Incidence of Social Security Contributions: Evidence from France

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Motivation

- **Social Security contributions (SSCs)**
  - compulsory payments paid to general government that confer *entitlement* to receive a future social benefit
  - taxation of earnings (not capital income)
  - nominally split between employee and employers
  - usually capped at threshold (hence regressive)
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  – nominally split between employee and employers
  – usually capped at threshold (hence regressive)

• Large share of tax revenues
  – 26% of tax revenues in OECD (9% GDP in 2013)
    - France: 17% of GDP
    - US: 6% of GDP
    - Denmark: 0.01% of GDP
  – large increase since 1960s
  – substantial variation in employer/employee split
Social Security Contributions as a % of GDP, 2013

Source: OECD.Stat
Social Security Contributions as a % of GDP, 1965–2014

Source: OECD.Stat
Employer SSCs as a % of GDP, 1965–2014

Source: OECD.Stat
Motivation

- **Rationale for funding social insurance through SSCs**
  - Tax-benefit linkage in SSCs credited with lower efficiency cost (Musgrave, 1959; Summers, 1989; Gruber, 1997)

- However, potential efficiency costs
  - Tax-benefit linkage not always salient
  - Nominal split might matter in short run
  - At the minimum wage, increases in employer SSCs are incident on employers
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- Research question: what is the incidence of SSCs?
  - does incidence of employer/employee SSCs differ?
  - is short-run incidence different from long-run?
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• **Textbook view**
  – “*knowledge of statutory incidence tells us essentially nothing about who really pays the tax*” (Rosen, 2002)
  – “*payroll taxes are borne fully by workers*” (Gruber, 2007)
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- But relatively **little empirical evidence** to date
Literature

- **Early studies**
  - Time series and cross-country regressions (Brittain, 1972; Hamermesh, 1979; Holmlund, 1983)
  - Mixed results: from full shifting to employees to fully incident on employers

- Gruber (1997)
  - Exploit privatisation of 1981 Chilean pension system
  - Evidence of full shifting of employer SSCs to employees
  - Similar findings in Gruber (1994); Anderson & Meyer (1997)

- Saez et al. (2012)
  - Exploit SSC changes across adjacent cohorts in Greece
  - Tax incidence equals nominal incidence in the long run
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Paper’s Contribution

• What we do
  – Estimate incidence of employer SSCs
  – Exploit large SSC reforms in France over the period 1976–2009
  – DiD analysis based on administrative panel data on earnings

• Contributions
  – Consider more typical SSC variations than previous literature
  – Estimate long-run vs. short-run incidence
  – Provide evidence on how tax-benefit linkage matters for incidence
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1. Introduction
2. Conceptual framework
3. SSC reforms in France
4. Empirical strategy and data
5. Results
6. Conclusion
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**Conceptual framework**

- **Labour demand/supply equations**
  
  \[
  D = D(z) \\
  S = S(z \times (1 - (1 - q)\tau))
  \]

- **Notations:**
  - \( z \): labour cost per hour worked
  - \( \tau \): tax rate (employer SSC rate in our case), assumed flat
  - \( q \): tax-benefit linkage = extent to which employees value employer contributions (Gruber, 1997)
Incidence Formulas

- Incidence formula with possible linkage

\[ \varepsilon_{z|1-\tau} = -(1 - q) \frac{\varepsilon^S}{\varepsilon^D + \varepsilon^S} \]

Three polar cases:

1. \( \varepsilon^D \gg \varepsilon^S \) ⇒ full incidence on workers \((\varepsilon_{z|1-\tau} \approx 0)\) (Usual assumptions in the labour supply/elasticity of taxable income literature)

2. Full linkage \((q = 1)\) ⇒ full incidence on workers

3. No linkage \((q = 0)\) and \( \varepsilon^S \gg \varepsilon^D \) ⇒ full incidence on employers \((\varepsilon_{z|1-\tau} \approx -1)\)
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Incidence Formulas

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  1. \( \varepsilon^D >> \varepsilon^S \Rightarrow \) full incidence on workers \( (\varepsilon_{z|1-\tau} \approx 0) \)  
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Hours and Behavioral Responses

