LEGAL REPRESENTATION IN DISABILITY CLAIMS

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Overview

- Social Security Disability Insurance provides cash benefits (ave $1259/mo) and Medicare for insured workers who are no longer able to work because of a work disabling condition
- Legal representatives have long played a central role in the SSDI application process (also common in civil law settings, e.g., immigration, housing)
- This is not a standard feature of the broader social safety net
- Despite the $1.2 billion dollar payout in fees (2019), we know little about *the value of* legal representation
- In our paper we provide the first causal evidence on the effect of representation on the application and adjudication of SSDI claims

Potential gains to representation

Process of applying to SSDI is complex: application includes employment history, medical history, and requires medical records

Legal representatives may help applicants

- Understand rules, complete application forms, obtain medical records
- Develop stronger cases, matching medical evidence to regulatory criteria
- Obtain the decisive outcome earlier (1/2 of awards made on appeal, 2-yr wait)
  - This benefits the applicant and federal government (reducing the workload and costs)
  - Non-qualifying applicants would spend less time out of labor force

But Concerns about Aggressive Marketing, Perverse Incentives, and Even Fraud

Allegations that reps slow process to earn a higher fee

THE WALL STREET JOURNAL.

U.S.

Three Indicted for Alleged Social Security Fraud Scheme in Kentucky

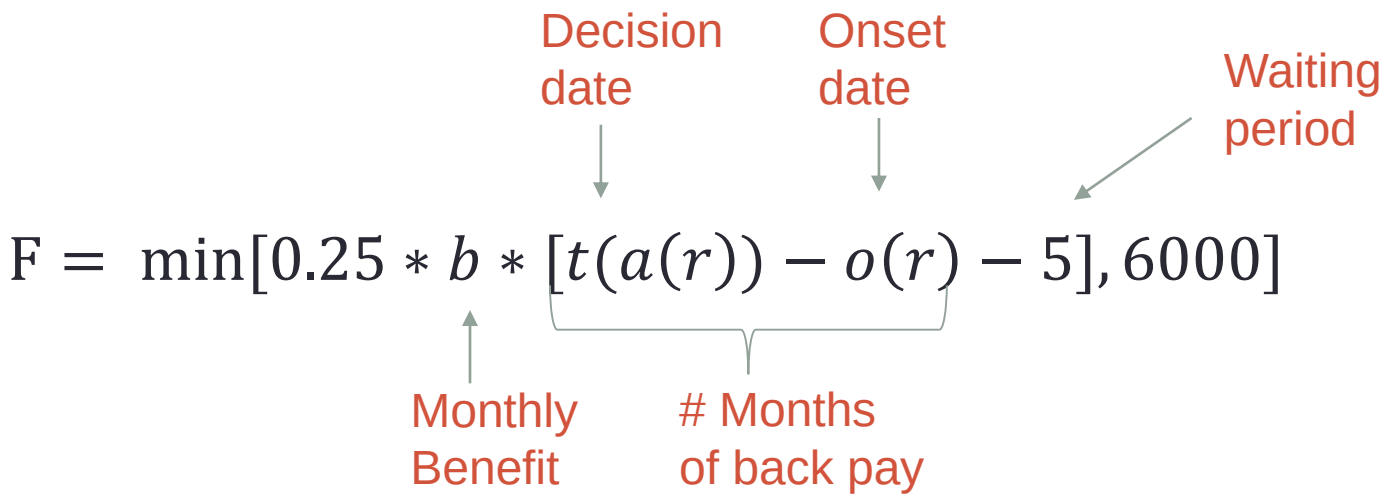
Government disbursed benefits in excess of $600 million as result of scheme, indictment says

Attorney Eric Conn during a Senate committee hearing on Capitol Hill in 2013. He has been indicted by a federal grand jury in Lexington, Ky., on charges including conspiracy to commit mail fraud and wire fraud.

Potential costs to representation

Representatives may slow down cases due to incentives in payment structure

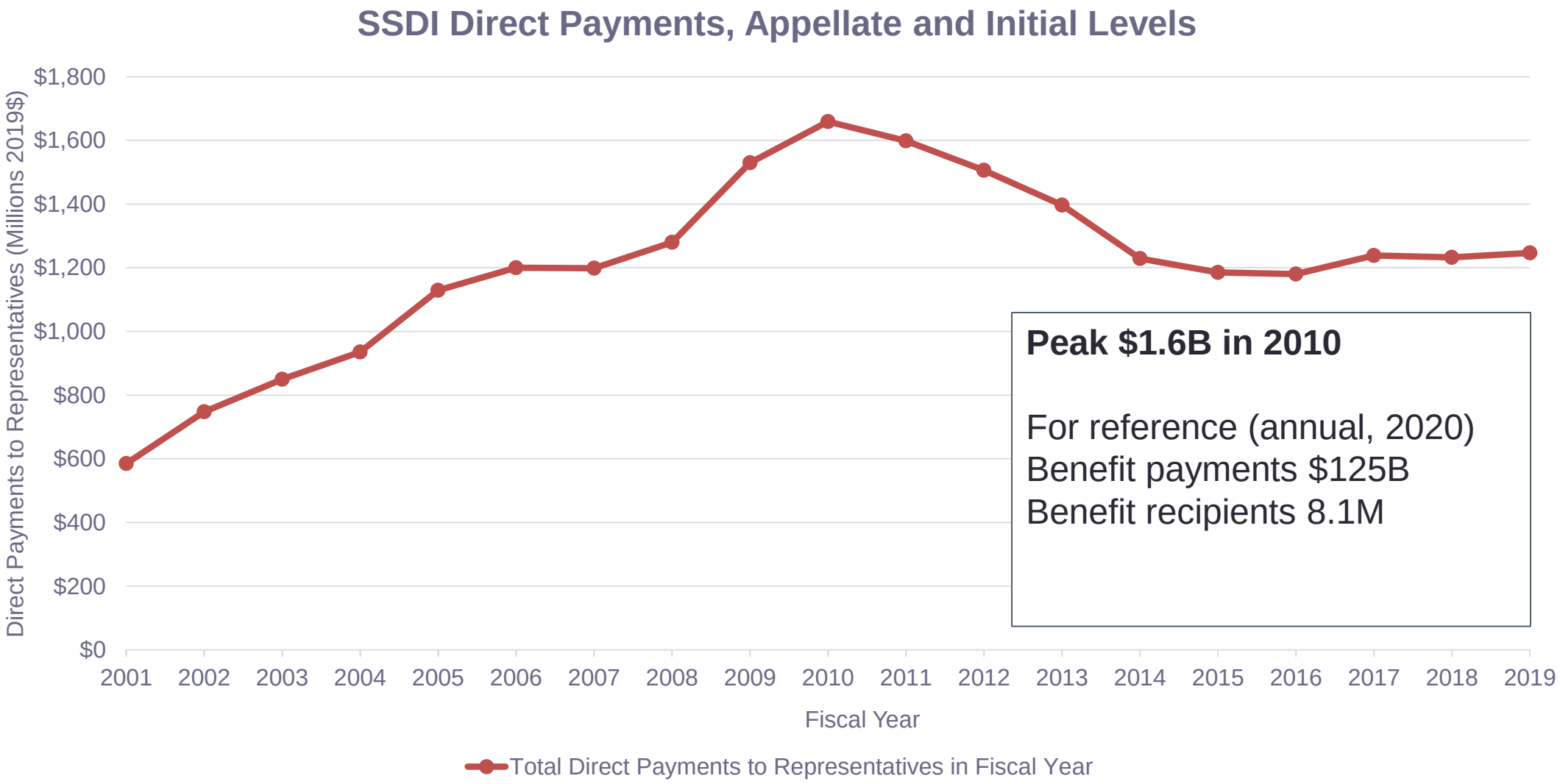
- Fee payment F is 25% of past due benefits or “back pay” up to $6,000 cap
- Paid only if win, and if there is back pay



Our Study

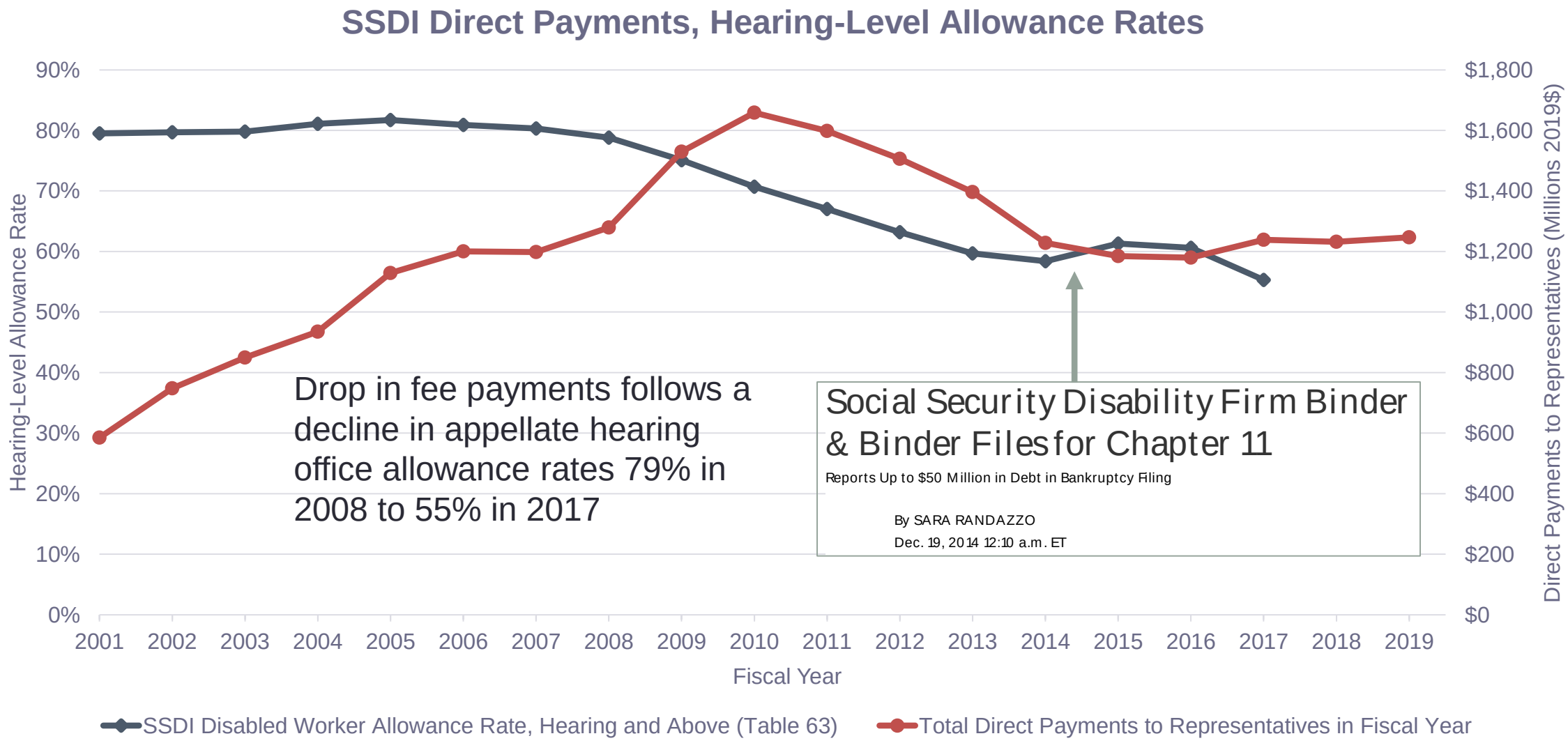
- We investigate the impact of legal representation on case outcomes when representatives engage from the initial review stage
  - Case Outcomes: Allowance, Appeal, Processing Time
- Research design and IV strategy accounts for the non-random assignment of representatives to cases, motivated by developments at the appellate level that may have altered market structure for representation and the use of representation at the initial level
- Leverage new administrative data linking case files to data on representation
- Track cases through appellate process and final outcomes

Rise and Fall in Representative Fee Payments (Fig 1)



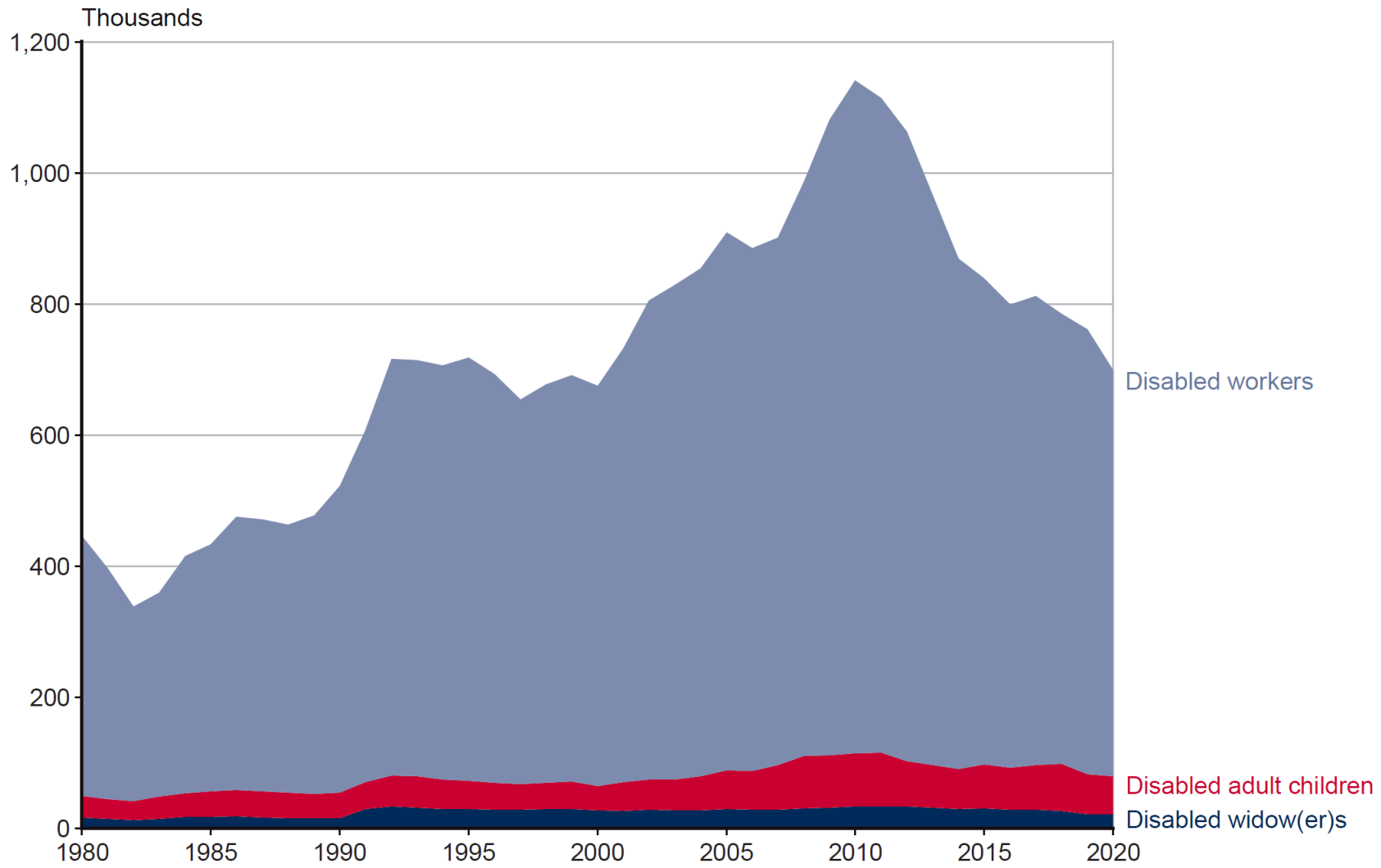
Source: U.S. Social Security Administration

