"IMPLEMENTATION DELAY" DATABASE [PAPER # 2]
CODEBOOK

(*Version 07/26/2024*)

Variable Name: Description

STATE-MONTH IDENTIFIERS

state State Name.

st_postal The two-letter FIPS state abbreviation.

stateid **Numerical Identifier for State Name. Basis for State Unit Effects.**

year **Year, ranging from 2002 to 2022. Basis for Year/Time Unit Effects**

month Month in numerical format, ranging from 1 to 12.

monthyear Month-Year Identifier 'time counter' based linear trend in numerical format for each time series observation per state panel [Starting with "1" (January 2002) and ending with "249" (September 2022)].

Note: All variables are matched to each state's start and end month of the fiscal year. Forty-six states, whose fiscal year starts every July, cover the period from January 2002 to June 2022 (246 observations for each state). New York, whose fiscal year starts every April, covers the period from January 2002 to March 2022 (243 observations). Alabama and Michigan, whose fiscal year starts every October, cover the period from January 2002 to September 2022 in this dataset (249 observations for each state).

DEPENDENT VARIABLES

delay_14days **Percentage of cases where Payment Delay is Greater than 14 Days in State *i* in Month *t*.**

Source: *ETA 9050 First Payment Time Lapse.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

{WHY? The performance criteria for benefit payment timeliness in a state is set at 87 percent or higher, meaning that 87 percent or more of payments should be made within 14 days. This criterion, known as the Secretary's Standards, was established in regulation at 20 CFR Parts 640 (U.S. Department of Labor 2022: p.16)[1]. A state reporting performance below this threshold must submit a Corrective Action Plan (CAP) to the U.S. Department of Labor and may also be subject to special reporting requirements and direct consultation with the Governor and the state agency officials (20 CFR Part 640[2]).}

delay_wtmean **Grouped–Weighted Mean Number of Days in Payment Delay (using the midpoint value of each bin category) in State *i* in Month *t*.**

Source: *ETA 9050 First Payment Time Lapse.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

***{WHY?** Weighted Average Number of Delay Days -- summary central tendency measure of Implementation Delay}*

delay_wtsd **Grouped–Weighted Standard Deviation of Number of Days in Payment Delay (using the midpoint value of each bin category).**

Source: *ETA 9050 First Payment Time Lapse.*

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[1] U.S. Department of Labor. 2022. Program Letter No. 17-22. https://www.dol.gov/agencies/eta/advisories/unemployment-insurance-program-letter-no-17-22 Accessed: October 29, 2023.

[2] 20 CFR Part 640. Standard for Benefit Payment Promptness – Unemployment Compensation.

https://oui.doleta.gov/unemploy/DataDownloads.asp.

***{WHY?** Weighted Standard Deviation of the Number of Delay Delays -- summary volatility/dispersion measure of Implementation Delay}*

delay_70days **Percentage of cases where payment delay is greater than 70 days in State *i* in Month *t*.**

Source: *ETA 9050 First Payment Time Lapse.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

{WHY? The reporting intervals are: <=7, 14, 21, 28, 35, 42, 49, 56, 63, 70, >70 days. All state unemployment agencies have complied with this reporting form since 1996 (U.S. Department of Labor 1996)[3]}

eqless7 Total number of cases where payment delay is equal to or less than 7 days.

Source: *ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

intra8_14 Total number of cases where payment delay is equal to or more than 8 days and less than 14 days.

Source: *ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

intra15_21 Total number of cases where payment delay is equal to or more than 15 days and less than 21 days.

Source: *ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims.* *https://oui.doleta.gov/unemploy/DataDownloads.asp*.

[3] U.S. Department of Labor. 1996. Program Letter No. 10-96. https://www.dol.gov/agencies/eta/advisories/unemployment-insurance-program-letter-no-10-96. Accessed: October 29, 2023.

intra22_28 Total number of cases where payment delay is equal to or more than 22 days and less than 28 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra29_35 Total number of cases where payment delay is equal to or more than 29 days and less than 35 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra36_42 Total number of cases where payment delay is equal to or more than 36 days and less than 42 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra43_49 Total number of cases where payment delay is equal to or more than 43 days and less than 49 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra50_56 Total number of cases where payment delay is equal to or more than 50 days and less than 56 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra57_63 Total number of cases where payment delay is equal to or more than 57 days and less than 63 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims.

https://oui.doleta.gov/unemploy/DataDownloads.asp.

intra64_70 Total number of cases where payment delay is equal to or more than 64 days and less than 70 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

eqgreater70_intra Total number of cases where payment delay is equal to or more than 70 days.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

total Total number of payment cases by state-month.