- Often, only earnings \( z \cdot h \) are observed. Need to shift focus to the elasticity of taxable earnings \( \varepsilon_{zh|1-\tau} \).
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- Under assumption of full incidence on workers $\varepsilon_{zh|1-\tau} = \varepsilon^S$ only measures behavioural responses
Hours and Behavioral Responses

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- Otherwise, $\varepsilon_{zh|1-\tau}$ captures a mix of incidence and behavioural responses
Hours and Behavioral Responses

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- Under assumption of full incidence on workers
  \[ \varepsilon_{zh|1-\tau} = \varepsilon^S \] only measures behavioural responses

- Otherwise, $\varepsilon_{zh|1-\tau}$ captures a mix of incidence and behavioural responses

- Employer SSCs increases can lead to
  - Behavioral responses which draw $h$ down
    - $\varepsilon_{zh|1-\tau} \ll \varepsilon_{z|1-\tau}$
  - $\varepsilon_{zh|1-\tau} \approx 1$ suggests full incidence on employers and limited behavioural responses
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SSC Reforms in France

- **SSCs in France**
  - Many different SSCs
    - contributory: pensions, unemployment insurance
    - non-contributory: family, health care
  - Different SSC schedule for public/private wage earners and executives/non-executives
SSC Reforms in France

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• **SSC schedule**
  – Rates applied to gross (posted) earnings
  – Reference to earnings cap: Social Security Threshold (SST)
  – SSC schedule applied to different earnings brackets:
    0–1 SST (~P70), 1–4 SST (~P98), 4–8 SST (~P99.5)
  – SSC schedule applied to hourly wage
SSC Reforms in France

- **Reform 1: Uncapping of Health Care SSCs**
  - Health care employer SSCs capped at the SST until 1980
  - Uncapped in 2 years (Nov. 1981 and Jan. 1984)
  - Employer SSC rate above the SST: +9.5 ppts
  - No change in employee SSC rate
SSC Reforms in France

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  – Health care employer SSCs capped at the SST until 1980
  – Employer SSC rate above the SST: +9.5 ppts
  – No change in employee SSC rate

● **Reform 2: Uncapping of Family SSCs**
  – Family employers SSCs capped at the SST until 1988
  – Uncapped in 2 years (1989-90)
  – Employer SSCs above the SST: +8.2 ppts
  – Small reduction in employer SSC rate below the SST
  – No employee SSCs
Marginal SSC rates before/after reforms

<table>
<thead>
<tr>
<th></th>
<th>Employer SSCs</th>
<th>Employee SSCs</th>
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<tbody>
<tr>
<td></td>
<td>Under SST</td>
<td>1 to 3 SST</td>
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<tr>
<td>Reform 1: Uncapping of health care SSCs (1981 and 1984)</td>
<td></td>
<td></td>
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<tr>
<td>1980</td>
<td>38.1</td>
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<td>1984</td>
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<td>Difference</td>
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<td>Reform 2: Uncapping of family SSCs (1989 and 1990)</td>
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<td>1988</td>
<td>39.2</td>
<td>20.2</td>
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<tr>
<td>1991</td>
<td>36.3</td>
<td>28.4</td>
</tr>
<tr>
<td>Difference</td>
<td>-2.9</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Sources: IPP Tax and Benefit Tables (April 2015); TAXIPP 0.4.
SSC Reforms in France

- **Reform 3: Non-executives Pensions SSCs**
  - Gradual increase (2000–2005) in SSC rates for earnings between 1 and 3 SST
  - Employer SSCs: +7.8 ppts
  - Employee SSCs: +4.5 ppts
  - Strong tax-benefit linkage: point-based pension systems (Arrco)
## Marginal SSCs before/after reforms


<table>
<thead>
<tr>
<th></th>
<th>Under SST</th>
<th>1 to 3 SST</th>
<th>Difference</th>
<th>Under SST</th>
<th>1 to 3 SST</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>38.9</td>
<td>30.8</td>
<td>−8.1</td>
<td>13.4</td>
<td>7.5</td>
<td>−6.0</td>
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<tr>
<td>2005</td>
<td>39.1</td>
<td>38.5</td>
<td>−0.6</td>
<td>13.6</td>
<td>12.2</td>
<td>−1.5</td>
</tr>
<tr>
<td>Difference</td>
<td>0.2</td>
<td>7.7</td>
<td>7.5</td>
<td>0.2</td>
<td>4.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