Rise and Fall in Representative Fee Payments



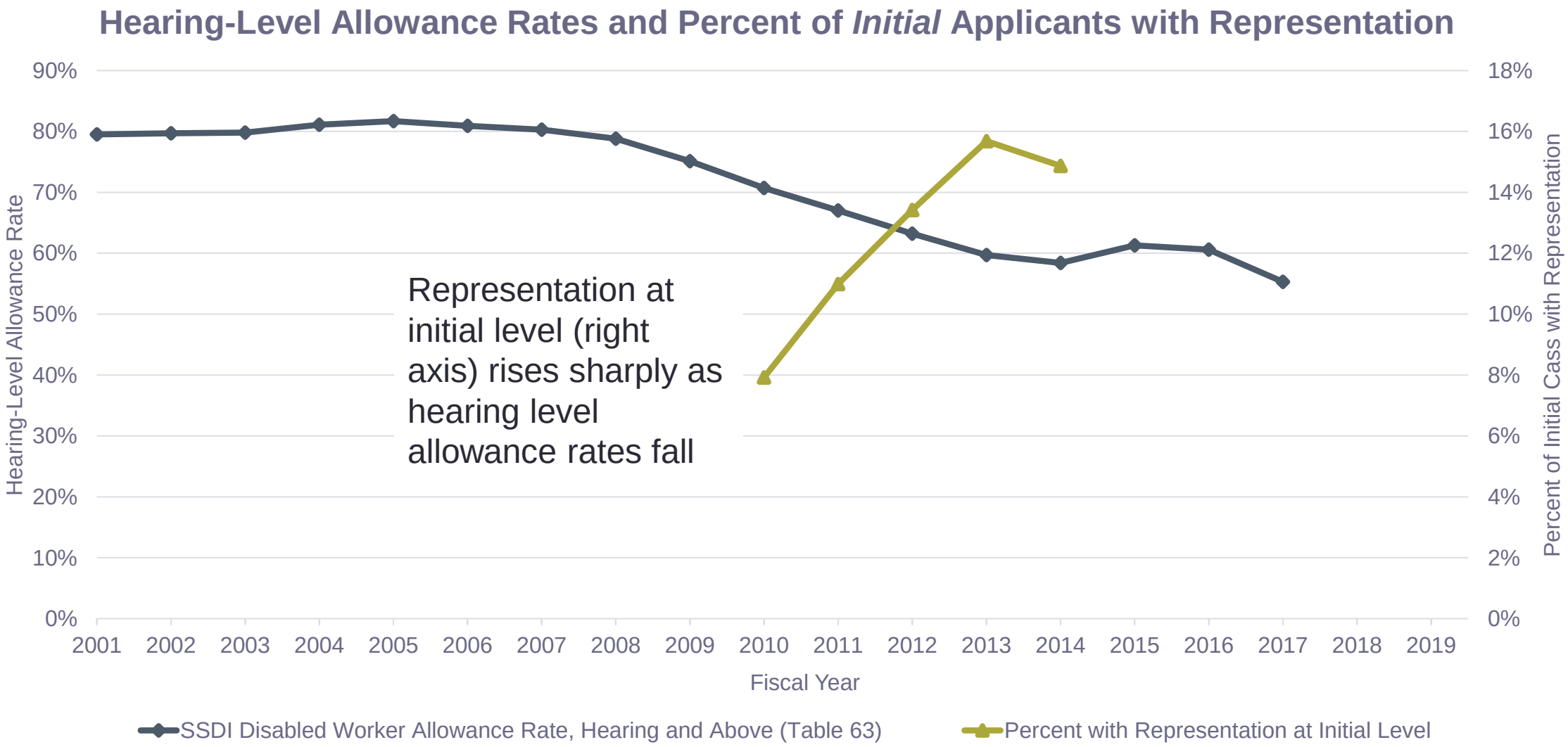
Source: U.S. Social Security Administration

Declining Allowance Rates Evident in Post-2010 Declines in Newly Awarded Beneficiaries



Source: 2020 SSDI Annual Statistical Supplement

Rise and Fall in Representative Fee Payments



Source: U.S. Social Security Administration

Summary of Findings

- Representation is not randomly assigned: groups with lower allowance rates tend to use representatives more (OLS bias away from positive effects of representation)
- Our IV approach leverages the movement of disability law firms into the initial claims market following a decline in revenues from the appellate stage
- IV results show that representation leads to a 23pp increase in the probability of award at the initial level and reduces total case processing time by 316 days. No effect on final allowance. Some slowdown at shorter case durations consistent with incentives of fee payment formula. *"Right decision earlier"*
- Analysis of mechanisms shows representatives increase the likelihood that applicants meet the list of impairments and thus automatically qualify
- By focusing on representation at initial level we can investigate potential efficiency gains due to involvement from the outset

Contribution of findings

- Target Efficiency –examine whether/how administrative burdens affect the target efficiency of programs (Nichols & Zeckhauser 1982; Deshpande & Li 2019, Bhargava & Manoli 2015; Alatas et al. 2016 and Finkelstein and Notowidigdo 2019)
  - We show that reps can increase productive efficiency with no loss – and possibly an increase – in target efficiency
- Disability Insurance – large literature on determinants of application process, effects on labor supply
  - We are the first to examine the causal effects of reps on disability process outcomes (Tuttle and Wilson 2021 examine effect of change in fee schedule on appl processing times)
- Legal Representation – studies in other civil settings (e.g., immigration, housing court) show that representation improves outcomes and generates efficiency gains for the courts (Seron et al. 2001; Eagly and Shafer 2015, Greiner et al. 2013)
  - We add to this literature and focus on the unique contingency payment setting in SSDI

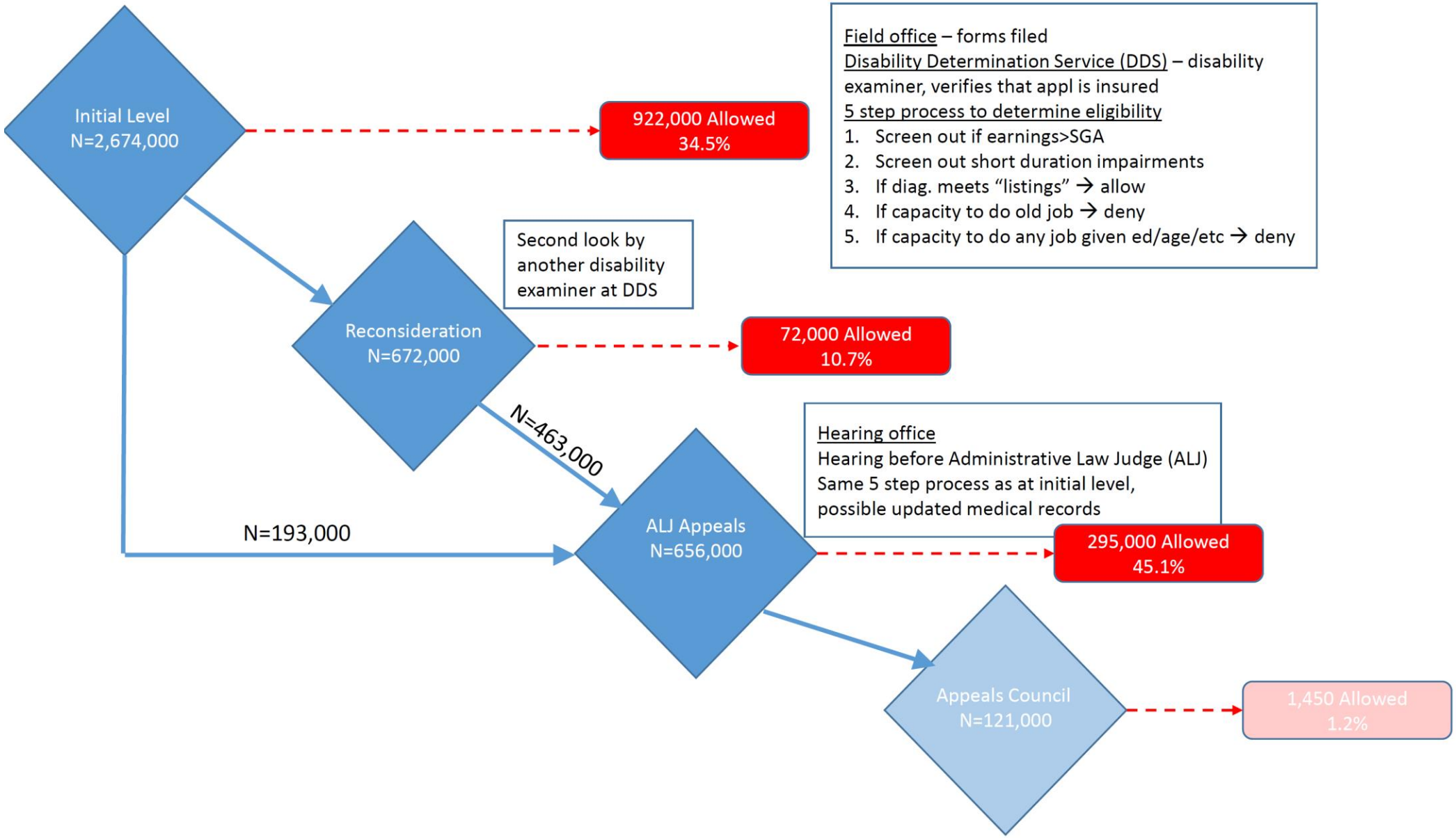
Roadmap for the talk

1. SSDI program and process
2. Model of SSDI representation
3. Data
4. Research Design
5. Results
6. The Value of Representation

1. SSDI program and process

- 7.9M disabled workers receive benefits at cost of $128B cash benefits
- *Social insurance program;* eligibility requires:
  - Insured status: work history requirement (paying into contributory system); also “work recency” requirement (can lose insured status between work spell and application)
  - Work disabling condition: unable to engage in any substantial gainful activity because of a medically-determinable physical or mental impairment that is expected to last 12+ months (or result in death)
- If claimant is successful, they receive:
  - Monthly cash benefit (function of avg. earnings, similar to Social Security retirement, avg. $1259/mo) until Full Retirement Age
  - Also receive lump sum of back pay for months between disability onset and approval (minus 5-month waiting period)
  - Medicare (after 29-month waiting period)

Disability Claims Process, Claims filed in 2014



The role of representatives

- Applicant must file statement with SSA appointing the representative
- Most representatives are attorneys, though certain non-attorneys are also eligible
- Representatives come from firms, solo operators, and social service orgs
- Contingency payment: representatives paid only if case is allowed
- Payment deducted from claimant's back pay: 25% of back pay up to max of $6000
- SSA pays reps directly, by withholding the fee from the claimant's back pay
- Fee structure implies that fee payments are maximized when cases move slowly (more back pay, up to a max) but ultimately result in favorable decision

2. A Model of SSDI Representation

PDV of SSDI benefits $V(r) = K(r) + B$

- r equals 1 if applicant enlists representative at initial level, 0 otherwise
- $K(r) = b * [t(a(r)) - o(r) - 5]$ = **lump sum back pay** where b is monthly cash benefit; $t(a(r))$ is decision date, which is a function of whether appeal; and $o(r)$ is onset date (in months)
- B = PDV of DI benefits + Medicare, received until full retirement age
- $F = \min[0.25 * K(r), 6000]$ = **representative's fee** (if win)

Applicant Incentives

Applicant enlists rep if expected payoff is higher with rep than without rep. This holds if:

$$p^I(1)[\mathrm{V} - F] + \big(1 - p^I(1)\big)a(1)p^A\delta[\mathrm{V} - F] \geq$$
$$p^I(0)[\mathrm{V}] + \big(1 - p^I(0)\big)a(0)p^A\delta[\mathrm{V} - \mathrm{F}]$$

V = PDV of DI benefits plus Medicare

$F =$ fee payment (defined above)

$p^I(r)$= pr. of initial allowance, function of initial representation r

$a(r)$= pr. of appeal conditional on initial denial, function of r

$p^A =$ pr. of allowance on appeal; <u>everyone has appellate representation</u> and pays *F* if win

δ discount factor for additional processing time when appeal

Applicant Incentives

Simplifying:

$$F\left[p^I(1) + \Delta\pi^A\right] \leq V\left[\Delta\pi^I + \Delta\pi^A\right]$$

$\Delta\boldsymbol{\pi^I} = p^I(1) - p^I(0)$: Effect of initial representation on initial allowance rate

$\Delta\boldsymbol{\pi^A} = p^A\delta\left[\left(1 - p^I(1)\right)a(1) - \left(1 - p^I(0)\right)a(0)\right]$: Effect of initial representation on appellate allowance rate

Implications:

- Applicant trades off incr. in fee payment for incr. in expected lifetime benefits; the larger the gain, larger the fee can be
- If $\Delta\pi^I > 0$ and/or $\Delta\pi^A > 0$ → expected benefits increase; if reps decrease either, expected benefits decrease
- If $\Delta\pi^I = \Delta\pi^A = 0$ → not worthwhile to hire initial rep
- Given low *F* (max=$6000) and high *V* ($650K for avg. applicant w/ Medicare), even small increase in p^I (e.g., <2pp) will lead to a gain to using a rep

Representative Incentives

Accounting for heterogeneity across applicants in type of disability x, reps accept case if expected fee payment exceeds costs of representing applicant:

$$F[p^I(1,x) + p^A\delta(1 - p^I(1,x))a(1)] > c(a(1),x)$$

Implications:

- Representatives are selective - choose applicants with higher probability of award $\mathrm{p}(x)$ and with lower costs $c(a,x)$
- Costs increase with appeal → less likely to appeal on initial denial
- Gain (higher fee) to larger back payments (slow process, allege earlier onset date)

→ incentive compatible once they take the case ("work to get the win"), but may underprovide representation and slow down to maximize fees; may also incentivize large-scale production models that minimize effort/costs per case

3. Data

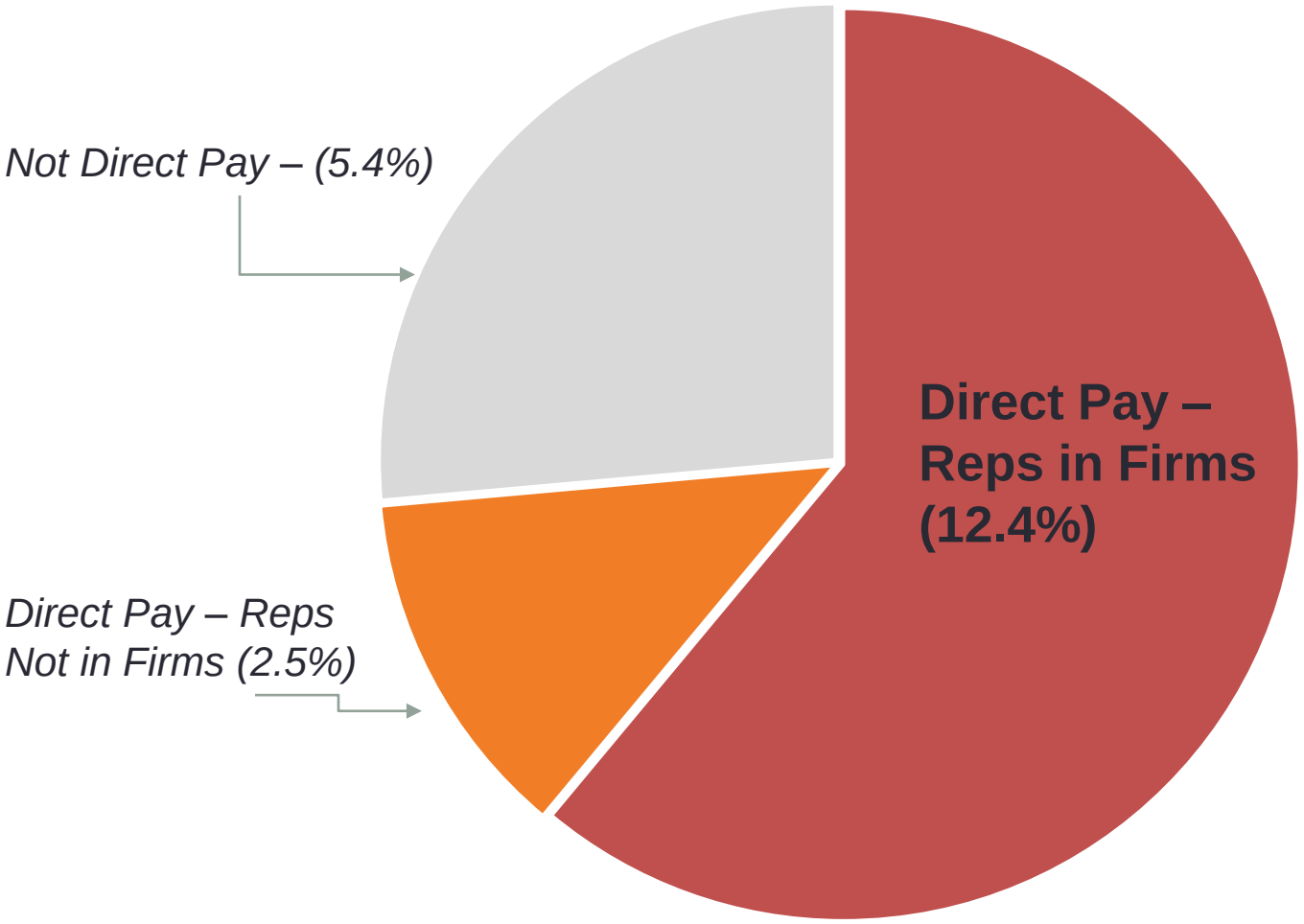
Main data on applicants is novel linkage of SSA administrative data:

