.364)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Involuntary Part Time</td>
<td>0.018 (0.045)</td>
<td>0.139 (0.044)</td>
</tr>
<tr>
<td>Employer Health Ins.</td>
<td>0.82 (0.384)</td>
<td>0.519 (0.5)</td>
</tr>
<tr>
<td>Age</td>
<td>41.2 (12.6)</td>
<td>37.7 (14.7)</td>
</tr>
<tr>
<td>Non-Citizen</td>
<td>0.135 (0.342)</td>
<td>0.211 (0.408)</td>
</tr>
<tr>
<td>Male</td>
<td>0.537 (0.499)</td>
<td>0.431 (0.495)</td>
</tr>
<tr>
<td>Educ&lt;12</td>
<td>0.056 (0.23)</td>
<td>0.134 (0.341)</td>
</tr>
<tr>
<td>Educ=12</td>
<td>0.106 (0.308)</td>
<td>0.175 (0.38)</td>
</tr>
<tr>
<td>12&lt;Educ&lt;16</td>
<td>0.217 (0.413)</td>
<td>0.446 (0.497)</td>
</tr>
<tr>
<td>Educ≥16</td>
<td>0.621 (0.485)</td>
<td>0.245 (0.43)</td>
</tr>
<tr>
<td>Enrolled in school</td>
<td>0.067 (0.249)</td>
<td>0.283 (0.451)</td>
</tr>
<tr>
<td>White</td>
<td>0.459 (0.498)</td>
<td>0.279 (0.449)</td>
</tr>
<tr>
<td>Black</td>
<td>0.046 (0.209)</td>
<td>0.067 (0.25)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.155 (0.362)</td>
<td>0.267 (0.442)</td>
</tr>
<tr>
<td>Married</td>
<td>0.502 (0.5)</td>
<td>0.352 (0.478)</td>
</tr>
<tr>
<td>Female with child 0-5</td>
<td>0.034 (0.18)</td>
<td>0.017 (0.13)</td>
</tr>
<tr>
<td>Female with child 6-17</td>
<td>0.065 (0.246)</td>
<td>0.103 (0.304)</td>
</tr>
<tr>
<td>Female with child 0-5 and 6-17</td>
<td>0.018 (0.134)</td>
<td>0.042 (0.2)</td>
</tr>
<tr>
<td>English Difficulty</td>
<td>0.14 (0.347)</td>
<td>0.287 (0.452)</td>
</tr>
<tr>
<td>Worker Count</td>
<td>439,815</td>
<td>8,958</td>
</tr>
</tbody>
</table>

* Less than 35 hours per week.
Standard deviations in paranthesis.
Scheduling Requirements More Difficult to Comply with than $15 Minimum Wage

Considering all of the labor related ordinances enacted in San Francisco in recent years, retailers were asked which was the most difficult for their business to accommodate.

One-in-four (27 percent) said the scheduling requirements provided in the formula retail employee rights ordinance, followed by one-in-five (21 percent) who said the minimum wage phasing up to $15 and 13 percent who said the paid sick leave ordinance were the most difficult to deal with.

Only 17 percent said none of the ordinances were difficult to deal with, while 4 percent listed other ordinances or requirements and 17 percent were not sure.

Financial Penalties More Difficult than Other Requirements

Businesses were then asked the degree of difficulty that accompanied each of the scheduling requirements. The most onerous part of the law appears to be related to fines for changing schedules less than 7 days before an employee’s shift. Nearly one-third (29 percent) say this provision has been difficult for them. This is especially true for retail clothing businesses, where over half (53 percent) say this provision is difficult to manage.

Just over one-fifth of the affected businesses find the following requirements difficult to manage: Posting employees’ schedules two weeks before shifts (21 percent); Having to pay two to four hours for shifts canceled within 24 hours of work (21 percent); giving employees written estimates of shifts per month in writing (19 percent); and having to offer current qualified part-time employees more work in writing before hiring new staff (19 percent).