*Sources: IPP Tax and Benefit Tables (April 2015); TAXIPP 0.4.*
Marginal Employer SSC Rates, Non-Executives, 1976–2010

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Reform 1: Uncapping of health SSCs
Reform 2: Uncapping of family SSCs
Reform 3: Increase in pensions SSCs

Sources: IPP Tax and Benefit Tables (April 2015); TAXIPP 0.4.
Marginal Employer SSC Rates, Non-Executives, 1976–2010

Reform 1
Uncapping of health SSCs

Reform 2
Uncapping of family SSCs

Reform 3
Increase in pensions SSCs

Sources: IPP Tax and Benefit Tables (April 2015) ; TAXIPP 0.4.
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Empirical strategy

- **Difference-in-differences estimation**
  - Treated: workers with gross earnings > SST before reform
  - Control: workers with gross earnings < SST before reform
  - Before/after comparisons: up to 9 years post reforms

- **First stage**: relative change in average employer SSCs for treated vs. control

- **Reduced-form outcomes**: relative changes in
  - labour cost and gross earnings (all reforms)
  - hourly labour cost and hourly wage (reform 3)

- **2SLS**: Share of employer SSCs borne by employers
Empirical strategy

Average SSC rate

Social Security Threshold

CONTROL GROUP

TREATMENT GROUP

Gross earnings

Before reform

After reform

- Before reform
- After reform
Data

- **DADS panel 2010**
  - Employer-employee administrative data reported by employers to SS schemes
  - 1/25 sample for years 1976-2001, 1/12 from 2002 onwards
  - 1.1 million workers each year (2.2 million in recent years)
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- **Available information**
  - Start and end of job spell, firm size, sector, occupation
  - Net taxable earnings available throughout the period
  - Gross earnings and hours available from 1993 onwards
Earnings concepts

- **Gross earnings**
  - Employer SSCs
  - Employee SSCs
  - Net earnings

- **Labour Cost**
  - non-deductible CSG + CRDS
  - Income tax
  - Net of income tax earnings

- **Net taxable earnings**
Data

- Computing gross earnings
  - gross earnings estimated by INSEE pre 1993: does not reflect specific changes in SSCs (sector average)
  - computation of gross earnings from taxable earnings using IPP microsimulation model (TAXIPP)
Data

- **Computing gross earnings**
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  - computation of gross earnings from taxable earnings using IPP microsimulation model (TAXIPP)

- **Simulating SSCs using TAXIPP**
  - we compute all SSCs (over 50 schedules!) to get labour cost
  - very detailed simulations of SSCs
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Graphical evidence

- **Sample restrictions**
  - Full-time, full-year non-executive workers
  - Observed in reference year (i.e., last pre-reform year)
  - Construct unbalanced panel around reform years

- **Definition of treated/controls**
  - Trade-off: proximity to threshold vs. treatment intensity
  - Groups defined based on gross earnings in reference year
    - Treated: between SST and 1.4 SST
    - Controls: between 0.9 SST and SST

- **Graphical evidence**
  - Normalise earnings at 100 in reference year
  - Compare gross earnings/labour cost before/after reform
Reform 1 (Uncapping of Health care SSCs): Gross Earnings

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 1 (Uncapping of Health care SSCs): Labour Cost

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2 (Uncapping of Family SSCs): Gross Earnings

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2 (Uncapping of Family SSCs): Labour Cost

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3 (increase in Pensions SSCs): Gross Hourly Wage

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3 (increase in Pensions SSCs): Gross Hourly Cost

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3 (increase in Pensions SSCs): Gross Earnings

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3 (increase in Pensions SSCs): Labour Cost

Sources: DADS Panel 2010; TAXIPP 0.4.
Estimation

- **Specification 1: Reduced form**

\[
\log(1 - \tau_{it}) = \alpha + \theta_i + \theta_t + \sum_{k=1}^{K} \beta_k (T_i \times 1\{t = k\}) + \varepsilon_{it} \tag{1}
\]

\[
\log(z_{it}) = \tilde{\alpha} + \tilde{\theta}_i + \tilde{\theta}_t + \sum_{k=1}^{K} \gamma_k (T_i \times 1\{t = k\}) + \tilde{\varepsilon}_{it} \tag{2}
\]