1. SSDI applications filed between 2010-2014
   - Accessed through Management Information Electronic Disability Folder (MEDIB)
   - Includes application intake forms (demog, medical conditions, etc.), initial outcomes (allowance, denial, reason for denial), and date stamps for process
   - N=7,431,904 received an initial determination from a state DDS
2. Appellate hearing data through 2018
   - Case Processing Management System (CPMS)
   - Includes appeals process, final outcomes, total case processing time
   - We also use CPMS to construct our instruments (below)
3. Representation
   - Appointed Representative Data Base (ARDB) – registered for direct payment system
   - Modernized Claim System (MCS) – other reps (e.g. those who waive payment)
   - Timestamp – so we know when in process representative is appointed (e.g. initial level)

Outcome variables, summary statistics

	Mean	Standard Deviation
	(1)	(2)
Positive procedural outcomes: Claim filed electronically	0.364	0.481
Positive procedural outcomes: Email address given	0.307	0.461
Initial allowance	0.320	0.467
Meets or equals the listings	0.128	0.334
Medical-vocational allowance	0.192	0.394
Negative procedural outcomes: Initial denial for insufficient evidence	0.043	0.203
Negative procedural outcomes: Initial denial for refusal to submit to consultative medical exam	0.026	0.158
Appellate hearing before Administrative Law Judge observed	0.377	0.484
Appellate hearing before Administrative Law Judge, conditional on denial	0.510	0.500
Final allowance	0.470	0.499
Time at field office (days)	6.4	10.5
Time at Disability Determination Service (days)	92.2	52.4
Total time (days)	315.8	355.3

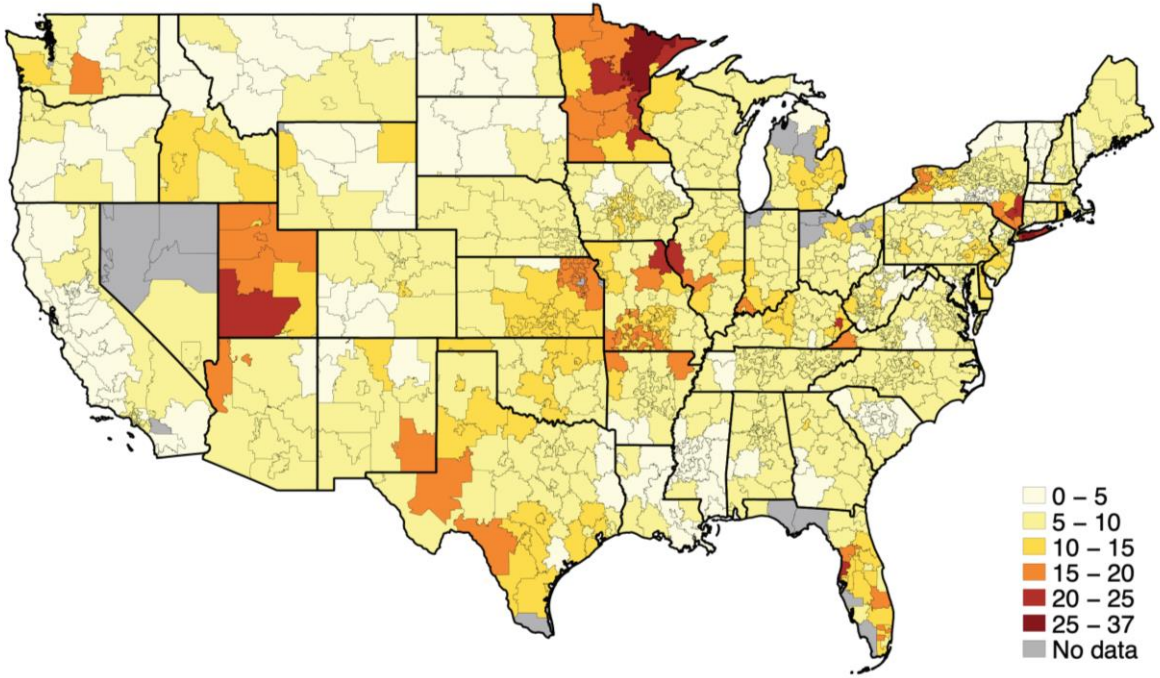
Defining Representation in Initial Claims



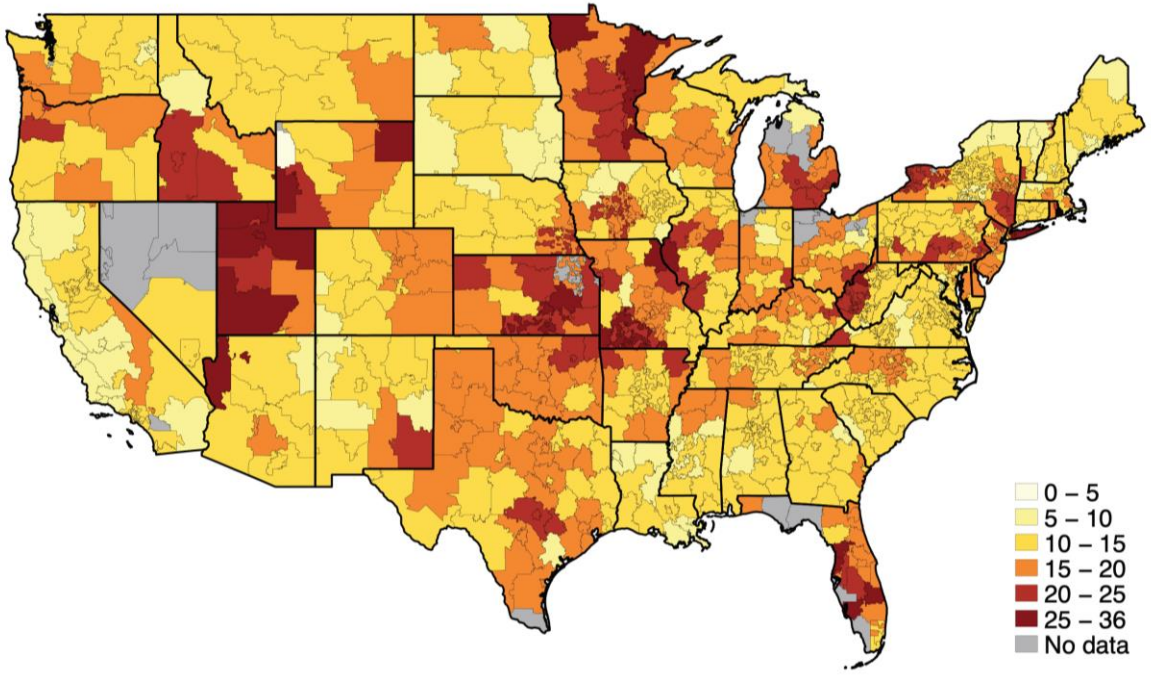
- We define case to have representation if **direct pay, attorneys or non-attorneys, and in firms**
- In our data, 20.3% of initial claims had <u>any representative</u>
- Most of these are in direct payment system, associated with a firm (61% = 12.4/20.3)
- Why representative in firms? Comes from our IV approach

Note: Data labels show percent of all initial applications.

Geographic Variation in Representation at Initial Level



2010



2014

Note: Plotted across 3-digit zip codes

4. Research Design

$$y_{idt} = \alpha + \beta r_{idt} + \pi' X_{idt} + \eta_t + \theta_d + \varepsilon_{idt}$$

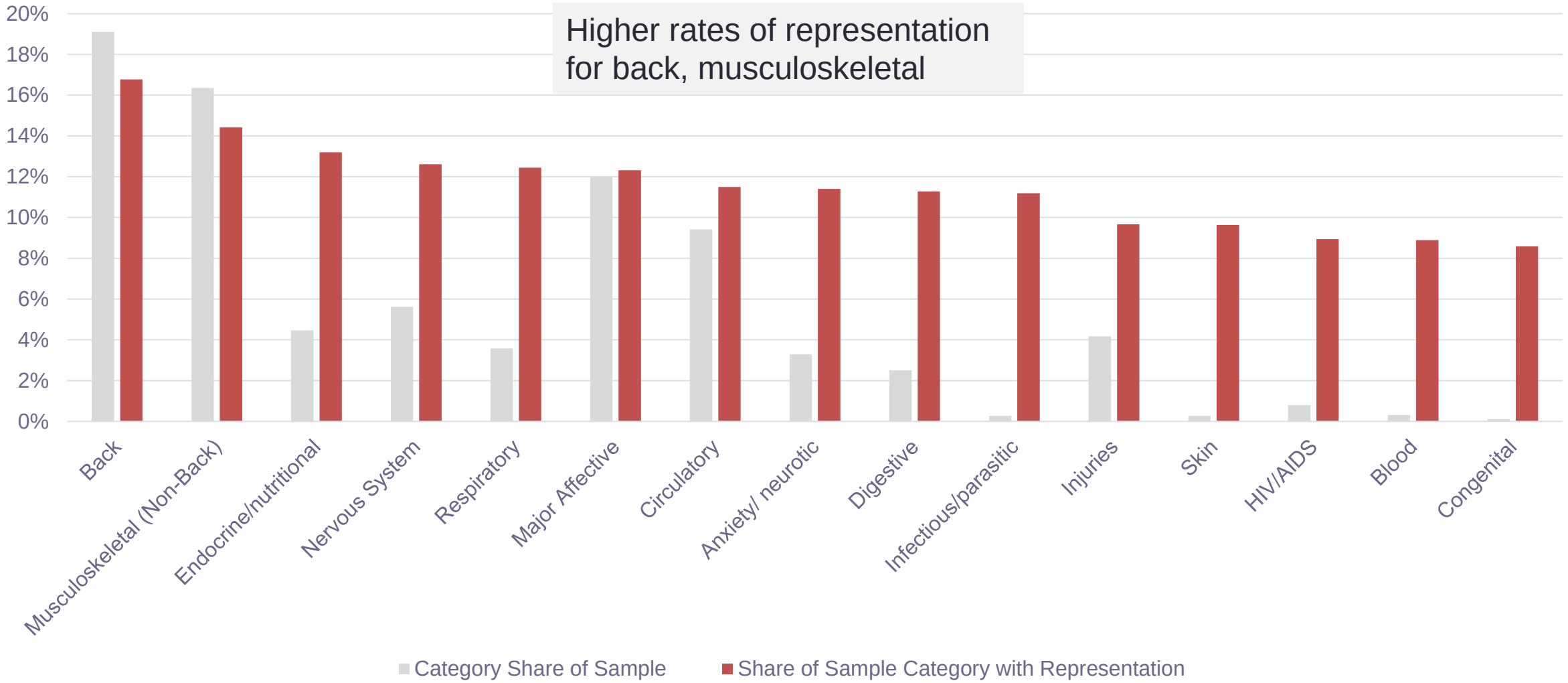
- y_{idt} = disability application outcome for individual i in period t in DDS office d
- $r_{idt} = 1$ if use representative in initial claim process
- Controls for demog, claim char, health (X_{idt}) and fixed effects for time η_t and DDS office θ_d
- Cluster standard errors on DDS office (141 in the U.S.)

However, representation not randomly assigned:

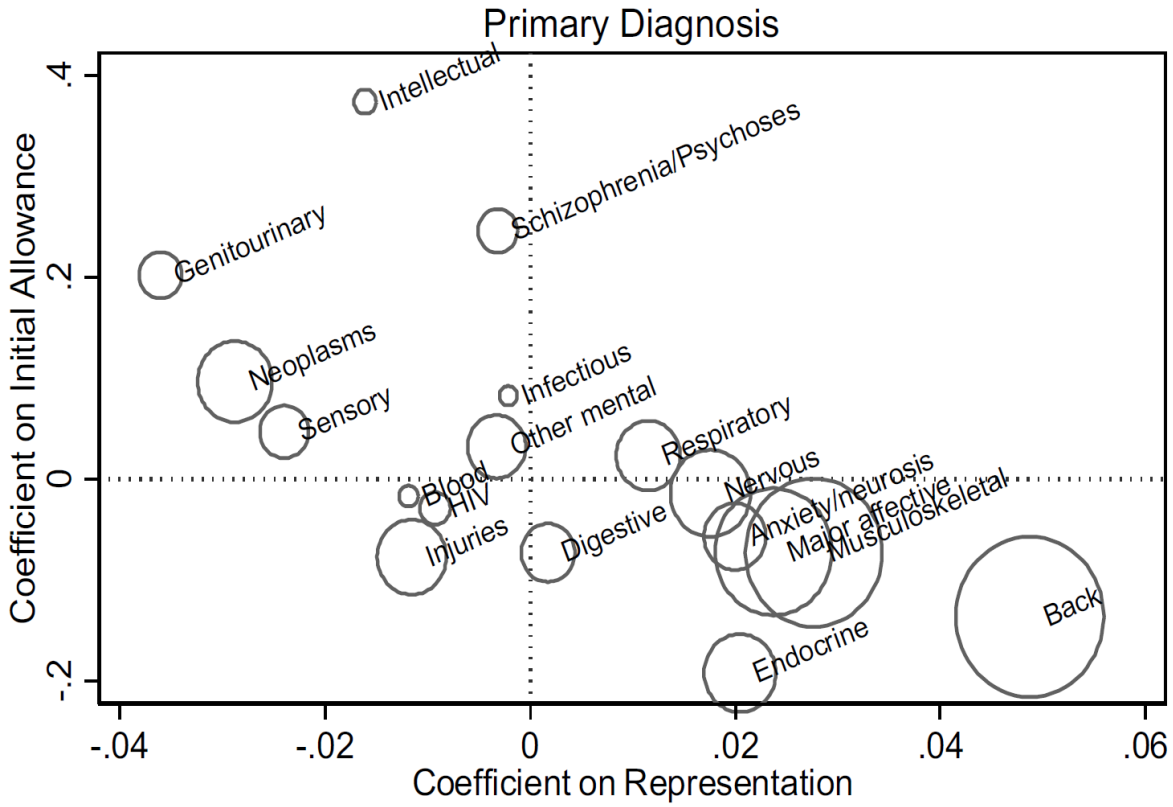
- Gains to representation vary across applicants
- Attorneys may be selective as to which applicants they represent

Representation Rates in Initial Claims – by Demog Group

Representation Rates in Initial Claims – by Diagnoses



Correlation between representation, diagnosis, allowance rates



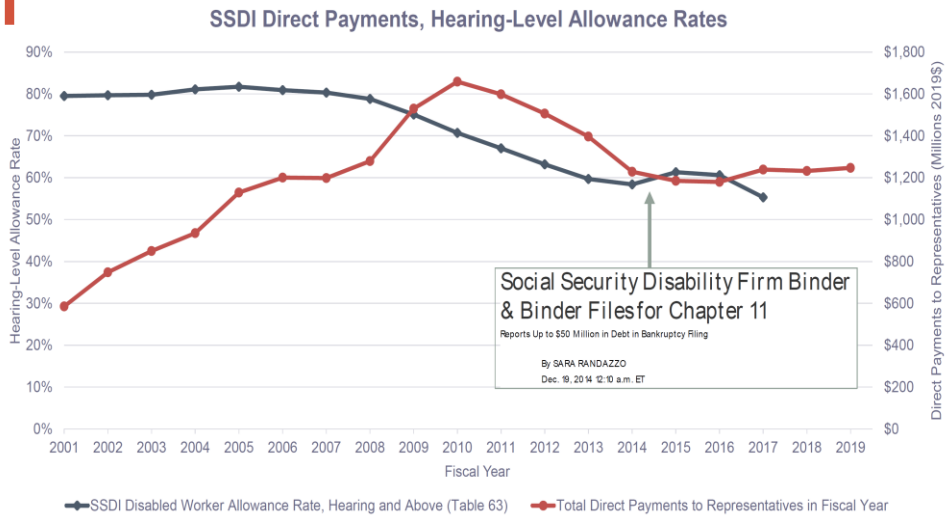
Details on Figure: We regress r on baseline controls and primary diagnosis (omitted diagnosis is circulatory). Do same for y (initial allowance)

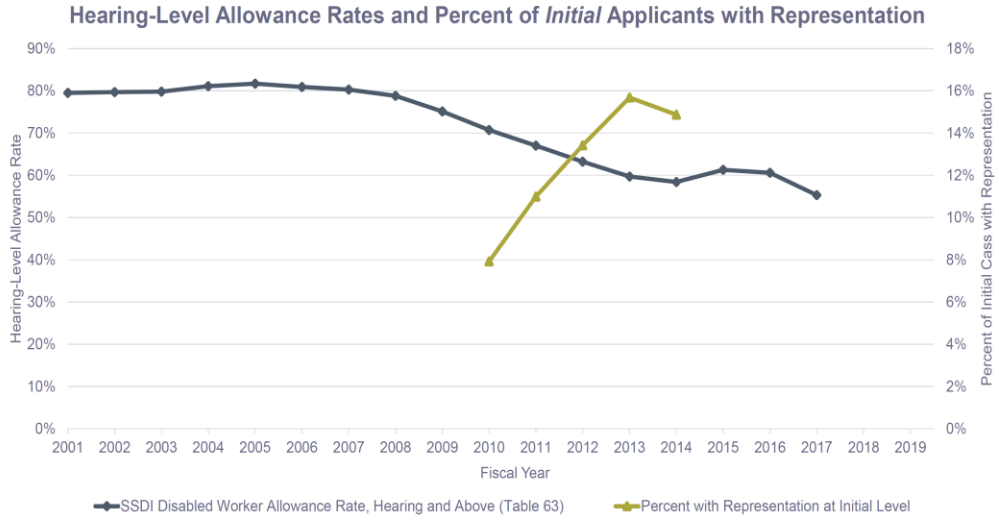
Nature of Bias:

- We find *higher* rates of representation for conditions with *lower* allowance rates
- Bias away from positive effect of representation.

