Supplemental Materials Appendix for

**The Growth of Public-Sector Unions in Early 20th Century America**

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This appendix presents supplemental description of the dataset and empirical results that are described but not shown in the article.

**Data from ICMA Yearbooks**

For our broader project of which this article is a part, we digitized select tables from the ICMA Yearbooks from 1934 to 1969. The Yearbooks are large compilations, and each Yearbook includes data tables covering a variety of different features of cities. We focused on the data tables containing information on personnel management and employee organizations, and we proceeded with the digitation and data assembly in two rounds. In the first round, we digitized the personnel management and employee organization tables in the following Yearbooks: 1934, 1936, 1938-1940, 1942-1948, 1950, 1954, 1956, 1958, 1960, and 1962-1969. In our second round of digitization, we added tables from the remaining years: 1941, 1949, 1951-1953, 1955, 1957, 1959, and 1961. With the data from these years, we created a balanced panel dataset of all of the cities. The dataset for this article on city employee organizations runs from 1902 (the first year a city employee organization was documented) to 1962.[[1]](#footnote-1)

With the exception of 1957, the Yearbooks from 1938 to 1962 all include some information about employee organizations. This section describes the variation in available data across years. In Table A1, we summarize the specific information about employee organizations provided each year; we refer to this table in the discussion below.

1938-1940 Yearbooks

For 1938, 1939, and 1940, the employee organization data in the Yearbooks are provided as lists of known local government employee organizations along with the year each local was established and its number of members. The ICMA assembled these lists by acquiring directories of a few prominent national-level employee organizations and then listing their local chapters in each state. The national-level organizations included were IAFF, AFSCME, SCMWA, and the National Civil Service Association (NCSA). In addition, it lists some large local employee organizations that were not affiliated with national organizations, such as local organizations in Chicago, Milwaukee, Los Angeles, and Detroit.[[2]](#footnote-2) With the dates of establishment, we were able to code the presence of locals in these cities for earlier years. Because these are lists of known employee organizations, there are also some counties listed, a few boards of education, and some smaller cities with fewer than 10,000 residents. Notably, police organizations are absent from the lists, and the lists of unaffiliated locals are far from complete. Also, if a city had had a local that disbanded before 1938, it would not be included.

1941-1943 Yearbooks

For these three years, the Yearbooks included employee organization information in their main personnel tables, but only for cities with more than 25,000 people. (There is a table of cities with 10,000 to 25,000 in population, but it does not include employee organization data.) The same national organizations were covered as in earlier years except that in 1943, data on Fraternal Order of Police (FOP) locals were added (for cities with more than 25,000 in population). In addition, starting in 1941, the Yearbooks track a more comprehensive set of unaffiliated locals. Moreover, in 1941, the Yearbooks stopped reporting dates of establishment and membership numbers, and in 1942, they stopped reporting the presence of an NCSA local unless it was in New Jersey or New York.

1944-1956 Yearbooks

During this period, the Yearbooks included employee organization data in the main personnel tables for cities with more than 10,000 residents. Note that the counties and very small cities included in the 1938-1940 employee organization lists are not covered in these later years. (For example, La Crosse County, WI, had a local organization, as did small cities like Tarrant, AL, a town outside of Birmingham that had approximately 700 residents when it incorporated in 1918.) The United Public Workers of America (affiliated with CIO) is tracked starting in 1948, and Government and Civic Employee Organizing Committee (GCEOC) tracking starts in 1951. The tables stop including FOP locals in 1946. The tables for several of these years also include indicators of whether the city had no employee organizations.

1958-1962 Yearbooks

After not including any employee organization data in 1957, the Yearbooks in 1958 started reporting on the presence of city employee “unions” specifically (instead of any organization). In addition, for 1959 to 1961, the tables include indicators of whether certain groups of city employees were unionized, including police officers and firefighters.

The number of cities included in the tables also varies from year to year. While most cities are in the data tables for every year, some cities come in and out of the dataset. As we describe in the article, for certain analyses, we use all cities in the dataset for a given year. For others, especially where we are analyzing change in employee organization over time, we focus on a set of 917 cities that have employee organization data for all of six time periods: 1920, 1935, 1940-41, 1944-45, 1949-50, and 1955-56. The set of 917 cities we are able to track over time represents a high proportion (e.g., 80%) of the cities included in each year.