Retailers are less certain about requirements related to the sale of the business. For example, if the business is sold and the new owner is required to retain all former employees for at least 90 days after the sale, most (62 percent) are uncertain of the impact. Likewise, if new ownership needs fewer employees, retaining employees based on seniority or any applicable collective bargaining agreement is an uncertainty for a majority of retailers (65 percent).

Overall, many say that it has not been difficult to comply with giving equal treatment to both full- and part-time employees: only 4 percent of all businesses have experienced difficulties. It appears that most businesses were already engaged in this practice.

Graph 1. San Francisco Labor Ordinances Formula Retailers Find Most Difficult to Comply With
board, as well as offering less flexibility to make schedule changes (40 percent), offering fewer part-time positions (40 percent) and scheduling fewer employees per shift (40 percent). One-third (33 percent) are changing the hiring composition of full- and part-time employees.

### Future Expansion in San Francisco Uncertain

Retailers are split on whether the ordinance will influence current or future expansion plans within San Francisco, with half (52 percent) saying it has no influence, but 46 percent saying they are not sure and 2 percent reporting that it is having some influence and they may hesitate to expand. It appears that many are taking a wait-and-see approach to the full impact of the ordinance.

**Table 2. Operational Changes Made Since Adoption of Formula Retail Employee Rights Ordinance**

<table>
<thead>
<tr>
<th></th>
<th>All Formula Retail Businesses</th>
<th>Retail Clothing</th>
<th>Retail Food</th>
<th>Retail Store</th>
<th>Other*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N=52)</td>
<td>(n=15)</td>
<td>(n=12)</td>
<td>(n=11)</td>
<td>(n=14)</td>
</tr>
<tr>
<td>Offering employees less flexibility to make schedule changes</td>
<td>35%</td>
<td>40%</td>
<td>50%</td>
<td>18%</td>
<td>29%</td>
</tr>
<tr>
<td>Changing the hiring composition of full-time vs. part-time employees</td>
<td>13%</td>
<td>33%</td>
<td>8%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Offering fewer part-time positions</td>
<td>21%</td>
<td>40%</td>
<td>17%</td>
<td>9%</td>
<td>14%</td>
</tr>
<tr>
<td>Offering fewer jobs across the board</td>
<td>17%</td>
<td>47%</td>
<td>8%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Scheduling fewer employees per shift</td>
<td>19%</td>
<td>40%</td>
<td>8%</td>
<td>27%</td>
<td>0%</td>
</tr>
<tr>
<td>Reducing customer service</td>
<td>6%</td>
<td>0%</td>
<td>17%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>Pursuing self-service automated alternatives to hiring employees</td>
<td>4%</td>
<td>14%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>If new ownership needs fewer employees, retaining employees based on seniority or any applicable collective bargaining agreement</td>
<td>4%</td>
<td>14%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

* Represents businesses in industries including Entertainment, Lodging, Professional & Businesses Services and Restaurants.
Appendix A: Survey Script

San Francisco Formula Retail Employee Rights Survey

We’re conducting a confidential, independent study of franchises and businesses affected by San Francisco’s Formula Retail Employee Rights Ordinance that went into effect this past summer.

Among other things, the bill requires businesses with 40 or more branches worldwide with 20 or more employees in the City of San Francisco to offer more hours to part-time employees before hiring additional staff. It also requires payment for hours not worked in the event of a last-minute schedule change, as well as equal rights for both part-time and full-time employees.

Introduction

Are you familiar with the San Francisco’s Formula Retail Employee Rights Ordinance that went into effect on July 1, 2015?

- Yes
- No
- Unsure

Does this law apply to your business?

- Yes
- No
- Unsure
How difficult will it be for your franchise / business to comply with the following requirements of this law?