Instrumental Variable Approach

- Most applicants use a rep at appellate level (80-85% use representatives)
- Reduction in appellate allowance rates → reductions in firm revenue (Binder and Binder Chapter 11)
- This led firms to seek new revenue sources → enter market for initial applicants
- We construct instruments to capture the existing "market" for reps at appellate level by area/time
- *Intuition:* Applicants living in areas with greater disability law firm presence in appellate cases are more likely to enlist reps for their initial filing, due to local advertising or word of mouth





Instrument - Data and Construction

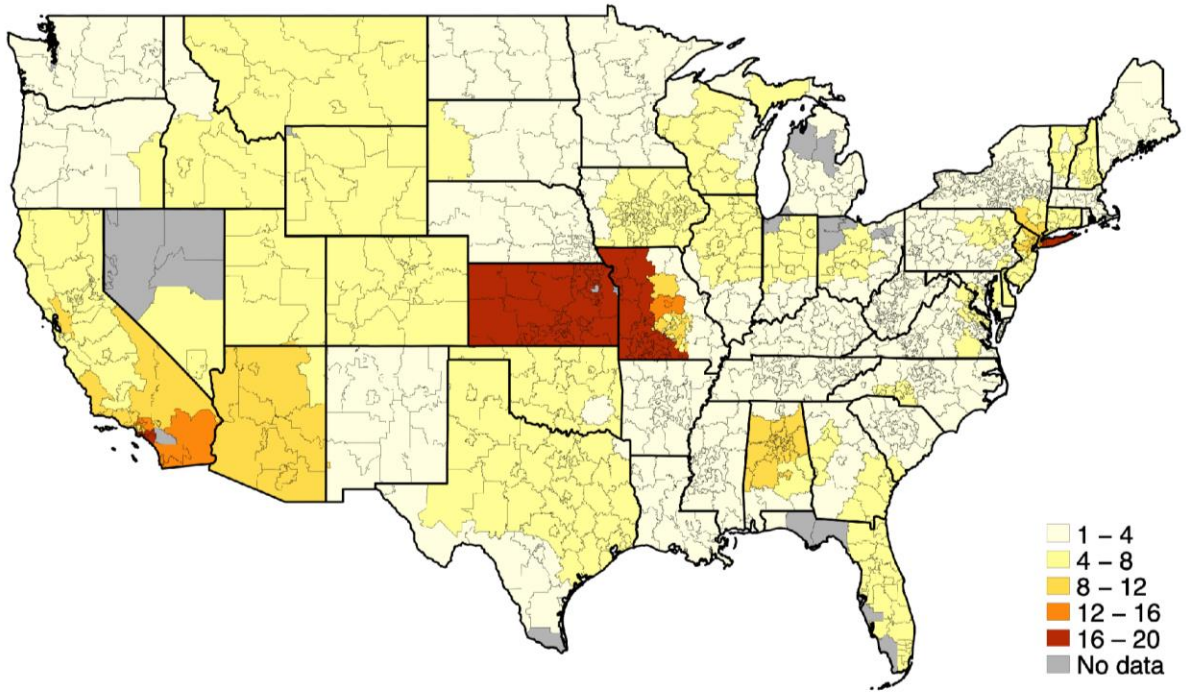
- Instrument: percent of appellate cases represented by disability law firms in applicant's local area (ALJ hearing office) in month before initial filing
- Construct three instruments by coding firms as small, medium or large, based on appellate *national* case counts in 2009-2010 (using *firm name* field)

Non-time varying tags

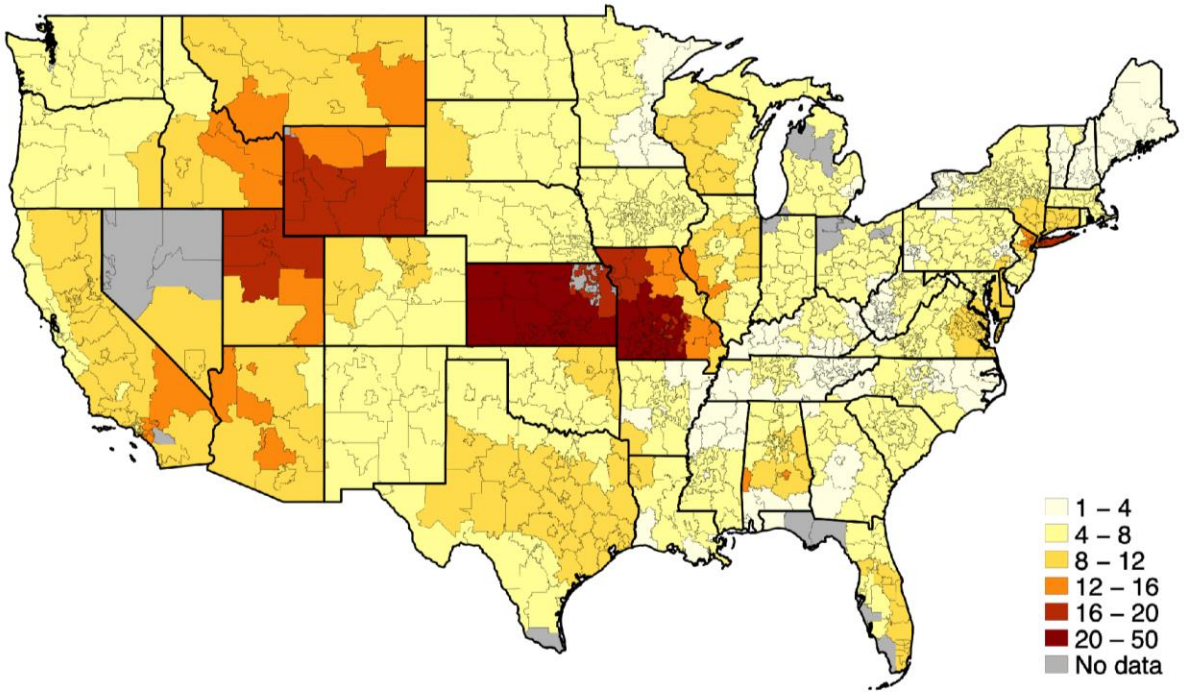
  - Large firms (2000+ cases): 8 large firms account for 16.7% of appellants with reps
  - Medium firms (41-1,999 cases):1,300 medium firms account for 71.3%
  - Small firms (1-40 cases): 4,000 small firms account for 12%

- Use these tags to construct instruments: market share in large, medium, and small firms at hearing office / month level [omitted grp. is non-firm or no rep]
- Appellate cases used to make instruments completed before our initial claims filed – no overlap
- For some validity tests we sum the three market share instruments to create a single "Any Firm" instrument

Instrumental Variable – Large Firms (mean =5.9%)



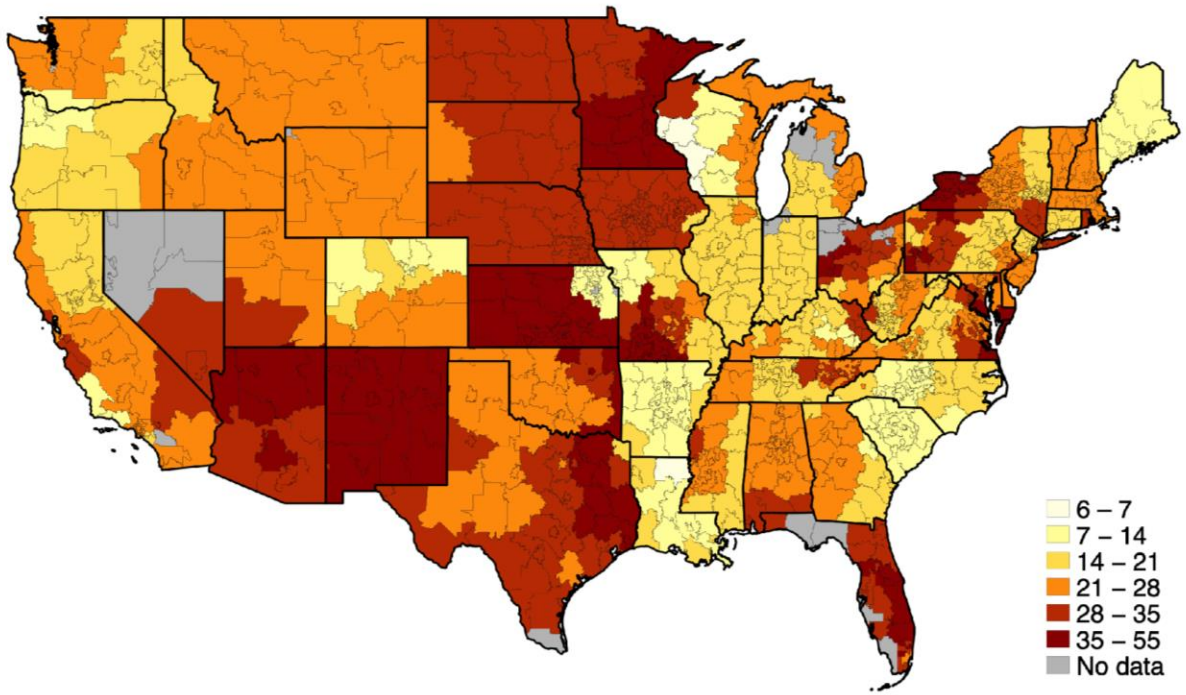
(a) Large Firms, 2010



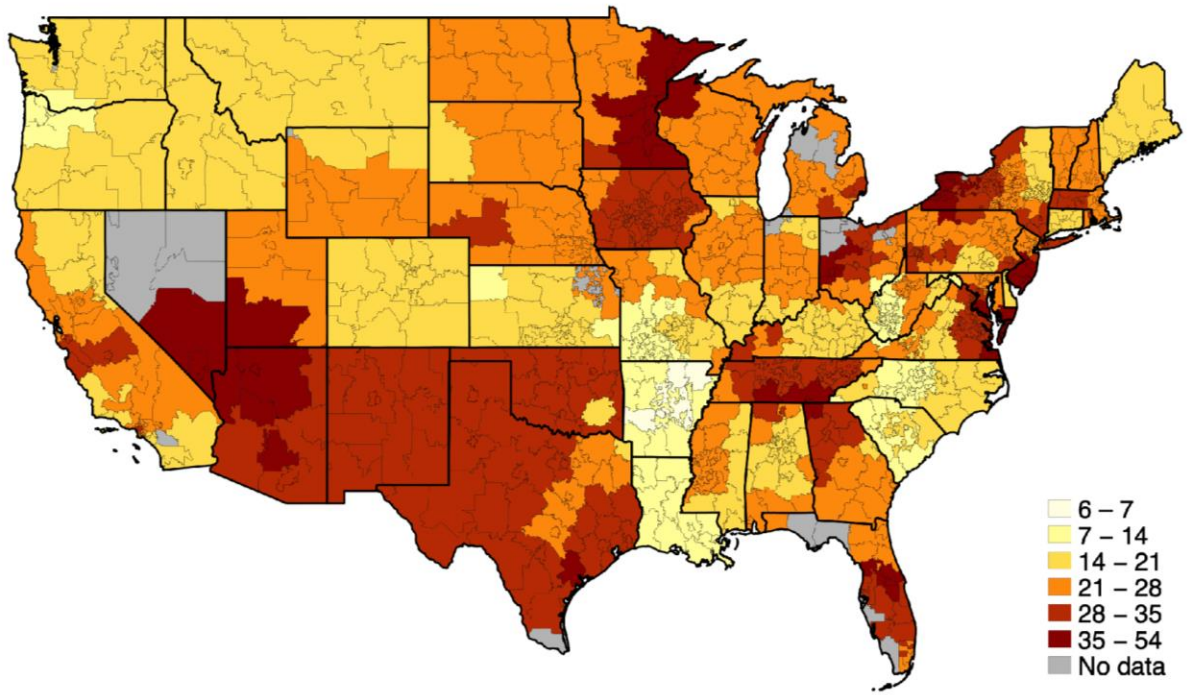
(b) Large Firms, 2014

Note: Plotted across 3-digit zip codes

Instrumental Variable – Medium Firms (mean =24.4%)



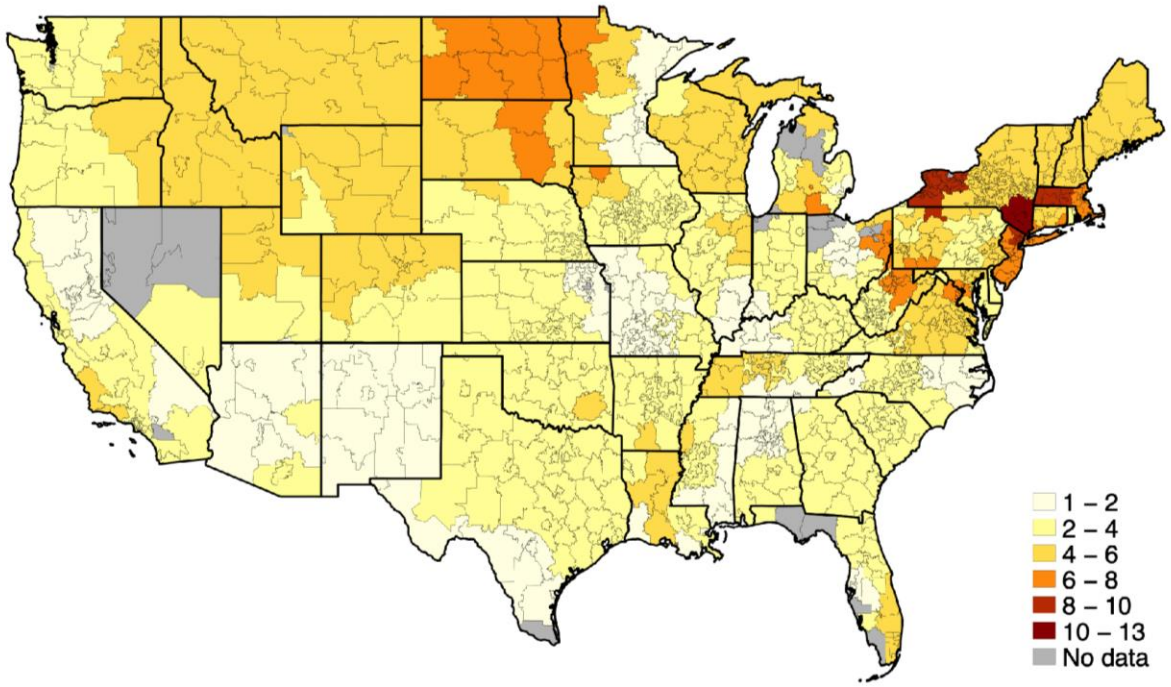
(c) Medium-Sized Firms, 2010



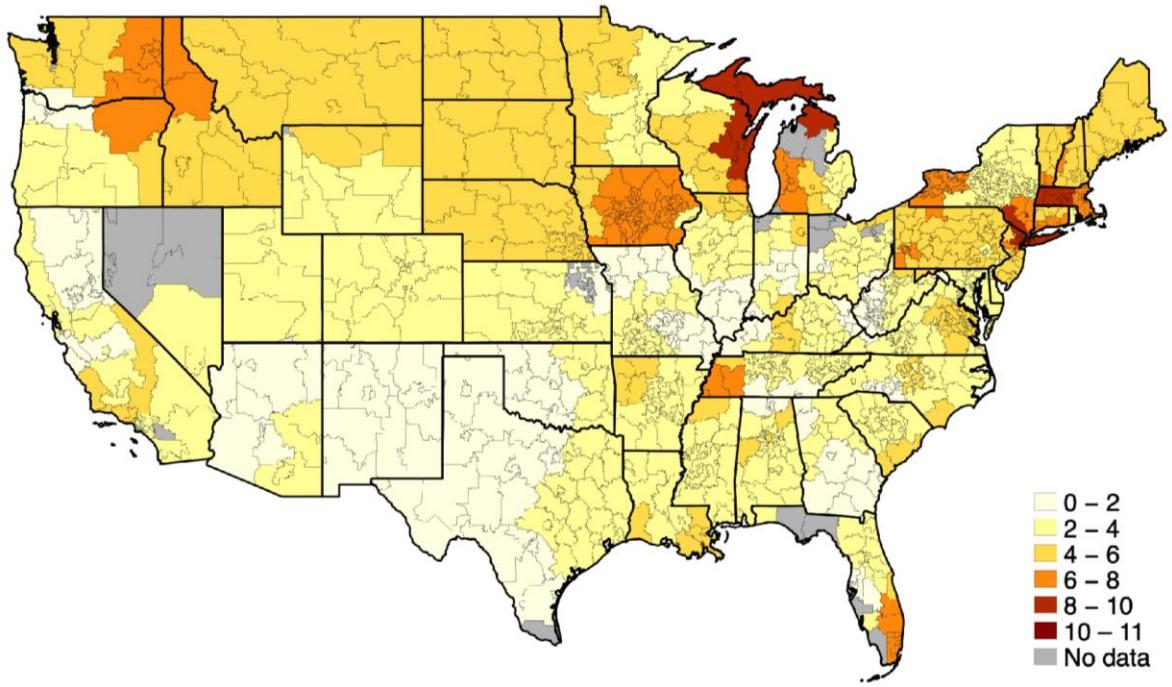
(d) Medium-Sized Firms, 2014

Note: Plotted across 3-digit zip codes

Instrumental Variable – Small Firms (mean =4.1%)