Except for the section on the police, we stop our analysis in 1956 because that is the last year the ICMA reports on the presence of city employee organizations—including organizations not deemed to be “unions.” In 1958, the ICMA started reporting on the presence of city employee “unions” specifically (instead of any organization). Notably, from 1956 to 1958, the number of city employee organizations reported decreases, presumably because some cities had organizations that were not considered unions.

For the tracking of the data on the 917 cities in 1920, 1935, and 1940-41, we only considered cities that appeared in the personnel tables of 1938 to 1940—and thus excluded counties and cities with fewer than 10,000 residents that were in the 1938-1940 employee organization lists. For the last four time periods (1940-41, 1944-45, 1949-50, and 1955-56), we combine two years of data so as to include a larger number of cities in this consistent set of 917. For example, we count a city as having an AFSCME local in 1949-50 if it was reported as having an AFSCME local either in 1949 or in 1950 (or both), even if the city was missing employee organization data in one of those years.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A1: Employee Organization Data Available by Year** | | | | | | | | | | | | | | | | |
| **Year** | **IAFF** | **AFSCME** | **SCMWA** | **NJCSA** | **NCSA** | **Unaff.** | **NYCSA** | **FOP** | **UPWA** | **GCEOC** | **Other union** | **No emp. orgs.** | **Year est.** | **Coverage** | **# Mem.** | **City emps. unionized** |
| 1938 | x | x | x | x | x | some |  |  |  |  |  |  | x | list of locals | x |  |
| 1939 | x | x | x | x | x | some |  |  |  |  |  |  | x | list of locals | x |  |
| 1940 | x | x | x | x | x | some |  |  |  |  |  |  | x | list of locals | x |  |
| 1941 | x | x | x | x | x | x | x |  |  |  |  |  |  | cities 25,000+ |  |  |
| 1942 | x | x | x | x |  | x | x |  |  |  |  |  |  | cities 25,000+ |  |  |
| 1943 | x | x | x | x |  | x | x | x |  |  |  |  |  | cities 25,000+ |  |  |
| 1944 | x | x | x | x |  | x | x | x |  |  |  | x |  | cities 10,000+ |  |  |
| 1945 | x | x | x | x |  | x | x | x |  |  |  | x |  | cities 10,000+ |  |  |
| 1946 | x | x | x | x |  | x | x |  |  |  |  | x |  | cities 10,000+ |  |  |
| 1947 | x | x | x | x |  | x | x |  |  |  |  | x |  | cities 10,000+ |  |  |
| 1948 | x | x |  | x |  | x | x |  | x |  |  | x |  | cities 10,000+ |  |  |
| 1949 | x | x |  | x |  | x | x |  | x |  |  | x |  | cities 10,000+ |  |  |
| 1950 | x | x |  | x |  | x | x |  | x |  |  | x |  | cities 10,000+ |  |  |
| 1951 | x | x |  |  |  | x |  |  | x | x |  | x |  | cities 10,000+ |  |  |
| 1952 | x | x |  |  |  | x |  |  | x | x |  |  |  | cities 10,000+ |  |  |
| 1953 | x | x |  |  |  | x |  |  | x | x |  |  |  | cities 10,000+ |  |  |
| 1954 | x | x |  |  |  | x |  |  |  | x |  |  |  | cities 10,000+ |  |  |
| 1955 | x | x |  |  |  | x |  |  |  | x |  |  |  | cities 10,000+ |  |  |
| 1956 | x | x |  |  |  | x |  |  |  | x |  |  |  | cities 10,000+ |  |  |
| 1957 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1958 | x | x |  |  |  |  |  | x |  | x |  |  |  | cities 10,000+ |  |  |
| 1959 | x | x |  |  |  |  |  | x |  |  | x |  |  | cities 10,000+ |  | x |
| 1960 | x | x |  |  |  |  |  | x |  |  | x |  |  | cities 10,000+ |  | x |
| 1961 | x | x |  |  |  |  |  | x |  |  | x |  |  | cities 10,000+ |  | x |
| 1962 | x | x |  |  |  |  |  | x |  |  | x |  |  | cities 10,000+ |  |  |

**Coding of City Employee Organizations**

Our employee organization variables equal 1 if a city in a given year had a local of a particular organization and 0 if it is known that the city did not have an organization of that type.