$\beta_k, \gamma_k$: reduced-form effects of reform after $k$ years

- **2SLS estimate of share of SSC borne by employers:**

incidence after $k$ years $= \hat{\gamma}_k / \hat{\beta}_k$

- Standard errors clustered at the individual level
Reform 1: First stage, log(1-SSCs)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 1: Reduced-form, log(zh)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 1: Employer Share of Incidence (2SLS)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2: First stage, log(1-SSCs)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2: Reduced-form, log(zh)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2: Employer Share of Incidence (2SLS)

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3: First stage, log(1-SSCs)

Reform 4
Increase in Pensions SSCs

Estimate
95% CI

Years since reference year

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3: Reduced-form, log(z)

Reform 4
Increase in Pensions SSCs

<table>
<thead>
<tr>
<th>Years since reference year</th>
<th>Estimate</th>
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<tbody>
<tr>
<td>0</td>
<td>-0.010</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>-0.005</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.005</td>
<td></td>
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<tr>
<td>4</td>
<td>0.010</td>
<td></td>
</tr>
</tbody>
</table>

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3: 2SLS – z

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</tr>
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<tbody>
<tr>
<td>0</td>
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</tr>
<tr>
<td>1</td>
<td>-0.5</td>
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<td>2</td>
<td>0.0</td>
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<tr>
<td>3</td>
<td>0.5</td>
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<tr>
<td>4</td>
<td>1.0</td>
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</tr>
<tr>
<td>5</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

Sources: DADS Panel 2010; TAXIPP 0.4.
Estimation

● **Specification 2**
  – relax common-trend assumption by including individual-specific linear time trends $\theta_i.t$
  – individual trends are fitted based on up to 5 years of pre-reform data

● Standard errors clustered at the individual level
Reform 1: Employer Share of Incidence – zh – with trends

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 2: Employer Share of Incidence – zh – with trends

Sources: DADS Panel 2010; TAXIPP 0.4.
Reform 3: Employer Share of Incidence – z – with trends

Reform 3
Increase in Pensions SSCs

-1.0 -0.5 0.0 0.5 1.0 1.5

Years since reference year

Estimate
95% CI

Sources: DADS Panel 2010; TAXIPP 0.4.
Placebo reform

- No reform between 1992 and 1999
  - Check common trend assumption
  - Estimate pseudo reform in 1996 (reference year in 1995)
  - Compare evolution of labour cost/gross earnings for treated vs. control
Placebo Reform (1996): Real Gross Earnings

Sources: DADS Panel 2010; TAXIPP 0.4.
Placebo Reform (1996): Labour Cost

Sources: DADS Panel 2010; TAXIPP 0.4.
Placebo Reform: differential log(labour cost) – no trends

Sources: DADS Panel 2010; TAXIPP 0.4.
Placebo Reform: differential log(labour cost) – w/ trends

Sources: DADS Panel 2010; TAXIPP 0.4.
Robustness checks

• **Sensitivity to definition of treatment group**
  – Closer group to SST: better identification
  – Further away from SST: stronger first stage
  – Groups in 1–1.2 SST or in 1.2–1.4 SST

• **Results**
  – Similar conclusions
  – Beyond 1.4 SST, common trend assumption does not hold
## Reform 1: Uncapping of Health Care SSCs