(e) Small Firms, 2010



(f) Small Firms, 2014

Note: Plotted across 3-digit zip codes

4. Results

First Stage

$$r_{idt} = \alpha + \beta Z_{dt} + \pi' X_{idt} + \eta_t + \theta_d + \varepsilon_{idt}$$

- $r_{idt} = 1$ if use representative in initial claim process for individual i in period t in DDS office d
- $Z_{dt} =$ instruments, market share for firms in appellate market
- Controls for demog, claim char, health (X_{idt}) and fixed effects for time η_t and DDS office θ_d
- Cluster standard errors on DDS office

First Stage Regression of Initial Representation on Instruments

	(1)	(2)	(3)
% Appellate Representation Large Firm	0.109***		0.097***
	(0.029)		(0.026)
% Appellate Representation Medium Firm	0.081***		0.077***
	(0.014)		(0.014)
% Appellate Representation Small Firm	0.146***		0.135***
	(0.049)		(0.045)
% Appellate Representation Any Firm		0.089***	
		(0.016)	
Residualized Instrument	No	No	Yes
F Statistic	11.83	33.27	11.75
Mean of the dependent variable	0.124	0.124	0.124
Observations	7,431,904	7,431,904	7,422,492
R-squared	0.04	0.04	0.04

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01.

All coefs positive

Magnitudes:
0.109: 1pp increase in share large firms → 0.11pp increase in initial rep; range of large-firm instrument is 20pp, implying 2.2% of sample is large-firm complier

Each instrument alone moves 2-4% of applicants into initial rep.

Validity of Instruments

- Relevance: Strong first stage
- Independence:
  - Covariate balance test – use large set of pre-determined and "hold-out" variables, ability to do this is an advantage of using this administrative data (App T1)
- Exclusion:
  - Instruments not related to overall *quantity* of applications (App T2)
  - Alternative first stage – instruments work where expect them to (App T3)
  - No evidence that hearing-level allowance rate that drives the market-share instruments impacted init. or appellate allowance rates for our sample thru any channel other than init. rep.
    - E.g., No reduced form relationship between instruments and pr. of allowance on appeal for our sample
- Monotonicity
  - Additional complexity with multiple instruments

Covariate Balance Test (App T1) - using predetermined "hold-out" char, not included as controls

	Events Prior to Filing							Filing Date Information				
	Stop work to filing (days)	Onset to Filing (days)	Stopped work b/c of condition	Made changes to work activities prior to stopping work	Read English	Speak English	Write English	Day of the month (1-31)	Day of the week (1-7)	Monday	Tuesday	Wednesday
% Appellate Rep. Large Firm	-20.41	42.84	0.0283*	-0.016	-0.010	-0.014	-0.007	0.150	0.049	0.001	0.002	-0.013
	(33.53)	(51.01)	(0.015)	(0.032)	(0.046)	(0.056)	(0.046)	(0.225)	(0.081)	(0.013)	(0.013)	(0.015)
% Appellate Rep. Medium Firm	16.08	7.84	0.008	-0.018	0.023	0.025	0.023	-0.004	0.149***	-0.0136*	-0.015	-0.006
	(17.21)	(28.92)	(0.010)	(0.020)	(0.022)	(0.027)	(0.022)	(0.086)	(0.053)	(0.008)	(0.010)	(0.008)
% Appellate Rep. Small Firm	-1.24	-86.13	0.019	-0.0978**	0.044	0.040	0.048	-0.071	0.205**	0.008	-0.011	-0.0627***
	(51.65)	(67.51)	(0.032)	(0.049)	(0.070)	(0.081)	(0.070)	(0.301)	(0.080)	(0.015)	(0.017)	(0.016)
Observations	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904
R-squared	0.032	0.073	0.026	0.043	0.224	0.267	0.204	0.005	0.004	0.002	0.001	0.001
Mean of the dependent variabl	806.2	674.3	0.793	0.256	0.943	0.950	0.940	15.72	3.093	0.171	0.213	0.210

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. Instruments are lagged one period (month). *p<0.10 ** p<0.05 *** p<0.01

Instruments Do Not Affect Applications (App T2)

Regress log(applications) at DDS x month cell on Instruments and FEs

	(1)	(2)
% Appellate Rep. Large Firm	-0.294	
	(0.198)	
% Appellate Rep. Medium Firm	-0.172	
	(0.113)	
% Appellate Rep. Small Firm	0.641**	
	(0.317)	
% Appellate Representation Any Firm		-0.142
		(0.102)
Observations	6,081	6,081
R-squared	0.933	0.933

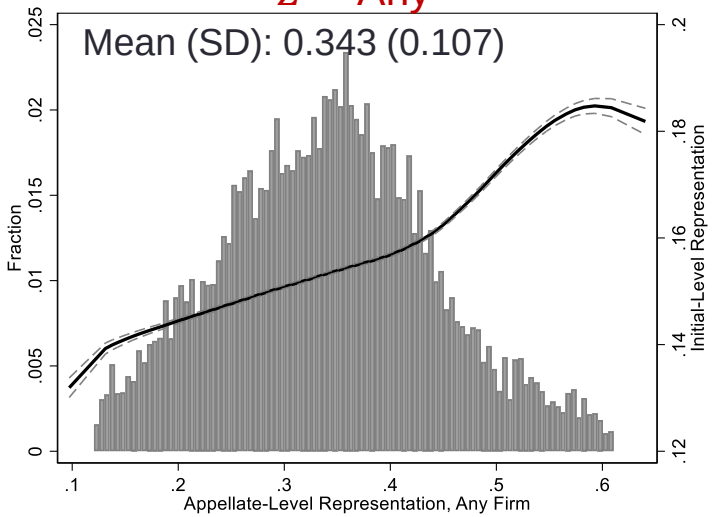
Notes: Data collapsed to DDS by month. Regressions weighted by DDS population. Models include fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. Instruments are lagged one period (month). *p<0.10 ** p<0.05 *** p<0.01

Monotonicity

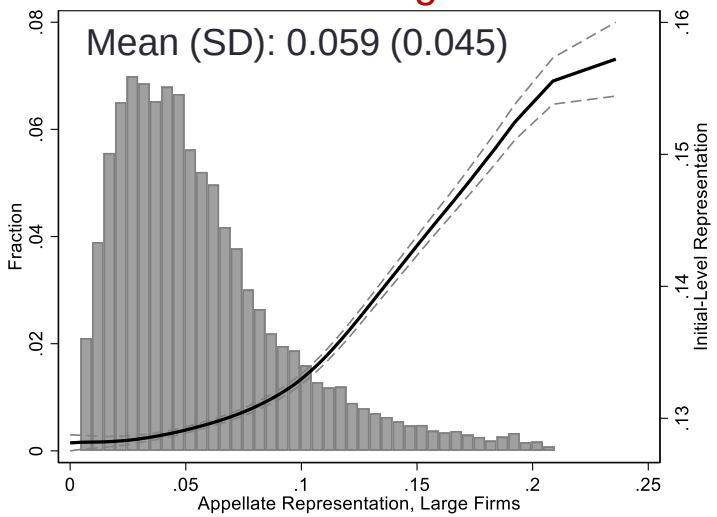
- More complex with multiple instruments; multiple complier subgroups based on combinations of instrument values
- Partial monotonicity condition, allows for preference heterogeneity in relative strength of instruments, preserves LATE interpretation (Mogstad et al 2020)
- Test monotonicity each instrument separately, holding others fixed; use local linear regression to show monotonicity over the range of Zs (Fig 4)
- Positive first-stage coefficients on each *Z* (passes “positive weight” condition, and therefore pass mult instrument partial monotonicity test)
- First stage estimates nonnegative for subsamples (App T2)
- To implement this we use the methods in Dahl et al 2014 and Dobbie et al 2016

Monotonicity: Distribution of Instrument, Local Linear First Stage (Fig 4)

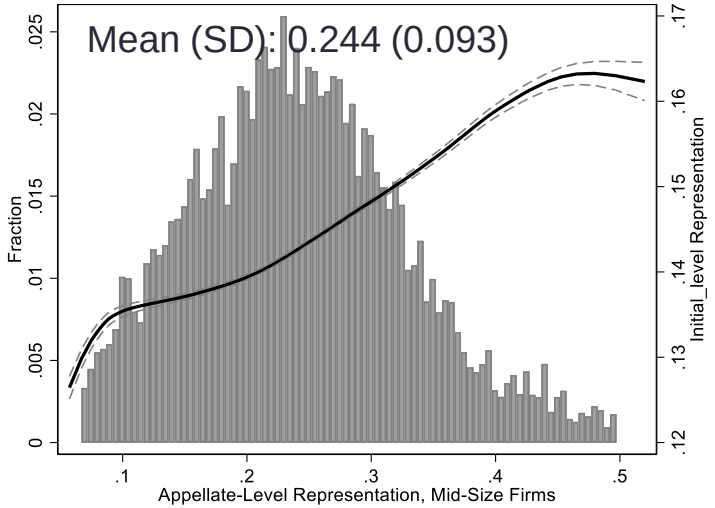
Z = Any



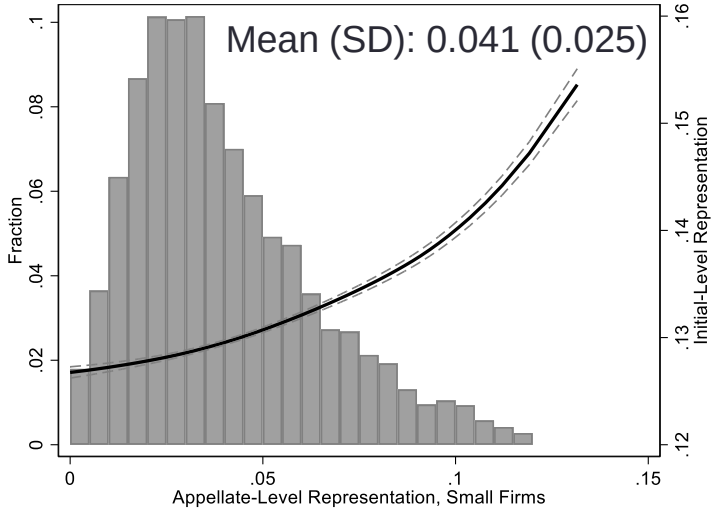
Z = Large



Z = Medium



Z = Small



Monotonicity: applicants who use a representative under conditions with low market shares in appellate cases also use one when faced with a high market share

Histograms show wide area-by-month variation in the instruments, combined and each alone

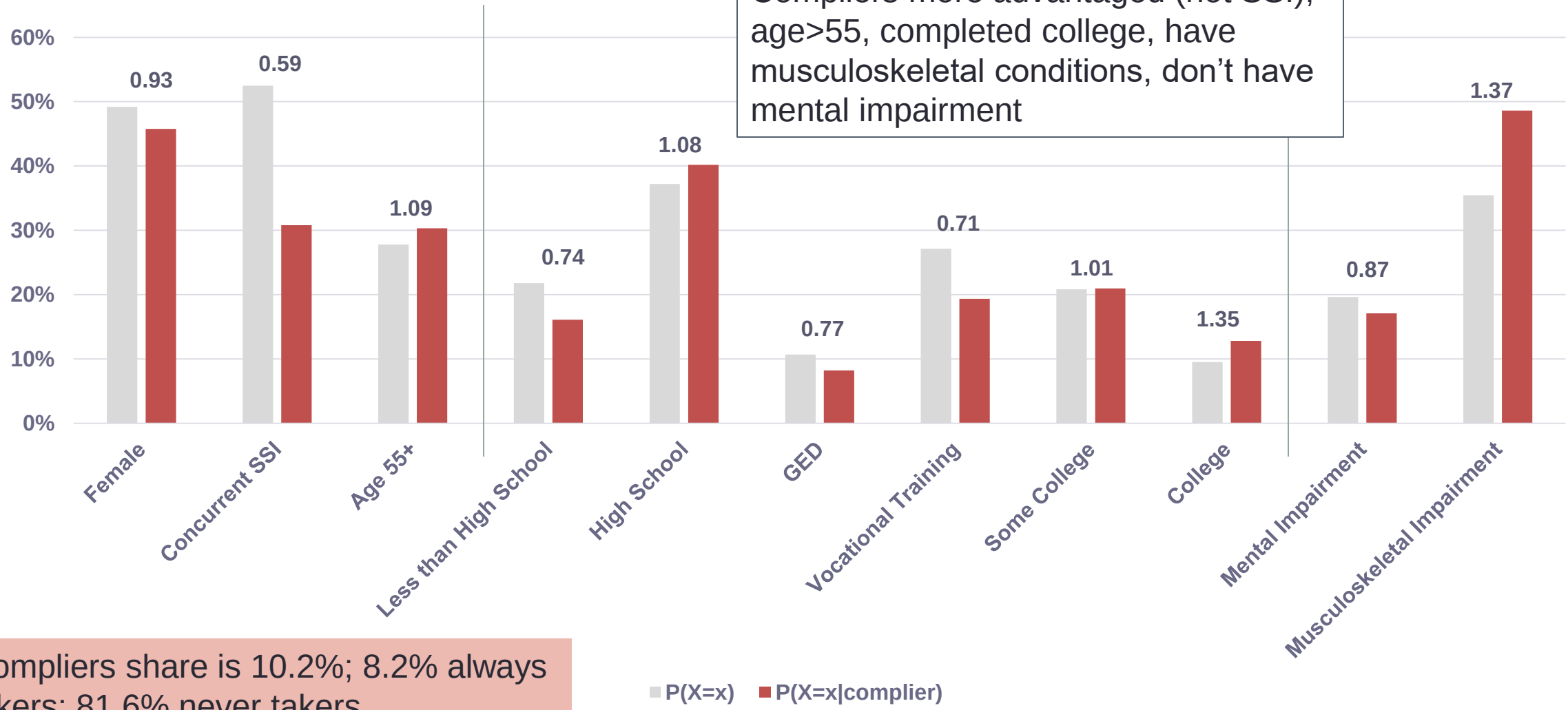
Local linear first-stage confirms monotonic (and quite linear) relationship

More on monotonicity in the paper:

First-stage estimates non-negative, statistically significant for 50/52 subsamples (App Tab 4)

Characteristics of Claimants on Margin of Representation (Compliers)

Compliers more advantaged (not SSI), age>55, completed college, have musculoskeletal conditions, don't have mental impairment



Compliers share is 10.2%; 8.2% always takers; 81.6% never takers

Note: Data labels are the ratio of P(X = x | complier) to P(X=x)

IV Estimates

IV Estimates of Effects of Legal Representation (LATE) [Tab 7]