In the Yearbooks, some of the narrative descriptions indicate that city employee organizations sometimes disbanded after becoming active. We therefore do not assume that employee organizations persisted once established; we instead examine the data as they are reported in the ICMA Yearbooks in each year. The exception is for years before 1938: if a city is listed as having an employee organization in a year 1938 to 1940, and the year of establishment is provided, we code the city as having had that organization for all years between the date of establishment and that year.

The best and most consistent data we have are on IAFF, AFSCME, and CIO unions (especially SCMWA). IAFF and AFSCME locals are tracked for all city-years with the caveats described above. For much of the analysis, we create a single indicator for whether the city had a city employee CIO local, including SCMWA, UPWA, or GCEOC. We also create indicators for whether cities had any known employee organization in each year.

For a few cities, the ICMA yearbooks from 1938-40 list two different dates of establishment for these organizations. We coded those city organizations as follows:

* Carteret, New Jersey, IAFF: One Yearbook listed the establishment date as 1920, but two others had the date of 1929, so we coded 1929 as the establishment date.
* Jacksonville, Illinois, IAFF: One Yearbook listed the establishment date as 1939, but two other Yearbooks had the date of 1935, so we coded 1935 as the establishment date.
* Mount Vernon, Ohio, IAFF: One Yearbook lists the establishment date as 1938 and another as 1928. We used the later date of 1938.
* Sioux City, Iowa, IAFF: One Yearbook listed the establishment date as 1938, but two others listed it as 1916, so we coded 1916 as the establishment date. Also in Sioux City, Iowa, the AFSCME establishment date is listed as both 1916 and 1938, and we use 1938.
* Buffalo, New York, AFSCME: The establishment date is listed as 1928 in one Yearbook and 1936 in two others. We use 1936 as the establishment date.
* Duquesne, Pennsylvania, SCMWA: The establishment date is listed as both 1938 and 1935. We use 1938 as the establishment date.

Unaffiliated organizations, FOP, and NCSA are less reliably tracked in the ICMA Yearbooks. As we show in Table A1, for example, the Yearbooks sometimes report locals of NCSA, sometimes NJCSA, and other times NYCSA. We therefore cannot track the presence or absence of any NCSA entity for all of the years. However, this is not especially consequential because the numbers are relatively small. For example, the ICMA Yearbooks for 1938-1940 only report 17 local governments with NCSA locals, and only 5 of those were cities (Buffalo, New York; Chicago, Illinois; Cleveland, Ohio; Flint, Michigan; and Kearny, New Jersey). The rest of the NCSA locals listed were counties in New Jersey. After 1941, only NJCSA and NYCSA locals were documented, so we have no way of knowing whether cities outside New York and New Jersey had NCSA locals after that year.

In some analyses in the article, we focus on a set of 917 cities for which we can consistently track employee organization data over time. This meant that from the 1938-1940 employee organization lists, we only included the cities that also appeared in later years’ data tables with employee organization data. As of 1940, the final year of the lists:

* There were 419 local governments with an IAFF local listed. 389 of those were city governments that appeared in at least some of the post-1940 data tables; the remaining 30 not included in our set of 917 are mostly county governments or small municipalities.
* There were 201 local governments with an AFSCME local. 65 of them, however, are not in later years’ data tables (mostly counties) and are excluded from the set of 917.
* There were 50 local governments with an SCMWA local, but 10 of these were not listed in later data tables (3 counties and 7 small cities).

For the later periods—1944-45, 1949-50, and 1955-56—we have 0/1 indicators of whether the city had IAFF, AFSCME, or CIO locals.

* In the two-year period of 1944-45, we have 1,072 unique cities with data on these employee organizations.
* In 1949-50, we have data for 1,073 cities.
* In 1955-56, we have data for 1,174 cities.

Of these, 917 unique cities have employee organization data for all three of these periods. For this set of 917 cities, we then coded cities as *not* having these organizations in 1920, 1935, and 1940-41 if they were not listed as having them in those years.

Thus, for these 917 cities, we can consistently track the presence or absence of IAFF, AFSCME, and CIO locals for all six time periods, even as some other cities come in and out of the dataset or are missing employee organization data for certain years.

For 1944-45, 1949-50, and 1955-56 (but not before), we can also track the number of unaffiliated locals for these 917 cities.