<table>
<thead>
<tr>
<th></th>
<th>1- Not at all difficult</th>
<th>2- Somewhat difficult</th>
<th>3- Very difficult</th>
<th>Unsure or Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before starting employment, giving employees a written estimate of the minimum shifts per month with the days and hours of those shifts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posting employee schedules 2 weeks in advance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fines for changing schedules less than 7 days before their shift</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having to pay 2-4 hours for on-call shifts that are cancelled less than 24 hours in advance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having to offer current qualified part-time employees more work in writing (up to 35 hours) before hiring new staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giving equal treatment (starting hourly wage, paid time off, eligibility of promotion) to both full and part time employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the business is sold requiring that all former employees remain for at least 90 days after the sale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If new ownership needs fewer employees, retaining employees based on seniority or any applicable collective bargaining agreement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Since the law was enacted are you:

<table>
<thead>
<tr>
<th></th>
<th>Yes, we began doing this</th>
<th>No we are not currently doing this</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering employees less flexibility to make schedule changes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Changing the hiring composition of full-time vs. part-time employees</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Offering fewer part-time positions</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Offering fewer jobs across the board</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Scheduling fewer employees per shift</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reducing customer service</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pursuing self-service automated alternatives to hiring employees</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Which San Francisco labor ordinance in most difficult for your business to accommodate?
(Minimum wage, paid sick leave, healthcare, etc.)

- ☐ Scheduling requirements described here
- ☐ Minimum Wage phasing up to $15
- ☐ Paid Sick Leave Ordinance
- ☐ Health Care Security Ordinance
- ☐ Other ______________________
What influence does this scheduling ordinance have on any of your current or future expansion plans in San Francisco?

- No influence
- Some influence (may hesitate to expand)
- Significant influence (may not expand under current ordinance)
- Unsure

LOCATION & INDUSTRY INFORMATION

Business Name: 

________________________________________________________________________

Name of survey respondent: 

________________________________________________________________________

Phone number of respondent: 

________________________________________________________________________

Which category best described your industry?

- Retail
- Restaurant, Quick Service
- Restaurant, Full Service
- Other: ___________________________
Which category best described your industry?

○ Automotive
○ Education Services
○ Entertainment
○ Financial Service
○ Health Services
○ Information Services
○ Liquor Stores & Bars
○ Lodging
○ Manufacturing
○ Professional & Business Services
○ Repaid & Maintenance Services
○ Restaurant, large fast food
○ Restaurant, small self-service
○ Retail Clothes
○ Retail Store
○ Retail Food
○ Transportation
○ Other Retail
○ Other: _____________________
Appendix B: Methodology

The 2014 ACS is a 1% sample of the United States; the 3,132,610 individuals, when weighted, represent the U.S. population of 318,857,056.\(^1\) The ACS asks respondents both about where they live and where they work. A total of 695,714 workers reported employment in San Francisco County.

A number of steps are taken to assign a “formula retail designation” to workers. First, much like Yelowitz’s (2012) analysis of San Francisco, individuals were excluded if relevant demographic or labor market variables contained imputed values.\(^2\) For most variables, imputed values are a small fraction of all observations. Next, for remaining workers in San Francisco, formula retail designation was assigned. This presents a critical challenge with using the ACS, because two of the key features of San Francisco’s law – employees at the establishment and the number of chain locations worldwide – are not asked of respondents. However, the ACS does ask the individual about their industry (and classifies industries according to the North American Industry Classification System, or NAICS).\(^3\)

As noted in previous work on San Francisco’s formula retail law, the impact of the law varies dramatically by industry (Strategic Economics, June 2014).\(^4\) To assign formula retail penetration by industry, we rely on the Survey of Income and Program Participation (“SIPP”). The SIPP is a longitudinal dataset conducted by the Census Bureau, and the 16th wave of the 2008 panel was conducted between September 2013 and December 2013, as close as the SIPP data gets to the 2014 ACS.\(^5\) Importantly, in the core file, the SIPP asks workers about establishment size: “About how many persons are employed by ...’s employer at the location where ... work?” (with groupings of 1-9 employees, 10-25, 26-50, 51-100, 101-200, 201-500, 501-1000, and more than 1000). Workers reporting 26 or more employees would fall under San Francisco’s formula retail designation, while most workers below that threshold would not. The SIPP also asks, albeit imperfectly, about multiple locations: “Does ...’s employer operate in more than one location?” (with answers of “yes” or “no”). Our procedure classifies workers as answer “yes” as falling under San Francisco’s formula retail law.