<table>
<thead>
<tr>
<th>Treatment group:</th>
<th>1-1.2 SST</th>
<th>1.2-1.4 SST</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>(1)</strong></td>
<td><strong>(2)</strong></td>
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<tr>
<td>(T_0+2)</td>
<td>0.668***</td>
<td>0.726***</td>
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<tr>
<td></td>
<td>(0.186)</td>
<td>(0.150)</td>
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<tr>
<td>(T_0+3)</td>
<td>n/a</td>
<td>n/a</td>
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<tr>
<td>(T_0+4)</td>
<td>0.337**</td>
<td>0.623***</td>
</tr>
<tr>
<td></td>
<td>(0.173 )</td>
<td>(0.135)</td>
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<tr>
<td>(T_0+5)</td>
<td>0.531***</td>
<td>0.778***</td>
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<td></td>
<td>(0.174)</td>
<td>(0.134)</td>
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<tr>
<td>(T_0+6)</td>
<td>0.519***</td>
<td>0.775***</td>
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<td></td>
<td>(0.185)</td>
<td>(0.135)</td>
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<tr>
<td>(T_0+7)</td>
<td>0.232</td>
<td>0.681***</td>
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<td>(0.201)</td>
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<td>(T_0+8)</td>
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<td>0.764***</td>
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<td>(0.233)</td>
<td>(0.143)</td>
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### Individual-specific trends
- No
- Yes

### Nb of obs.
- 563,275
- 563,275
- 416,754
- 416,754

**Notes:** Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

**Sources:** DADS Panel 2010; TAXIPP 0.4.
## Reform 2: Uncapping of Health Care SSCs

<table>
<thead>
<tr>
<th>Treatment group:</th>
<th>1-1.2 SST</th>
<th>1.2-1.4 SST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) (2)</td>
<td>(3) (4)</td>
</tr>
<tr>
<td>$T_0+1$</td>
<td>0.887 (0.692)</td>
<td>1.075*** (0.254)</td>
</tr>
<tr>
<td></td>
<td>0.887 (0.602)</td>
<td>0.944*** (0.220)</td>
</tr>
<tr>
<td>$T_0+3$</td>
<td>1.200*** (0.305)</td>
<td>0.981*** (0.125)</td>
</tr>
<tr>
<td></td>
<td>1.198*** (0.297)</td>
<td>0.792*** (0.131)</td>
</tr>
<tr>
<td>$T_0+4$</td>
<td>1.329*** (0.294)</td>
<td>0.916*** (0.120)</td>
</tr>
<tr>
<td></td>
<td>1.149*** (0.296)</td>
<td>0.718*** (0.133)</td>
</tr>
<tr>
<td>$T_0+5$</td>
<td>1.832*** (0.395)</td>
<td>1.149*** (0.154)</td>
</tr>
<tr>
<td></td>
<td>1.337*** (0.317)</td>
<td>0.808*** (0.145)</td>
</tr>
<tr>
<td>$T_0+6$</td>
<td>1.024** (0.472)</td>
<td>0.875*** (0.181)</td>
</tr>
<tr>
<td></td>
<td>1.093*** (0.328)</td>
<td>0.648*** (0.152)</td>
</tr>
<tr>
<td>$T_0+7$</td>
<td>1.471*** (0.300)</td>
<td>0.735*** (0.122)</td>
</tr>
<tr>
<td></td>
<td>1.138*** (0.310)</td>
<td>0.515*** (0.146)</td>
</tr>
<tr>
<td>$T_0+8$</td>
<td>0.876*** (0.284)</td>
<td>0.552*** (0.120)</td>
</tr>
<tr>
<td></td>
<td>0.946*** (0.311)</td>
<td>0.477*** (0.148)</td>
</tr>
<tr>
<td>$T_0+9$</td>
<td>0.709** (0.299)</td>
<td>0.383*** (0.129)</td>
</tr>
<tr>
<td></td>
<td>0.986*** (0.318)</td>
<td>0.449*** (0.154)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Individual-specific trends</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of obs.</td>
<td>504,213</td>
<td>504,213</td>
<td>359,456</td>
<td>359,456</td>
</tr>
</tbody>
</table>