Strikes, Written Agreements, and Police-Only AFSCME Locals

The employee organization data described so far make up the core of our dataset and analysis. As we describe in the article, however, for a few years, the ICMA Yearbooks listed (in their narratives) the names of cities where city employees went on strike between 1947 and 1951. We created indicators of city employee strikes for those cities and years. In addition, from 1945 to 1950, the ICMA Yearbook narratives also listed cities where employees had reached written agreements with city employers. Finally, from the 1951-1956 Yearbooks, we obtained lists of cities where the AFSCME locals were made up exclusively of police officers. We hand-entered these data and merged them into our main city-year dataset.

Police Organizations

We also create an indicator of whether the Yearbooks show that the city had had some organization of police officers by 1960. As Table A1 shows, the Yearbooks only report the presence of FOP locals in some of the years. We create an indicator of whether a city is reported to have had an FOP local in any of the years for which data are available before 1960. 413 cities in the dataset report having had an FOP local at some time. In addition, we know of 82 cities where the AFSCME local was at some point exclusively police officers. Also, as Table A1 shows, in later years, the Yearbooks reported whether cities had unionized police officers. We count 381 cities where the city reported having had unionized police officers by 1960. In total, accounting for the overlap in these variables, there are 541 cities in the dataset that had some kind of police organization or union we know of by 1960.

**Data on Private-Sector Unions**

As we discuss in the article, we also piece together three sources of data that include information about city-level organizing of private-sector workers: two datasets gathered by James Gregory as part of the *Mapping American Social Movements Project* (MASMP), including 1) a list of Industrial Workers of the World (IWW) locals and strikes and 2) data on locals of seven CIO unions during the late 1930s and early 1940s. Additionally, we gathered 3) a list of locals and membership of the International Typographical Union (ITU) as of 1892 (International Typographical Union 1967).

We downloaded the data on IWW from the *IWW History Project--The Industrial Workers of the World 1905-1935* (Gregory 2024a), which lists the city, state, and local number of each IWW local (as well as the data sources for each). We also downloaded the list of strikes in a similar format (ibid).

The IWW dataset contains many small cities and unincorporated towns. For example, Crosby, Minnesota, a mining town of about 3,500 people in 1920, had an IWW local. So did Negaunee, Michigan, another mining city in the Upper Peninsula whose population peaked at 8,460 in 1910. The IWW strikes dataset even includes places like Tucker, Utah, which is now a ghost town but was once a railroad junction of a few hundred people. Many of these towns in the IWW data were never included in the ICMA Yearbook tables and are thus not in our dataset.

The MASMP website also shows a list of which cities had CIO locals between 1938 and 1949 as well as their numbers of members. We hand-entered the data from the website (Gregory 2024b), which at the time covered seven CIO unions: ILWU, IWA, ACWA, ITU, UAW, UE, and ILGWU. We use the data from 1940 as that is the year when data from all seven CIO unions were available. Some of the CIO locals list two cities for the local, in which case we code both cities as having one of these private-sector CIO locals. We also create a variable equal to 1 if a city had an ITU local for any year between 1938 and 1942.

The list of ITU locals in 1892 is from a table in *A Study of the History of the International Typographical Union 1852-1966, Volume II* (International Typographical Union 1967). In particular, pages 106-114 present a table of cities that had ITU locals and each local’s number of members as of April 30, 1892. Unfortunately, the table does not include the state of each local—only the city name—so we had to make assumptions about which state each city was in. In most cases, this was straightforward. For city names that appear in multiple states, we assumed it was the largest city with that name and entered the state accordingly. In a few cities with very common names, we were not able to figure out the state and excluded those particular ITU locals from the analysis.