It is important to note that the SIPP’s question is broader than San Francisco’s law, because employers with 2-39 establishments worldwide would be classified as formula retail firms when, in fact, San Francisco’s law exempts them. In addition, some industries – principally stores, restaurants and bars, retail services and banking – tend to meet the definition retail sales or service establishments (Strategic Economics, 2014); other industries are not assigned formula retail designation. By applying all three screens – 26 or more workers, an employer operating in multiple locations, and in retail sales or service – the fraction of workers in each industry subject to the formula retail regulations was computed. Third, these fractions were then applied to each individual in the ACS based on the worker’s industry. Two weights were created for each respondent, one corresponding to the fraction of the respondent’s industry covered under formula retail rules, and the other corresponding to the fraction not covered. The weighting algorithm – while splitting the raw sample into two observations per person – preserves the original workforce size.

The final sample then consists of individuals aged 16 and over, who worked in the past 12 months, where a wage

---

\(^1\) The data is publicly available at [http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t](http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t)
\(^2\) Bollinger and Hirsch (2006) find serious issues with including individuals with imputed values. Marton and Yelowitz (2015) exclude imputed values in their analysis of health insurance coverage take-up.
\(^3\) See [http://www.census.gov/eos/www/naics/](http://www.census.gov/eos/www/naics/)
\(^4\) [http://www.sf-planning.org/ftp/files/legislative_changes/form_retail/Final_Formula_Retail_Report_06-06-14.pdf](http://www.sf-planning.org/ftp/files/legislative_changes/form_retail/Final_Formula_Retail_Report_06-06-14.pdf), Figure V-3, which characterizes the total workforce by industry.

---

18 Employment Policies Institute | Weighing Priorities for Part-Time Workers
rate could be assigned. Socioeconomic and demographic variables related to age, citizenship, gender, education, school enrollment, race/ethnicity, marital status, military service, migration, own children, disability, and difficulty with English were created.

Several variables related to the labor market were used to create an hourly wage rate. First, annual hours of work were computed using usual hours worked per week and weeks worked per year. Weeks worked in the 2014 ACS falls into six bins: 1-13 weeks, 14-26 weeks, 27-39 weeks, 40-47 weeks, 48-49 weeks, and 50-52 weeks worked during past 12 months. Using the methodology of Yelowitz (2012), who uses the 2005-2007 ACS (which has actual weeks worked), average weeks were assigned to each bin corresponding to 7.38004 for 1-13 weeks, 21.2193 for 14-26 weeks, 33.058 for 27-39 weeks, 42.3805 for 40-47 weeks, 48.1903 for 48-49 weeks, and 51.8484 for 50-52 weeks. An individual’s annual wage and salary income was divided by annual hours worked to assign a wage rate. Additional variables related to health insurance coverage and part-time work were also created.

Following the legislative language in San Francisco, “part-time” means fewer than 35 hours of work in each work week. The ACS does not ask part-time workers their reason for part-time work. In contrast, the March Current Population Survey (“CPS”) does ask these questions. The “detailed reason for part-time work” includes people who usually work full-time but have fewer hours as well as those who usually work part-time. For those who usually work part-time, the reasons include “slack work/business conditions”, “could only find part-time work”, “seasonal work”, “child care problems”, “other family/personal obligations”, “health/medical limitations”, “school/training”, “retired/social security limit on earnings”, “workweek <35 hours”, and “other reason.” Of these reasons, “could only find part-time work” is the principal reason for involuntary part-time work that could possibly be remedied through legislation like San Francisco’s. Much like the algorithm for formula retail designation, a companion algorithm was developed to identify involuntary part-time workers in San Francisco by merging information from the national CPS (based on 1-digit industry and usual hours of work bins – under 20 hours, 20-24 hours, 25-29 hours, and 30-34 hours) to each worker.