**Notes:** Standard errors are in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

**Sources:** DADS Panel 2010; TAXIPP 0.4.
## Reform 3: Increase in Pensions SSCs – z

<table>
<thead>
<tr>
<th>Treatment group:</th>
<th>1-1.2 SST</th>
<th>1.2-1.4 SST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>$T_0+1$</td>
<td>1.308***</td>
<td>1.103***</td>
</tr>
<tr>
<td></td>
<td>(0.382)</td>
<td>(0.327)</td>
</tr>
<tr>
<td>$T_0+2$</td>
<td>1.009**</td>
<td>0.735**</td>
</tr>
<tr>
<td></td>
<td>(0.328)</td>
<td>(0.300)</td>
</tr>
<tr>
<td>$T_0+3$</td>
<td>0.616</td>
<td>0.542**</td>
</tr>
<tr>
<td></td>
<td>(0.248)</td>
<td>(0.253)</td>
</tr>
<tr>
<td>$T_0+4$</td>
<td>0.144</td>
<td>0.258</td>
</tr>
<tr>
<td></td>
<td>(.297)</td>
<td>(.286)</td>
</tr>
<tr>
<td>$T_0+5$</td>
<td>-0.393</td>
<td>-0.070</td>
</tr>
<tr>
<td></td>
<td>(0.337)</td>
<td>(0.314)</td>
</tr>
<tr>
<td>$T_0+6$</td>
<td>-0.630**</td>
<td>-0.134</td>
</tr>
<tr>
<td></td>
<td>(0.312)</td>
<td>(0.304)</td>
</tr>
<tr>
<td>$T_0+7$</td>
<td>-0.435</td>
<td>-0.076</td>
</tr>
<tr>
<td></td>
<td>(0.320)</td>
<td>(0.311)</td>
</tr>
<tr>
<td>$T_0+8$</td>
<td>-0.531</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.365)</td>
<td>(0.321)</td>
</tr>
<tr>
<td>$T_0+9$</td>
<td>-0.612</td>
<td>-0.059</td>
</tr>
<tr>
<td></td>
<td>(0.406)</td>
<td>(0.340)</td>
</tr>
</tbody>
</table>

Individual-specific trends

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nber of obs.</td>
<td>493,800</td>
<td>493,800</td>
<td>338,842</td>
<td>338,842</td>
</tr>
</tbody>
</table>

**Notes:** Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

**Sources:** DADS Panel 2010; TAXIPP 0.4.
Behavioural responses

- **Intensive margin responses**
  - We observe hours only for Reform 3
  - We can estimate labour supply responses at the intensive margin
  - We find no statistical effects on hours

- **Extensive margin responses**
  - We would like to test for employment effects
  - Sample is not well suited for detecting these effects (based on individuals present in the sample in reference year)
  - Future work should try to address potential extensive margin responses
Reform 3: hours responses – no trends

Sources: DADS Panel 2010; TAXIPP 0.4.
Discussion: incidence vs. earnings responses

- **Incidence is a change in wage rate**
  - Hours not observed in the data before 1993
  - Not possible to distinguish incidence from behavioural response
  - Need to assume no behavioural response
Discussion: incidence vs. earnings responses

- **Incidence is a change in wage rate**
  - Hours not observed in the data before 1993
  - Not possible to distinguish incidence from behavioural response
  - Need to assume no behavioural response

- **Incidence or behavioural responses?**
  - We use only full-time employees in balanced panel
  - Substitution effects would lead to a reduction in hours, hence lower earnings (opposite for income effects)
  - We interpret our earnings responses as being close approximation of incidence
Discussion

- **Standard view on SSC incidence called into question**
  - Confirms Saez et al. (2012) with more typical SSC reforms
  - Does not rule out incidence on employee at firm level
Discussion

- **Standard view on SSC incidence called into question**
  - Confirms Saez et al. (2012) with more typical SSC reforms
  - Does not rule out incidence on employee at firm level

- **Candidate explanations for marked difference in SSC incidence between reforms 1/2 and 3**
  - Different time period?
  - Tax-benefit linkage?
Conclusion

- **What have we found?**
  - Provide first evidence suggesting that tax-benefit linkage does matter for SSC incidence
  - The textbook view of SSC incidence is likely to be inaccurate

Future research
- Who pays ultimately the employer SSCs?
- Extensive margin responses
Conclusion

• What have we found?
  – Provide first evidence suggesting that tax-benefit linkage does matter for SSC incidence
  – The textbook view of SSC incidence is likely to be inaccurate

• Future research
  – Who pays ultimately the employer SSCs?
  – Extensive margin responses
Incidence of Social Security Contributions: Evidence from France

Antoine Bozio, Thomas Breda et Julien Grenet

Paris School of Economics

PSE Public and Labour Economics Seminar

Paris, 15 September 2016