Source: ETA 9050 First Payment Time Lapse. Time Lapse for All First Payments Excluding Workshare – Regular UI Intrastate Claims. https://oui.doleta.gov/unemploy/DataDownloads.asp.

'LEARNING' COVARIATES

itmod_projectstart Month-Year when IT modernization is under development prior to activation (project start date of the state UIP agency's IT Modernization reform).

Source: Compiled by authors from various online sources. A comprehensive list is available upon request from the authors.

itmod_projectstartmonth A time counter variable that equals "1" for the first month of IT modernization project in state *i*, *monthyear t*; …….; "*m*" for the m^{th} month of IT modernization project prior to activation of the IT system observed in state *i*, year *t*.

itmod_adoption Month-Year when IT modernization is activated with citizen

access.

Source: *Compiled by authors from various online sources. A comprehensive list is available upon request from the authors.*

itmod_adopt_state **A binary indicator that equals "1" for all months for a given state that adopted IT modernization during our sample period [2002-2022]; = 0 for states that do not adopt IT Modernization during sample period.**

{WHY? Exclude Non-Adopting States from sample since our aim is not to evaluate technology adoption effects per se (compared to non—adopters), but rather evaluate "learning" from adoption – so the correct baseline is pre-adoption for adopting states (i.e., "pre-treatment" observations restricted to the "treatment" group)

itmod_monthcount **A time counter variable that equals "0" before the activation of IT modernization in state *i*, *monthyear t*; "1" for the first month of IT modernization in state *i*, *monthyear t*; ……; "*m*" for the m^{th} month of IT modernization observed in state *i* year *t*;**

Source: *Compiled by authors from various online sources. A comprehensive list is available upon request from the authors.*

NOTE: ***itmod_monthcount*** **measures dynamic organizational learning from the time that the IT Modernization has been in operation for UIC claimants.**

itmod_vendor The name of vendor that signed contract with the state UI agency for the IT modernization.

Source: *Compiled by authors from various online sources. A comprehensive list is available upon request from the authors.*

itmod_vendor_id **Numerical Identifier for Vendor Name. Basis for Vendor Unit Effects.**

itmod_start_adopt Categorical variable indicating the progress of IT modernization reform in a given monthyear **t** state **i**.

- **0:** Pre-Project Start Date & Pre-Launch Date
- **1:** Post-Project Start Date & Pre-Launch Date
- **2:** Post-Project Start Date & Post-Launch Date
- **3:** (For second modernizations) Post-Launch Date of the first IT modernization reform & Post-Project Start Date of the second IT modernization reform & Pre-Launch Date of the second IT modernization reform

projectduration Project duration computed as the total number of months spent on IT modernization project prior to the go-live month.

CONTROL COVARIATES

govparty Governor's political party. Categorical variable indicating political affiliation of the governor in each state. Annual.

- **1**: D (Democrat)
- **0**: I (Independent)
- **–1**: R (Republican)

Source: The Book of the States. 2002-2021.

adminselect_code Letter code of selection method of the top executive official of the UI administering agency of each state in a given year.

Code	Description
A	Appointed by agency head
AG	Appointed by agency head; Approved by the Governor
B	Appointed by a board or commission

BS	Appointed by a board or commission; Approved by state senate
CE	Constitutional, elected by public
CS	Civil service
CG	Appointed by cabinet secretary; Approved by the Governor
G	Appointed by the Governor
GB	Appointed by the Governor; Approved by both houses in state legislature
GE	Appointed by the Governor; Approved by either house in state legislature
GLS	Appointed by the Governor; Approved by a legislative joint committee
GS	Appointed by the Governor; Approved by state senate
GC	Appointed by the Governor; Approved by a council

Source: The Book of the States. 2002-2021.

govyappt: Governor's ***direct*** appointment authority over agency head responsible for state UIC program administration. Categorical variable indicating whether governor has direct appointment authority (i.e., selection powers), or not [including merely approval authority] in each state *i* in month *t*. Annual.

- **1**: Direct Gubernatorial Appointment Authority
  - *Note:* ***adminselect_code*** *is "G", "GB", "GE", "GLS", "GS", or "GS".*
- **0**: Otherwise

Source: *The Book of the States. 2002-2021.*

govypartyappt: **Governor's partisan *direct* appointment authority over agency head responsible for state UIC program administration. Categorical variable indicating whether governor has direct**

appointment authority (i.e., selection powers) by major party, or not [including merely approval authority] in each state *i* in month *t*. Annual.