	Initial Allowance	Initial Denial				
	Any reason	Insufficient Evidence	Refused Medical Exam	Appellate Hearing Observed	Total Processing Time (Days)	Final Allowance
	(1)	(4)	(5)	(6)	(7)	(8)
Legal Representation	0.232**	0.103***	0.006	-0.453**	-316.1**	-0.144
	(0.118)	(0.038)	(0.020)	(0.181)	(151.3)	(0.159)
Observations	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904
Over ID test P value	0.012	0.974	0.280	0.377	0.040	0.592
Mean Dep. Var.	0.320	0.043	0.026	0.357	315.8	0.470

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.011

Main findings

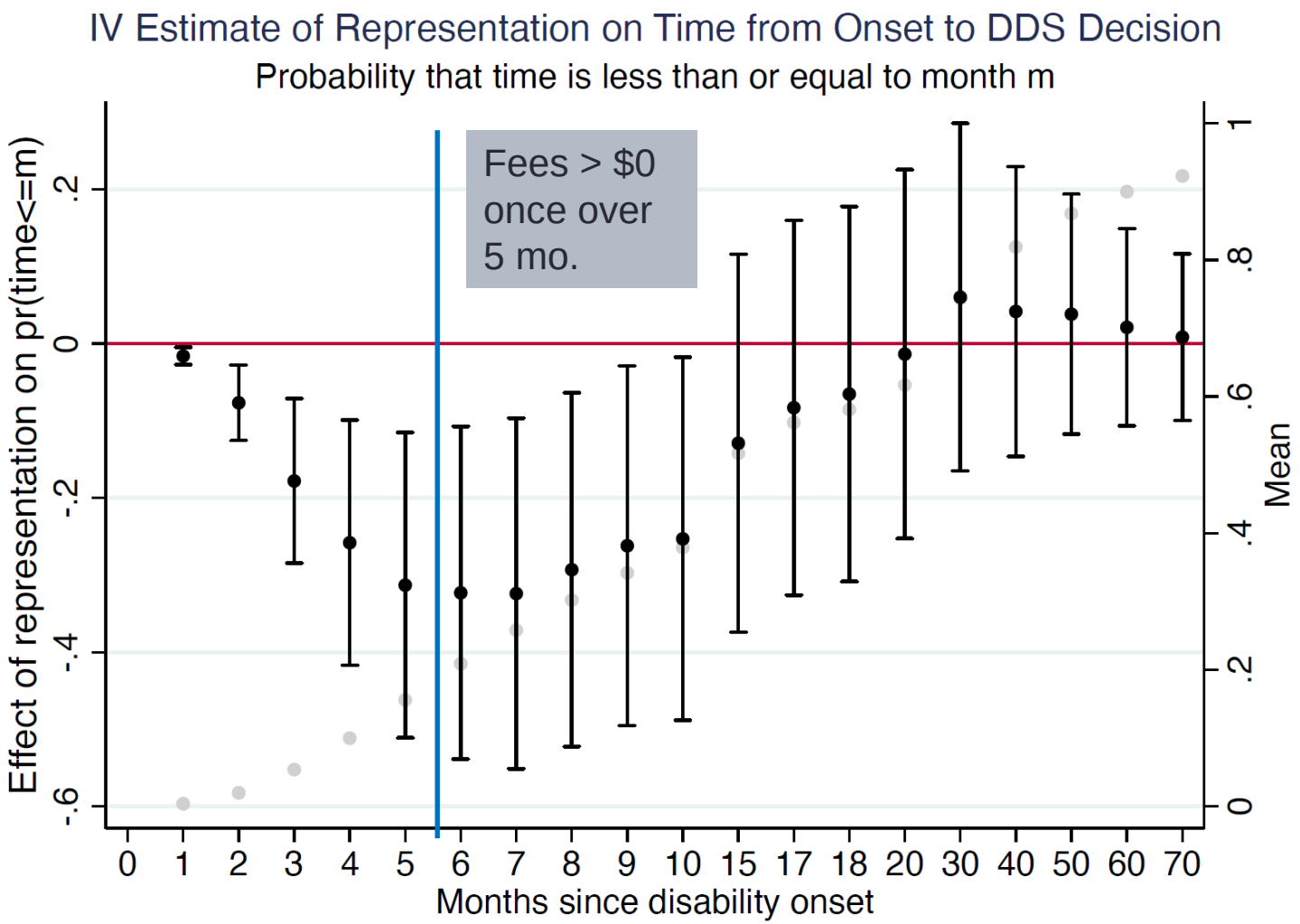
- Representation leads to a 23pp increase in the probability of award at the initial level
- Large reduction in appeals (deterred by rep? learn about quality in initial stage)
- No effect on final allowance (though point estimate *negative* and imprecise)
- Reduces mean total case time by 316 days
  - The mean effect on total case time captures two elements:
  - (1) large reductions in time, due to shift more decisions at initial level
  - (2) (possibly) an increase in time at the shorter spell length, due to incentives in the fee formula
  - → useful to unpack these estimates by length of time

More cases get over 5 month waiting period

	Time from Onset to DDS Decision greater than 5 Months
Legal Representation	0.313***
	(0.101)
Observations	7,431,904
Mean Dep. Var.	0.844

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01

Recall that representative fees equal 25% of back payments, paid from month of onset to month of final determination (minus a 5 month waiting period)



Estimate series of IV models; probability that the time from onset to DDS decision <= m months

Representatives **reduce** the incidence of very short time periods through initial stage (DDS) → consistent with some slowing down to get back pay and therefore payments (over 5 months) and/or to build the case

Light grey dots provide means for each outcome variable

But this seems to be more due to setting favorable "dates of disability onset" because representatives have no impact on **processing time at DDS**

	Time Segments		
	Field Office Processing Time	DDS Processing Time	Time from Onset to DDS Decision greater than 5 Months
	(3)	(4)	(5)
Legal Representation	9.057	62.84	0.313***
	(7.106)	(40.96)	(0.101)
Observations	7,431,904	7,431,904	7,431,904
Mean Dep. Var.	6.353	92.24	0.844

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01

Mechanisms (Tab 10)

	Electronic Communication		Initial Allowance	
	Claim Filed Electronically	Email Address Given	Meets Listing of Impairments	Medical-vocational
	(1)	(2)	(2)	(3)
Legal Representatio	0.416**	0.405*	0.197***	0.035
	(0.200)	(0.219)	(0.061)	(0.105)
Observations	7,431,904	7,431,904	7,431,904	7,431,904
Mean Dep. Var.	0.364	0.307	0.012	0.019

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01

Increase in initial allowances come from meeting the listings (technical alignment of medical evidence to allowable conditions)

Improvement in efficiency, administratively and with communication.

Heterogeneity in IV Estimates by Diagnosis Type (Tab 9)

	Initial Allowance		Initial Denial			
	Any reason	Meets Listing of Impairments	Insufficient Evidence	Appellate Hearing Observed	Total Processing Time (Days)	Final Allowance
	(1)	(2)	(3)	(4)	(5)	(6)
Main Results, Full Sample						
Legal Representation	0.232**	0.197***	0.103***	-0.453**	-316.1**	-0.144
	(0.118)	(0.061)	(0.038)	-0.181	(151.3)	(0.159)
Mean Dep. Var.	0.320	0.128	0.043	0.357	315.8	0.470
Panel A: Subgroup = Mental Diagnosis (sample share = 0.20)						
Legal Representation	0.790**	0.419***	0.122**	-0.962***	-749.1**	0.229
	(0.341)	(0.124)	(0.059)	-0.325	(319.4)	(0.315)
Mean Dep. Var.	0.268	0.122	0.053	0.366	324.1	0.388
Panel B: Subgroup = Back (sample share = 0.19)						
Legal Representation	0.040	0.018	0.065***	-0.270**	-196.0	-0.235
	(0.085)	(0.017)	(0.024)	-0.134	(134.9)	(0.146)
Mean Dep. Var.	0.331	0.014	0.031	0.468	329.5	0.502

IV vs OLS

- The OLS results (Table 8) present a very different set of findings
- Small increase total processing time, higher appeal rates, higher final allowance with little change in initial allowance (and small reduction in meeting the listings)
- Taken at face value, OLS suggests representatives lead to slower, more costly process
- These differences are not due to LATE complier population – rerunning OLS weighted by LATE compliers almost identical to unweighted OLS (App Tab X)
- We conclude the bias in OLS is due to selection into representation (consistent with our model)

Additional results, robustness

- Results robust to alternative instruments: Any Firm, residualized market share instruments (Appendix Table 5)
  - Residualized market share instruments particularly relevant for concerns about exclusion restrictions
- We construct a “single index instrument” based on our three instruments. Using this, we find complier shares and complier characteristics.
- Over-identification test for 3-instrument model (Mogstad, Togorvitsky, Walters 2021)
  - For final case outcomes we don't reject the null (consistent with similar T effects across impairment subgroups in Table 9; most cases use reps at appellate level)
  - For initial case outcomes, we do reject the null (consistent with dissimilar T effects across impairment subgroups in Table 9)

5. The Value of Representation

$$F\left[p^I(1) + \Delta\pi^A\right] \leq V\left[\Delta\pi^I + \Delta\pi^A\right]$$

- Avg *F* is $3,000 (max F is $6,000)
- Avg *V* $358K ($650K w/ Medicare)
- Using our parameter estimates to calculate $\Delta\pi^I, \Delta\pi^A$: avg. applicant willing to pay $103K ($188K w/ Medicare) for initial representation
  - Varies by type of disability: for applicants w/ mental dx $250K ($455K w/ Medicare); but applicants w/ back/MSK dx not willing to pay anything
- Implies supply of initial representation inefficiently low
- More cases decided at initial level and fewer going to appellate level leads to lower costs for SSA
- Our estimates imply that the 15% rep rate in 2014 led to a reduction in processing costs of $400 million (13%) compared to the counterfactual of no representation at the initial claims level

Conclusions

- Representation improves case outcomes (on the margin)
  - Increases initial awards by medical listings, fewer appeals, shorter time to decision, no affect on final allowances
- Estimates imply reps obtain earlier disability awards for individuals who would win on appeal -- *"Right decision earlier"*
  - Long decisions become short decisions, short decisions become a bit longer
- Representation in initial claims inefficiently low
  - Large benefits, small costs -- to applicants and SSA
  - Contingency-fee structure encourages reps to be selective, minimize effort
  - Reps reduce application burdens, but no loss in target efficiency; possible gains for people with listing-level impairments

THANK YOU

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EXTRA SLIDES

Validity of instrument

- Covariate balance test – use large set of pre-determined variables, ability to do this is an advantage of using this administrative data (App T1)
- Instruments not related to overall *quantity* of applications (App T2)
- Alternative first stage – instruments work where you expect them to (App T3)

First Stage Estimates by Alternative Measures of Representation (App T3)

	Direct Pay		Not Direct Pay	
	Atty or EDPNA in Firms [BASECASE]	Atty or EDPNA not in Firms	Atty or EDPNA	Other
% Appellate Representation Large Firm	0.109***	-0.015*	0.024***	-0.025**
	(0.025)	(0.008)	(0.007)	(0.010)
% Appellate Representation Medium Firm	0.081***	0.007	0.007**	-0.004
	(0.014)	(0.008)	(0.003)	(0.007)
% Appellate Representation Small Firm	0.146***	-0.054**	0.011	0.009
	(0.049)	(0.021)	(0.009)	(0.016)
F Statistic	11.83	3.01	5.41	2.81
Mean of dep var	0.124	0.025	0.023	0.031
Observations	7,431,904	7,431,904	7,431,904	7,431,904
R-squared	0.04	0.02	0.01	0.01

Notes: EDPNA indicates Eligible for Direct Payment Non-Attorney Representatives. Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 ***p<0.01

Instruments matter where you expect them to -- **disability law firm market.** This fits with our reading of the events in the representative market.

Testing LATE Assumptions - validity of instrument

- Monotonicity of the instrument – holds over most of range of Zs (Fig 4)
- First stage estimates nonnegative for subsamples [50 of 52] (App T2)
- To understand and interpret the LATE, we characterize compliers and their characteristics (App T3)
- For 3-instrument model: estimating one instrument at a time leads to positive coefficients on each *Z* in 1st stage (passes “positive weight” condition, and therefore pass mult instrument partial monotonicity test)
- To implement this we use the methods in Dahl et al 2014 and Dobbie et al 2016.

App Table 2 – First Stage Estimates of Legal Representation at the Initial Level, by Subgroup

	All	Female	Aged 55+	Less than High School	High School	GED	Vocational	Some College	College	Obese	Concurrent	Mental Impairment	Musculoskeletal Impairment
Panel A: 3-Instrument Model													
% Appellate Representation Large Firm	0.109***	0.0948***	0.132***	0.0706**	0.118***	0.0958**	0.0847***	0.112***	0.151***	0.110***	0.0491	0.0888***	0.162***
	(0.029)	(0.0285)	(0.0257)	(0.0343)	(0.0297)	(0.0387)	(0.0300)	(0.0265)	(0.0309)	(0.0303)	(0.0329)	(0.0319)	(0.0344)
% Appellate Representation Medium Firm	0.081***	0.0775***	0.0936***	0.0601***	0.0911***	0.0599***	0.0638***	0.0851***	0.0951***	0.0845***	0.0535***	0.0648***	0.109***
	(0.014)	(0.0134)	(0.0156)	(0.0134)	(0.0159)	(0.0135)	(0.0138)	(0.0144)	(0.0168)	(0.0150)	(0.0116)	(0.0134)	(0.0190)
% Appellate Representation Small Firm	0.146***	0.120**	0.149***	0.0861**	0.154***	0.136***	0.112**	0.166***	0.174***	0.141***	0.0432	0.125***	0.201***
	(0.049)	(0.0463)	(0.0525)	(0.0433)	(0.0536)	(0.0443)	(0.0491)	(0.0515)	(0.0560)	(0.0519)	(0.0404)	(0.0405)	(0.0645)
Panel B: 1-Instrument Model													
% Appellate Representation Any Firm	0.089***	0.0827***	0.103***	0.0632***	0.0986***	0.0694***	0.0697***	0.0943***	0.110***	0.0915***	0.0523***	0.0723***	0.122***
	(0.016)	(0.0143)	(0.0165)	(0.0131)	(0.0172)	(0.0133)	(0.0139)	(0.0160)	(0.0191)	(0.0163)	(0.0109)	(0.0135)	(0.0210)
Mean of the dependent variable	0.124	0.126	0.114	0.113	0.130	0.129	0.113	0.124	0.118	0.134	0.115	0.113	0.157
Observations	7,431,904	3,655,076	2,063,293	1,618,867	2,763,818	794,331	2,016,093	1,547,920	706,968	3,187,724	3,899,695	1,457,482	2,634,414
F Statistic, 3-Instrument Model	11.83	11.87	14.07	7.85	11.71	9.57	8.71	12.41	11.98	11.25	7.89	10.07	12.37
R-squared, 3-Instrument Model	0.04	0.032	0.044	0.034	0.039	0.033	0.032	0.037	0.035	0.034	0.034	0.034	0.035

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01.

Appendix Table 3 – Sample Share by Compliance Type

Model Type	Local Linear Model				Linear Model			
Model	1-Instrument Model	3-Instrument Model			1-Instrument Model	3-Instrument Model		
Firm Size (Instruments)	All	Large	Medium	Small	All	Large	Medium	Small
Panel A: Cutoff is top and bottom 1%								
Compliers	4.7%	2.7%	3.3%	2.0%	4.4%	1.8%	3.1%	1.5%
Always Takers	13.8%	12.8%	13.0%	12.7%	13.5%	12.4%	12.9%	12.4%
Never Takers	81.6%	84.4%	83.7%	85.3%	82.2%	85.7%	84.0%	86.0%
Panel B: Cutoff is top and bottom 1.5%								
Compliers	4.5%	2.4%	3.1%	1.7%	4.1%	1.7%	2.9%	1.4%
Always Takers	13.9%	12.8%	13.2%	12.7%	13.6%	12.5%	12.9%	12.5%
Never Takers	81.5%	84.8%	83.7%	85.6%	82.3%	85.9%	84.2%	86.1%
Panel C: Cutoff is top and bottom 2%								
Compliers	4.5%	2.2%	3.0%	1.6%	4.0%	1.6%	2.8%	1.3%
Always Takers	14.0%	12.8%	13.3%	12.7%	13.6%	12.5%	13.0%	12.5%
Never Takers	81.5%	84.9%	83.7%	85.7%	82.4%	85.9%	84.3%	86.2%

Notes: Data come from U.S. Social Security Administration, Electronic Disability Collect System and includes 7,431,904 observations between years 2010-2014.