While the article offers significant evidence of a correlation between private- and public-sector unions, we note that many questions remain. One set of questions concerns the demographic structure of both the labor market and employment in the public sector. Given the importance of racial and ethnic minorities in public-sector employment today, we would like to know the demographic composition of these early public-sector unions. Unfortunately, we do not have such information for any of the organizations we study. As a first look at the ways city contexts might affect early organizations and the relationship between public- and private-sector organizational strength, in this analysis we extend our analysis by adding two variables. Data from censuses prior to 1970 are generally not digitized at the city level. However, we were able to obtain data on the share of each city that wasBlack and foreign-born from the 1930 Census of Population and Housing. We are missing data for 9 cities. In Table A2, we run the same models as presented in Table 2 of the article, with the addition of *% Black* and *% Foreign-Born* for each column.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table A2: City employee organizations in 1940, with % Black and % Foreign-Born** | | | | |
|  | (1) | (2) | (3) | (4) |
| Private-sector CIO local in 1940 | 0.183\*\*\* | 0.153\*\*\* | 0.106\*\*\* |  |
|  | (0.044) | (0.040) | (0.032) |  |
| ITU local, 1938-42 |  |  |  | 0.108\*\*\* |
|  |  |  |  | (0.038) |
| Ln(population) | 0.175\*\*\* | 0.167\*\*\* | 0.188\*\*\* | 0.189\*\*\* |
|  | (0.018) | (0.017) | (0.017) | (0.016) |
| % Black (1930) | -0.414\* | -0.179 | -0.123 | -0.119 |
|  | (0.237) | (0.220) | (0.283) | (0.280) |
| % Foreign-Born (1930) | -0.771\*\* | 0.147 | 0.029 | 0.063 |
|  | (0.340) | (0.276) | (0.217) | (0.204) |
| Constant | -1.356\*\*\* | |  |  |
|  | (0.190) |  |  |  |
| R-squared | 0.2 | 0.32 | 0.45 | 0.45 |
| Observations | 909 | 909 | 909 | 909 |
| Notes: Standard errors clustered by state in parentheses. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01 (two-tailed) | | | | |

Table A2 makes clear that these two demographic controls do not affect the main result revealing a correlation between private- and public-sector employee organizations. In column 1 (where we do not include any fixed effects), percent Black and percent foreign-born are negatively correlated with public-sector employee organizations, indicating that cities with larger Black and immigrant populations were less likely to have public-sector unions at this time. However, these results appear to be capturing regional variation in employment contexts. Cities in the South and Northeast had larger Black and foreign-born populations, respectively, and were also less likely to have public employee organizations than cities in the Midwest and West. Once we add fixed effects for regions or states, the demographic controls are no longer significant. More importantly, the coefficients on the indicators for *Private-sector CIO local in 1940* and *ITU local, 1938-42* are substantively unchanged—consistently positive and statistically significant.

Finally, in Figures A1-A4, we show the timing and geography of the spread of individual organizations.

|  |  |  |
| --- | --- | --- |
| ***Figure A1: Spread of IAFF Locals Over Time*** | | |
| 1920 | 1935 | |
|  |  | |
| 1940 | 1945 | |
|  |  | |
| 1950 | 1955 | |
|  |  | |
| ***Figure A2: Spread of AFSCME Locals Over Time*** | | | |
|  | | 1935 | |
|  | |  | |
| 1940 | | 1945 | |
|  | |  | |
| 1950 | | 1955 | |
|  | |  | |

|  |  |
| --- | --- |
| ***Figure A3: Spread of CIO Locals Over Time*** | |
| 1940 | 1945 |
|  |  |
| 1950 | 1955 |
|  |  |

|  |  |
| --- | --- |
| ***Figure A4: Spread of Unaffiliated Locals Over Time*** | |
|  | 1945 |
|  |  |
| 1950 | 1955 |
|  |  |

**References**

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1. Five cities appeared in the tables of our second round of digitation that weren’t in the tables digitized in the first round, and we excluded them. They are: Americus, Georgia (in 1951, 1952, 1959), East Paterson, New Jersey (1951), Henderson, North Carolina (1951, 1959), Rantoul, Illinois (1959, 1961), and Franklin Park, Illinois (1959). [↑](#footnote-ref-1)
2. The 1938 Municipal Yearbook (Moore 1938, 339) reports: “Employee organizations are on the march. In city, county, state, and national governments employees are taking an increased interest not only in retirement systems and the protection of the merit system, which are traditional bases of organization, but also in welfare activities and other conditions of employment.” It describes the 1938 data as “a directory of the local chapters or organizations affiliated with all national federations of municipal employees…The picture is, however, not complete. It does not take into account the host of skilled workers employed by cities who belong to their own craft unions, which in some cities exercise great influence on behalf of their municipal employee members, nor does it include a vast number of benevolent, protective, and social organizations which are organized along functional lines, particularly in police departments. The task of securing accurate data on the latter two types of organizations proved impractical if not impossible” (ibid). The 1940 Municipal Yearbook reports that “these data were obtained from the national and state affiliates in February, 1940” (Ridley et al.1940, 144).   
    [↑](#footnote-ref-2)