- **1**: **Democratic Direct** Gubernatorial Appointment Authority
- **0**: Lack Direct Appointment Authority or Independent Governor
- **–1: Republican** Direct Gubernatorial Appointment Authority

Source: The Book of the States. 2002-2021.

electionyear Binary indicator of "1" if there is a gubernatorial election in a given state for a given year, "0" otherwise. Annual.

Source: The Book of the States. 2002-2021.

workload Total number of initial claims. Monthly.

Source: ETA-5159 Report.
https://oui.doleta.gov/unemploy/DataDownloads.asp.

uiadmin_staffsize Total number of staff. Annual.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2022)

automationrate **Estimated proportion of claims filed through internet.**

Source: Benefit Accuracy Measurement Survey. Publicly accessible upon request.

wstaff_load **[*uiadmin_staff size / workload*]*100 in state *i* in month *t* [Quarterly measure]**

{WHY? Measures Administrative Capacity}

uiadmin_budget_nominal Total amount of UI administrative expenditure used by state agencies, in current dollars within a given year. Annual.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2022)

uiadmin_budget_real Inflation-adjusted amount of total UI administrative expenditure used by state agencies within a given year. In real dollars, adjusted by government consumption deflator.

= (uiadmin_budget_nominal)/(gov_deflator/100)

benefitgenerosity The percentage of claimants whose regular weekly benefit amount (WBA) for a period of total unemployment is the maximum under the state law (%) (Actual Benefits Generosity). Annual.

Source: ETA-218 Benefits Rights Experience Report. https://oui.doleta.gov/unemploy/DataDownloads.asp.

taskdifficulty Proportion of claims involving inter-state or multi-claimants. Quarterly.

Source: ETA-207 Nonmonetary Determinations Activities Report. https://oui.doleta.gov/unemploy/DataDownloads.asp.

staff_tdiff **[*uiadmin_staffsize / taskdifficulty* /]*100 in state *i* in month *t* [Quarterly measure]**

{WHY? Measures Relative Task Difficulty Adjusted for Staff}

econideol_median State economic policy liberalism: posterior median. Higher values indicate greater liberalism**.** Annual. 2022, 2023 not available

Source: Warshaw, C. and Caughey, D. " Mass Ideology and Policy Liberalism of American States from 1936-2020," http://www.chriswarshaw.com/data.php

Note: 2021 data was retrieved by request from authors (Retrieval Date: 10/28/2022)

unemp_rate	**Average unemployment rates of a given state, seasonally adjusted within a given state-month. In percentages (%). Monthly.** *Source: U.S. Bureau of Labor Statistics- Local Area Unemployment Statistics. 2002-2023. https://download.bls.gov/pub/time.series/la/la.data.2.AllStates*
govname	Name of the state governor in a given year. *Source: National Governors Association, https://www.nga.org/former-governors.*
gov_tenure	Number of months that the governor has been in office in a given state for a given month-year. *Source: National Governors Association, https://www.nga.org/former-governors.*
gov_biz	Binary variable indicating whether the governor has a business background of serving in an executive position (CEO, President, Chairman, Partner Founder, Principal, and Owner/Co-Owner) in business. *Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.*
agencyhead_name	Name of the state unemployment insurance agency head in a given year. *Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.*
agencyhead_tenure	**Number of months that the state UIP agency head has been in office in a given state for a given month-year.** *Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.*

agencyhead_biz **Binary variable indicating whether the agency head has a business background of serving in an executive position (CEO, President, Chairman, Partner Founder, Principal, and Owner/Co-Owner) in a business.**

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov0 Binary variable indicating that the agency head had some type of prior government service experience (=1) – or none (=0).

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov1 Binary variable indicating whether the agency head had prior government service experience as an elected official.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov2 Binary variable indicating whether the agency head had prior government service experience working directly for an elected official in an elective office/institution post.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov3 Binary variable indicating whether the agency head had prior government service experience in an appointed position service in an administrative ("line") agency position.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov4 Binary variable indicating whether the agency head had prior government service experience in a civil service (non-appointed) administrative ("line") agency position.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov5 Binary variable indicating whether the agency head had prior government service experience in either an elected official **or** appointed position in a state UIC office.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov6 Binary variable indicating whether the agency head had prior government service experience in a civil service (non-appointed) position in a state UIC office.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_govpol Binary variable indicating "1" if the agency head had prior government service experience as an elected official or working directly for an elected official [***agencyhead_gov1 = 1 or agencyhead_gov2=1***].