Appendix Table 4: Characteristics of Marginal Claimants

Model		1-Instrument Model		3-Instrument Model					
Firm Size (Instruments)		All		Large		Medium		Small	
Probabilities	P(X=x)	P(X=x|complier)	P(X=x|complier) /P(X=x)	P(X=x|complier)	P(X=x|complier) /P(X=x)	P(X=x|complier)	P(X=x|complier) /P(X=x)	P(X=x|complier)	P(X=x|complier) /P(X=x)
Characteristics									
Female	49.2%	45.8%	0.93	44.9%	0.91	47.0%	0.96	40.7%	0.83
Concurrent	52.5%	30.8%	0.59	26.7%	0.51	29.8%	0.57	17.6%	0.34
Age 55+	27.8%	30.3%	1.09	31.3%	1.13	31.3%	1.13	28.0%	1.01
Less than High School	21.8%	16.1%	0.74	13.0%	0.60	16.7%	0.77	12.8%	0.59
High School	37.2%	40.2%	1.08	39.4%	1.06	40.8%	1.10	39.7%	1.07
GED	10.7%	8.2%	0.77	7.6%	0.71	8.0%	0.75	9.2%	0.86
Vocational Training	27.1%	19.4%	0.71	19.4%	0.71	17.8%	0.66	21.2%	0.78
Some College	20.8%	21.0%	1.01	24.1%	1.16	21.1%	1.01	23.7%	1.14
College	9.5%	12.8%	1.35	12.8%	1.35	12.7%	1.34	11.7%	1.23
Obese	42.9%	43.2%	1.01	45.8%	1.07	44.3%	1.03	42.5%	0.99
Mental Impairment	19.6%	17.1%	0.87	16.7%	0.85	17.1%	0.87	16.6%	0.85
Musculoskeletal Impairment	35.4%	48.6%	1.37	52.6%	1.48	49.3%	1.39	51.5%	1.45

Notes: Compliers are defined by the difference in the probability of representation from the 1st to 99th percentiles of the indicated instrumental variable. Data come from U.S. Social Security Administration, Electronic Disability Collect System and includes 7,431,904 observations between years 2010-2014.

Additional results, robustness

- Results robust to alternative instruments: Any Firm, residualized market share instruments (Appendix Table 5)
  - Residualized market share instruments particularly relevant for concerns about exclusion restrictions
- We construct a “single index instrument” based on our three instruments. Using this, we find complier shares and complier population to be very similar to our main 3-instrument or 1-instrument models.
- Over-identification test for 3-instrument model (Mogstad, Togorvitsky, Walters 2021)
  - For final case outcomes we don't reject the null (consistent with similar T effects across impairment subgroups in Table 9; most cases use reps at appellate level)
  - For initial case outcomes, we do reject the null (consistent with dissimilar T effects across impairment subgroups in Table 9)

Appendix Table 5: IV Estimates of Attorney Representation on Outcomes, Alternative Instruments

	Initial Allowance		Initial Denial				
	Any reason	Meets Listing of Impairments	Insufficient Evidence	Refused Medical Exam	Appellate Hearing Observed	Total Processing Time (Days)	Final Allowance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Alternative Instrument: One Instrument *Any Firm*							
Legal Representation	0.168	0.165***	0.102**	-0.000230	-0.398**	-247.9	-0.141
	(0.115)	(0.0591)	(0.0410)	(0.0205)	(0.175)	(152.2)	(0.160)
Panel B: Alternative Instrument: Residualized Three Instruments							
Legal Representation	0.144	0.145***	0.130***	0.00285	-0.417**	-231.0*	-0.209
	(0.092)	(0.055)	(0.045)	(0.021)	(0.173)	(131.3)	(0.149)
Observations	7,422,492	7,422,492	7,422,492	7,422,492	7,422,492	7,422,492	7,422,492
Mean Dep. Var.	0.320	0.128	0.043	0.026	0.357	315.7	0.470

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01
Covariates used in forming residualized instruments include age, age squared, time from onset to filing, indicators for prototype states, concurrent applications, non-citizens, applicant is in jail, applicant is suicidal, applicant is in dire need, the percentage of claims in that area that are decided by Senior Adjudicative Attorneys and the characteristics of the application at the initial level, including expedited handling flags, QA sample, adjudicative step, body system code, and the allowance rate in the DDS at the time of decision.

IV vs OLS

- The OLS results (Table 8) present a very different set of findings
- Small increase total processing time, higher appeal rates, higher final allowance with little change in initial allowance (and small reduction in meeting the listings)
- Taken at face value, OLS suggests representatives lead to slower, more costly process
- These differences are not due to LATE complier population – rerunning OLS weighted by LATE compliers almost identical to unweighted OLS (App Tab X)
- We conclude the bias in OLS is due to selection into representation (consistent with our model)

Table 8: OLS Estimates of Effects of Legal Representation

	Initial Allowance			Initial Denial				
	Any reason	Meets Listing of Impairments	Medical-vocational	Insufficient Evidence	Refused Medical Exam	Appellate Hearing | Initial Denial	Total Processing Time (Days)	Final Allowance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Legal Representation	0.0066***	-0.0110***	0.0176***	0.0037***	0.0009**	0.345***	17.36***	0.0461***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.000)	(0.004)	(4.085)	(0.003)
Observations	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	5,051,907	7,431,904	7,431,904
R-squared	0.251	0.27	0.205	0.054	0.043	0.144	0.087	0.184
Mean Dep. Var.	0.32	0.128	0.192	0.043	0.026	0.51	315.8	0.47

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01

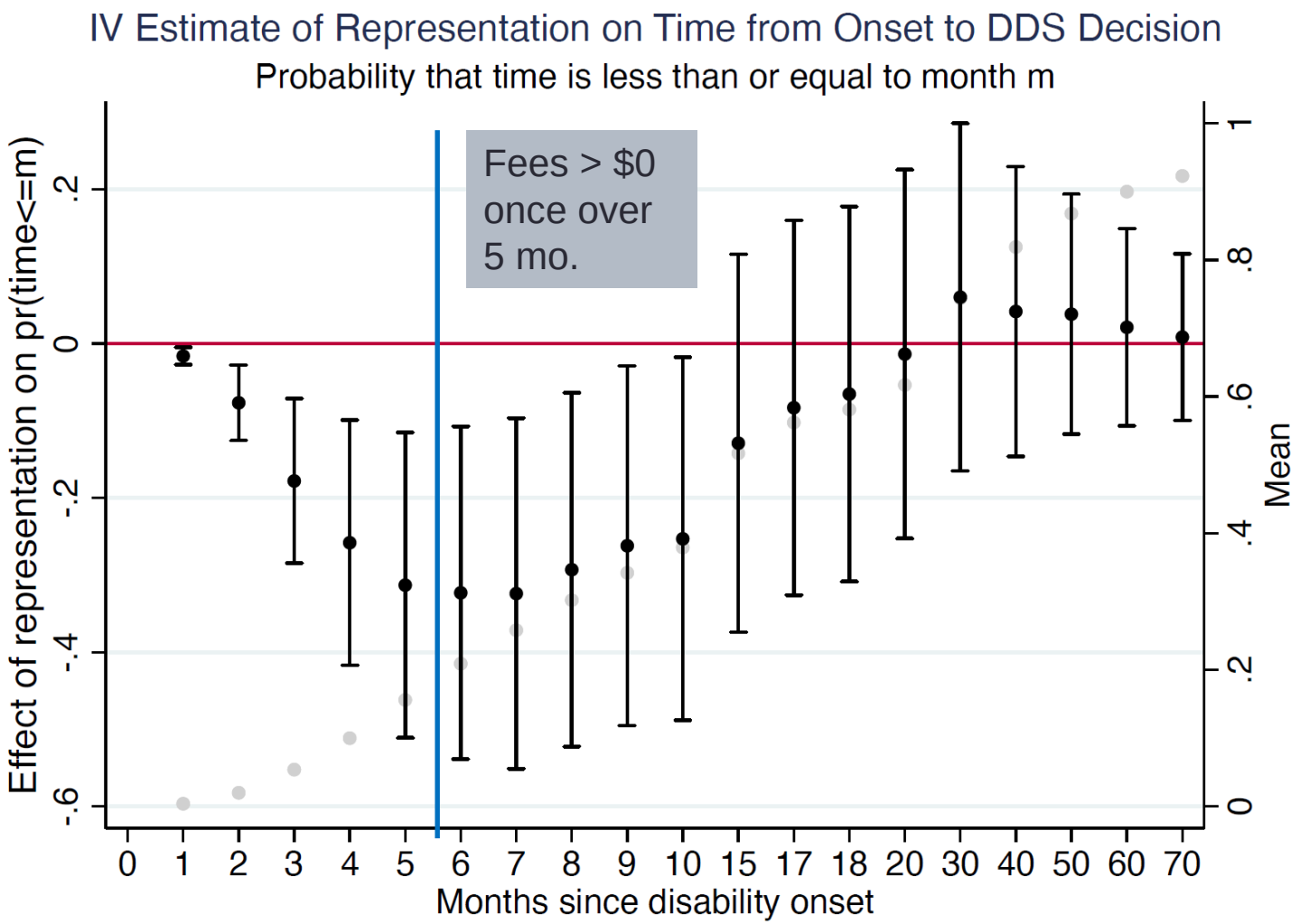
App Table XX: OLS Estimates of Effects of Legal Representation, weighted to represent LATE compliers

	Initial Allowance			Initial Denial				
	Any reason	Meets Listing of Impairments	Medical-vocational	Insufficient Evidence	Refused Medical Exam	Appellate Hearing | Initial Denial	Total Processing Time (Days)	Final Allowance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Legal Representation	0.0127***	-0.0086***	0.0213***	0.0041***	0.0004	0.319***	15.49***	0.0525***
	(0.002)	(0.001)	(0.002)	(0.001)	(0.0004)	(0.004)	(3.85)	(0.003)
Observations	7,431,904	7,431,904	7,431,904	7,431,904	7,431,904	5,051,907	7,431,904	7,431,904
R-squared	0.234	0.195	0.218	0.040	0.027	0.128	0.086	0.163
Mean Dep. Var.	0.32	0.128	0.192	0.043	0.026	0.51	315.8	0.47

Notes: Covariates include age, age squared, and indicators for female, education attainment, vocational training, SSI concurrent claim, BMI and BMI squared, pain indicated at application, random QA sample, quick disability determination flag, compassionate allowance flag, terminal illness flag, wounded warrior flag, major diagnosis class, and fixed effects for month and DDS office. Standard errors in parentheses, clustered by DDS office. *p<0.10 ** p<0.05 *** p<0.01

Weighting: 4 quartiles of predicted representative interacted Concurrent.

MORE RESULTS

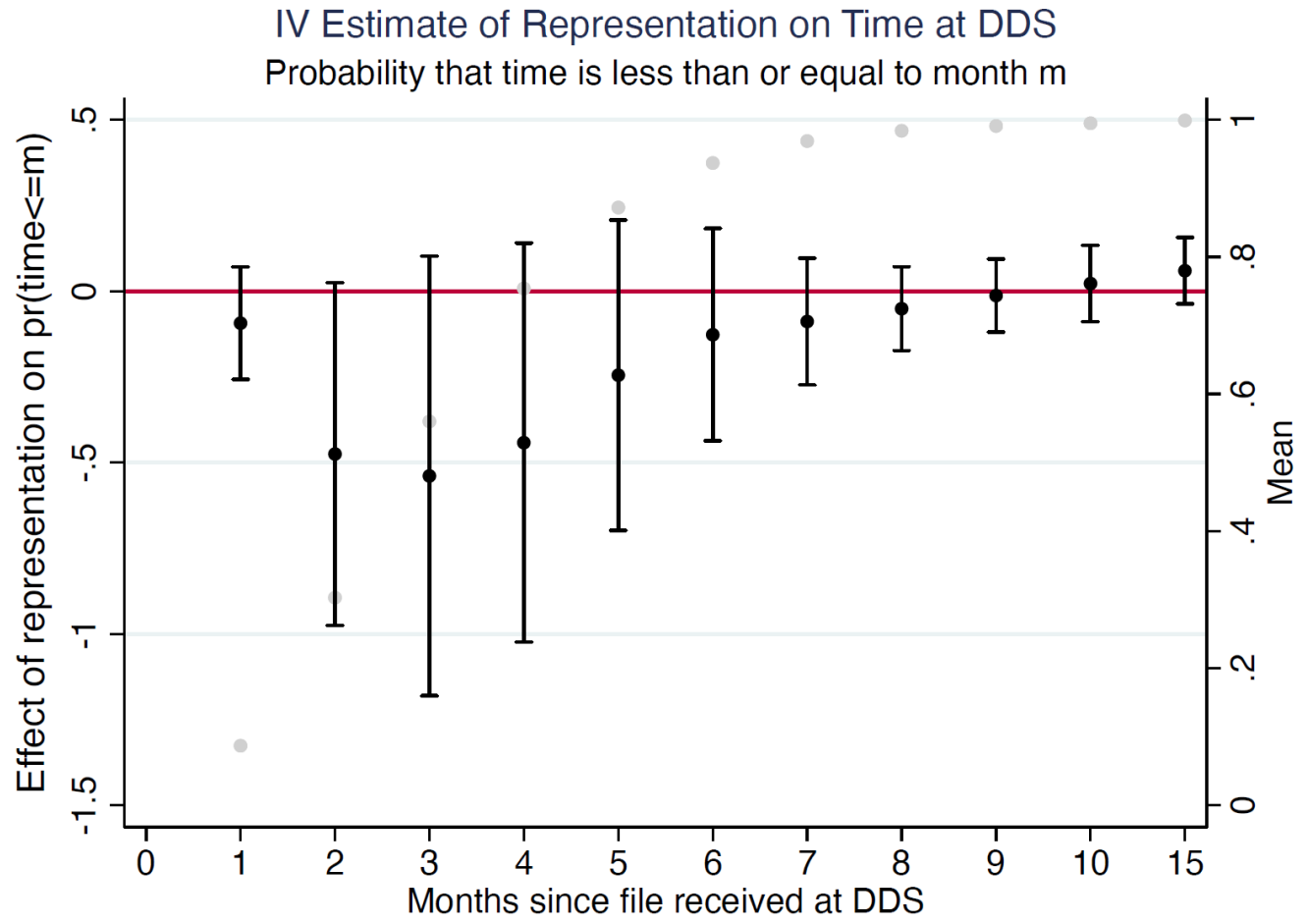


Estimate series of IV models; probability that the time from onset to DDS decision <= m months

Representatives **reduce** the incidence of very short time periods through initial stage (DDS) → consistent with some slowing down to get back pay and therefore payments (over 5 months) and/or to build the case

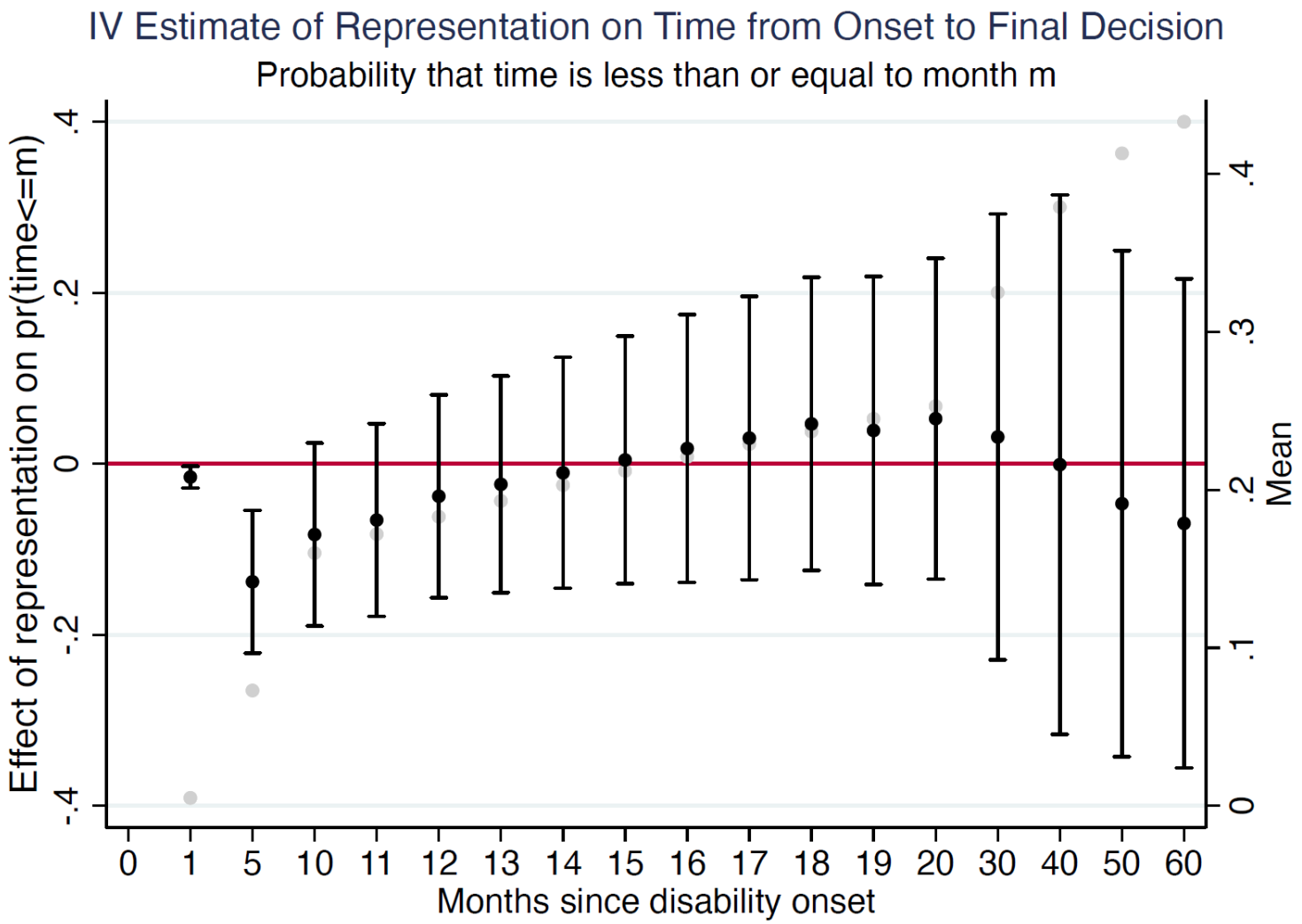
Light grey dots provide means for each outcome variable