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_govadmin Binary variable indicating "1" if the agency head had prior government service experience in either an appointed [***agencyhead_gov3 = 1***] **or** civil service [***agencyhead_gov4 = 1***]. position within an administrative agency (i.e., purely administrative positions).

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

agencyhead_gov_agenspecific Binary variable indicating "1" if the agency head had prior experience in UIC agency in either an appointed [***agencyhead_gov5 = 1***] or civil service [***agencyhead_gov6 = 1***] position.

Source: Compiled by the authors from online biographical sources. A comprehensive list is available upon request from the authors.

'MANAGERIAL AND OPERATIONAL' COVARIATES ["RJM" VARIABLES]

Note 1: *The original RJM (Resource Justification Model State Budget Document submitted to U.S. Dept. of Labor each year) data consists of the following ten functional categories: Initial Claims Processing, Non-Monetary Determinations, Weeks Claimed, Wage Records, Tax, Appeals, Benefit Payment Control, UI Performs, Support, and AST. Among these functions, we include only functional activities that are 'directly' involved in the sequential procedure, starting from the claimant filing an initial claim to the receipt of the first payment, which are 'initial claims processing', 'non-monetary determinations', and 'support' functions. For more information about each functional category, see ET HANDBOOK NO. 410 (6th Ed.) Appendix C (https://www.dol.gov/sites/dolgov/files/ETA/advisories/UIPL/2019/UIPL_2-20_Attachment_1.pdf).*

Note 2: *Variables include the following four items by each functional category.*

(i) *Total hours worked.*

(ii) *Total number of positions.*

(iii) *Total salary*

(iv) *Average salary per position*

gov_deflator Deflator. Price index for government consumption expenditures and gross investment (Base year 2017).

Source: Bureau of Economic Analysis. Price Index for

	Government Consumption Expenditures and Gross Investment *https://apps.bea.gov/iTable/?reqid=19&step=3&isuri=1&1921=survey&1903=13*
fy	Fiscal year of a given state, year, and month (based on **fy_startenddate**)
fy_startenddate	String variable denoting start and end date of the state's fiscal year. *Source: National Conference of State Legislatures.* *https://www.ncsl.org/fiscal/fy-2024-state-budget-status*

Function Category 1: Initial Claims (IC)

function_ic_hrs	Total number of hours worked for initial claims processing. *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*
function_ic_pos	Total number of positions worked for initial claims processing. *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*
function_ic_totsal	Total amount of salary for positions worked for initial claims processing in each state within a given year (current dollars). *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*
function_ic_avgsal	Average amount of salary for initial claims processing per position in each state within a given year (current dollars). *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model,"*

https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_ic_totsalreal Total amount of salary for positions worked for initial claims processing in each state within a given year (real dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_ic_avgsalreal Average amount of salary for initial claims processing per position in each state within a given year (real dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

Function Category 2: Non-Monetary Determinations (NMD)

function_nmd_hrs Total number of hours worked for non-monetary determinations.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_nmd_pos Total number of positions worked for non-monetary determinations.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_nmd_totsal Total amount of salary for positions worked for non-monetary determinations in each state within a given year (current dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_nmd_avgsal Average amount of salary for non-monetary determinations per position in each state within a given year (current dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_nmd_totsalreal Total amount of salary for positions worked for non-monetary determinations in each state within a given year (real dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_nmd_avgsalreal Average amount of salary for non-monetary determinations per position in each state within a given year (real dollars).

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

Function Category 3: Management (SUP)

function_sup_hrs Total number of hours worked for administration and supervision of the UI program.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_sup_pos Total number of positions worked for administration and supervision of the UI program.

Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)

function_sup_totsal Total amount of salary for positions worked for administration and supervision of the UI program in each state within a given year (current dollars).

	Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)
function_sup_avgsal	Average amount of salary for administration and supervision of the UI program per position in each state within a given year (current dollars). *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*
function_sup_totsalreal	Total amount of salary for positions worked for administration and supervision of the UI program in each state within a given year (real dollars). *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*
function_sup_avgsalreal	**Average amount of salary for administration and supervision of the UI program per position in each state within a given year (real dollars).** *Source: U.S. Department of Labor Employment and Training Administration. "Resource Justification Model," https://oui.doleta.gov/rjm/ (Retrieval Date: 10/16/2023)*