But this seems to be more due to setting favorable “dates of disability onset” because representatives have no impact on **processing time at DDS**



Estimate series of IV models; probability that the time AT DDS <= m months

Light grey dots provide means for each outcome variable

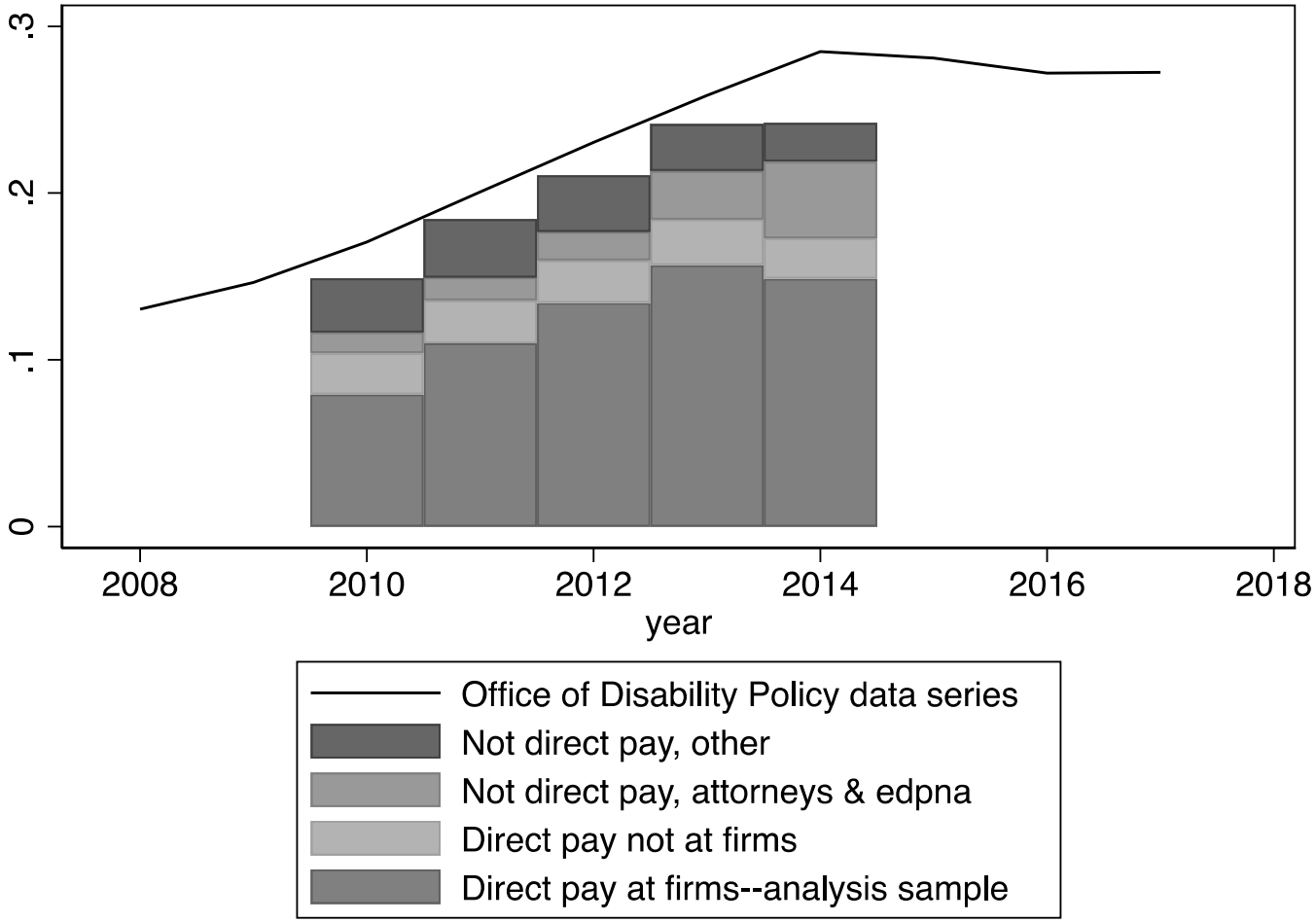

IV Estimate of Representation on Time from Onset to Final Decision
Probability that time is less than or equal to month m
Effect of representation on pr(time<=m)
-.4
-.2
0
.2
.4
Mean
0
.1
.2
.3
.4
0
1
5
10
11
12
13
14
15
16
17
18
19
20
30
40
50
60
Months since disability onset

EXTRA DESCRIPTIVE STATS AND FIGURES

Table 4: Claimant Representation

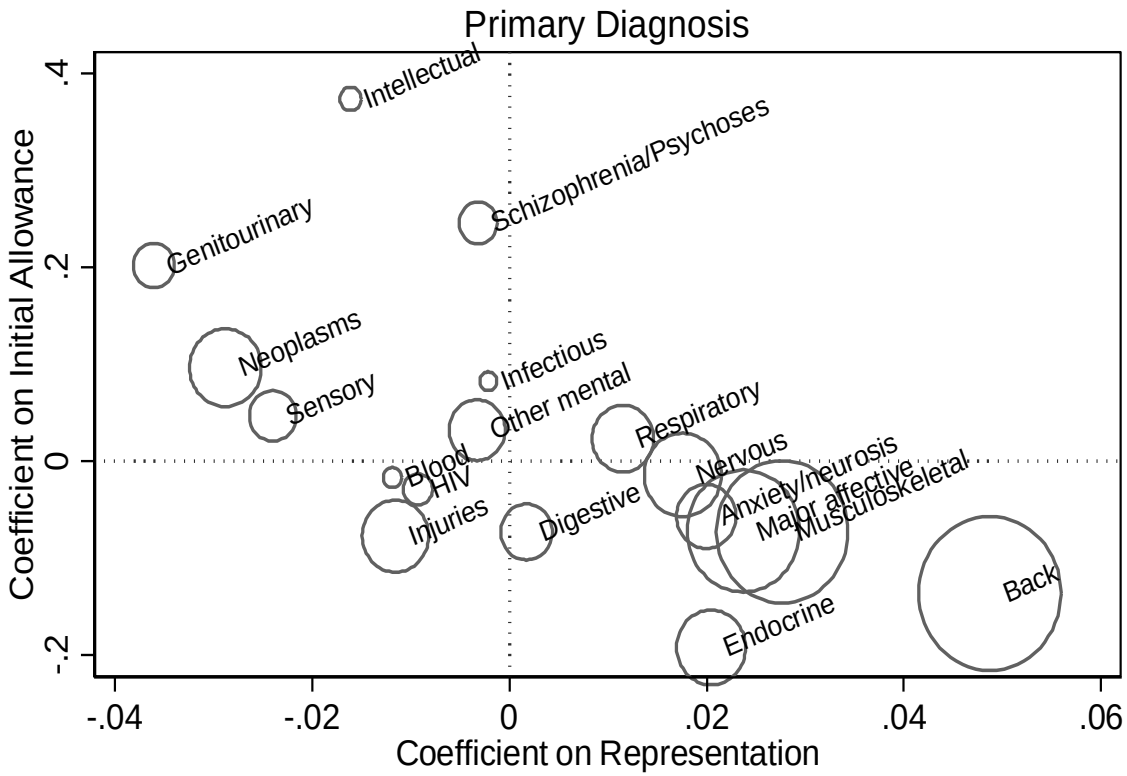
	Mean	Standard Deviation
	(1)	(2)
Panel A: Representation at Initial Applications		
Direct Pay		
Atty or EDPNA in firms [baseline model, endogenous variable]	12.4%	33.0%
Atty or EDPNA not in firms	2.5%	15.8%
Not Direct Pay		
Atty or EDPNA	2.3%	15.0%
Other	3.1%	17.3%
Any representation	*20.3%*	*40.2%*
Panel B: [Instruments] Firm Market Share Appellate Cases, One Month Lag		
Representatives in Firms [baseline model, instruments]		
Large Firm	5.9%	4.5%
Medium Firm	24.4%	9.3%
Small Firm	4.1%	2.5%
Any firm (sum of small, medium, large)	*34.3%*	*10.7%*

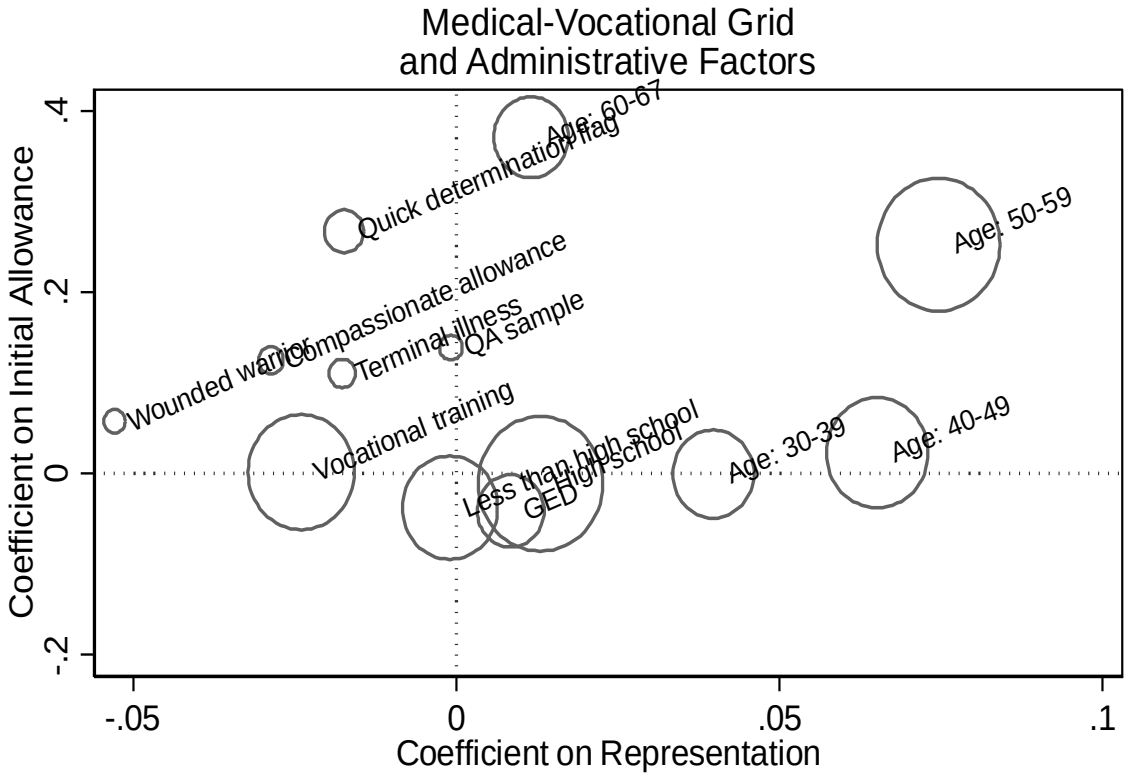
Comparison of different measures of representation at the initial claims level (App Fig 1)



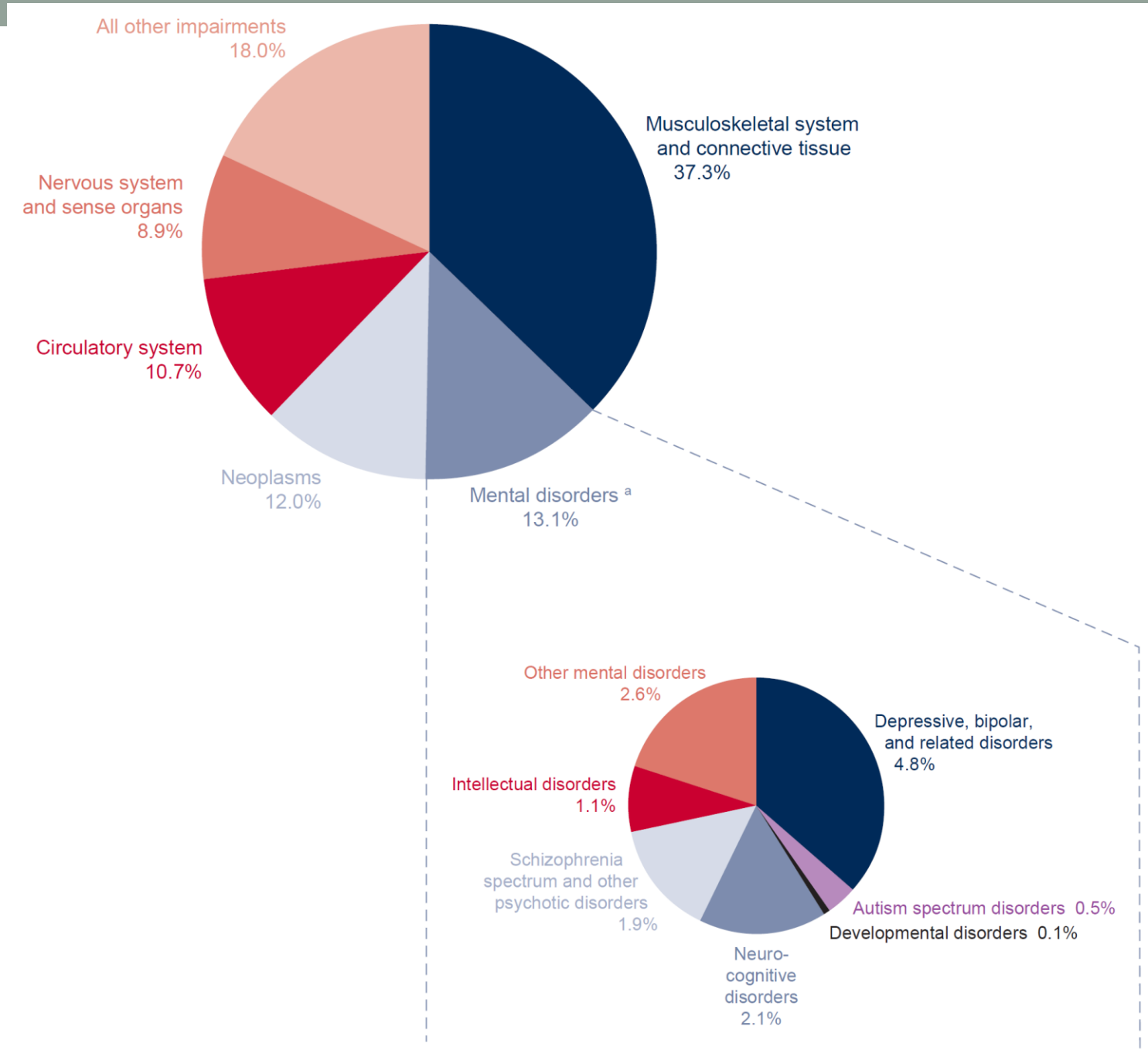
Source: Data come from U.S. Social Security Administration, unpublished data from the Office of Disability Policy, the Electronic Disability Collect System, the Appointed Representative Data Base, and the Modernized Claim System.

Figure 3: Observable Characteristics – Correlations with Outcome and with Endogenous Regressor





Note: each point represents two regression coefficients. Marker size is population prevalence.



SSDI Impairment Classification

2020 New Awards (620K)

Source: 2020 SSDI annual Statistical Report