PRODUCING HIGHER QUALITY JOBS:
ENFORCING MANDATED JOB BENEFITS IN BRAZILIAN CITIES BETWEEN 1996-2007

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Motivation

- Many factors improved a lot in the past two decades in Brazil
  - poverty and inequality reduction
  - lower unemployment and informality
  - lower mortality rates
  - higher wages for the low skill workers

- However, productivity and growth has not accompanied social development
  - GDP to decline 1.5% next year, the biggest contraction since 1990
Motivation

- Education (access and attendance) did not improve productivity in Brazil

(Source: Naercio Menezes-Filho at Valor Economico newspaper, 05/22/15)
Motivation

- What went wrong?
- What raises productivity in Brazil? We don’t know..
- Have labor market institutions played a role in decreasing productivity?
Main question

- Our paper looks at one aspect of institutions that can affect welfare and perhaps labor productivity
  - enforcement of labor regulations
- We do not model welfare, but we investigate what happens to vacancy characteristics with stricter enforcement:
  - Mandated benefits (registration, social security, transport subsidy, MW, max. working period)
  - Voluntary benefits (food subsidy and health insurance)
  - Wages
Literature

- **Compensating wage differentials:** firms tend to compensate higher cost of mandated benefits through adjustment in wages and other negotiable benefits.

- **Wages respond inversely to changes in payroll taxes** [ex: Boeri, Helppie and Macis (2008), Kugler and Kugler (2002), Gruber (1997)]

- **Job quality associated with higher welfare:** Job attributes such as formal status, hours, firm’s size, food, health care are linked with higher individual satisfaction [Madrigal and Pages, 2008; Boo et al, 2009; Maloney et al, 2007]

- **Stricter enforcement:** Almeida and Carneiro (2009) using Brazilian census 2000 found that enforcement increased formality and lowered wages in the formal sector
Our approach

- We use administrative data on enforcement of labor regulations by city and year 1996-2006
- We estimate the impact of stricter enforcement on
  - Employment composition and non-employment
  - Measures of job quality including: wages, mandated and voluntary benefits
- We want to understand the trade-offs between provision of mandated and negotiable benefits
Labor Regulation in Brazil

- Registration (worker’s card): entitles worker to employment protection
  - paid annual leave, maternity leave, severance, 44 hours/week, unemployment insurance and transportation benefits
- Severance Pay: 8.5% wage; worker entitled if fired for no reasons; it costs to the employers a 50% fine, a notice period of 1 month, and 2 hours/day to the worker to seek jobs
- Payroll tax: 20%
- Transportation benefit, varies by city and transport means
- Minimum wage: set by the federal gov. R$ 112 in 1996 and R$ 380 in 2007 (approx. 50% of mean wage)
- Other costs (e.g., sector contributions): Up to 6% of gross wage
Enforcement in Brazil

- Enforcement gained importance during the 90s:
  - From beginning 90s: to increase compliance with Federal Constitution/1988 which increased severance pay, payroll tax, paid leave, maternity leave and reduced weekly permitted working hours
  - After mid-90s: to reduce public deficit led the government to search for alternative ways to collect revenue
- This was motivated by the large payroll tax evasion (57% of workforce and significant non-compliance with severance pay by firms)
How does enforcement work?

- Inspections (and fines) are mostly to ensure compliance of firms with worker’s registration, severance pay, MW, maximum working period/shifts
- Evasion of one of these dimensions accounts for approximately 62% of all fines issued in 2006
- Fines are significant:
  - fixed per worker (R$ 403 ~1MW) for lack of registration, or
  - vary with firm’s profitability, e.g. R$40- 4,025 per worker for fines related to working period [average profit of a small firm is R$ 600, ECINF 2003]
  - recidivism doubles the penalty
How does enforcement work?

- An inspection may be triggered by a random firm audit, or by a report (often anonymous) of non-compliance.
- Inspectors’ wages are relatively high and tied to performance. Top 10% wages in Brazil’s labour market. They have to rotate across offices.
- Enforcement is decentralized at the district level.
Data

- We construct a panel of cities using PNAD (Brazilian HH Survey) 1996-2007:
  - outcomes of interest (employment composition, nonemployment, wages, coverage of mandated and voluntary benefits)
  - demographic and socio-economic controls, by city and year

- We use administrative data from the Ministry of Labor, 1996-2006: total number of inspections by city and year
Large within country and time variation

- Labor Inspections/1,000 residents: North and Northeast States
Large within country and time variation

- Labor Inspections/1,000 residents: Center and Southern States
Baseline regression

\[ Y_{it} = \alpha + \beta E_{it-1} + X'_{it-1} \delta + \eta_i + \mu_t + u_{it} \]

where \( t = 1997, 1999, \ldots, 2007; E_{it-1} \) is log(inspections); \( X_{it-1} \): mean education, mean age, population (log), share of urban pop., share of workers by industry and mean per capita income (log)

- Outcomes \( (Y_{it}) \):
  - Share of population 23-65:
    - By employment status (wage earner, self-employed, nonemployed, unpaid)
    - With and without benefits: mandated (social security, registration, transportation and maximum working hours) and voluntary benefits (housing, employer provided health insurance, education/child care and food)
  - Percentiles of log wages of workers with/out mandates and average
Other specifications

1. We consider changes over time in unobserved state-level variables possibly correlated with enforcement
   - We control for trends by state

2. We did find that enforcement (1996-2006) relates to some outcomes in the past (1980-1991)
   - We control for past trend in the outcomes constructed from census data 1980 and 1991
Enforcement and Employment Status

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Wage Earner</th>
<th>Self-Employed</th>
<th>Nonemployed</th>
<th>Unpaid</th>
<th>Other</th>
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</thead>
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<tr>
<td>Log # Inspections</td>
<td>0.019</td>
<td>-0.016</td>
<td>-0.005</td>
<td>0.020</td>
<td>-0.008</td>
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<tr>
<td></td>
<td>(0.010)*</td>
<td>(0.009)*</td>
<td>(0.018)</td>
<td>(0.007)**</td>
<td>(0.005)</td>
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<tr>
<td>Fixed Effects + Past Trend in Outcomes by Municipality</td>
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<td></td>
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<tr>
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<td>(0.012)***</td>
<td>(0.010)</td>
<td>(0.019)</td>
<td>(0.007)**</td>
<td>(0.007)</td>
</tr>
</tbody>
</table>

- A 10% increase in inspections (in the city) raises the share of wage earners (0.32pp), decreases the share of self-employed (-0.16pp, not sig.) and increases the share of unpaid workers (0.16pp).
Enforcement and Mandated Benefits

- Stricter enforcement increases compliance with main mandated benefits
- No significant impact on other mandated benefits: transportation subsidy and maximum hours of work/week
### Enforcement and Voluntary Benefits

<table>
<thead>
<tr>
<th>Dep. Variable:</th>
<th>Housing</th>
<th>Food</th>
<th>Education/Child Care</th>
<th>Health</th>
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<tbody>
<tr>
<td></td>
<td>with</td>
<td>without</td>
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<td>without</td>
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<tr>
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<td>(0.005)</td>
<td>(0.010)***</td>
<td>(0.015)**</td>
<td>(0.018)***</td>
<td>(0.002)</td>
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<tr>
<td></td>
<td>Fixed Effects + State-trends a</td>
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<tr>
<td>Log # Inspections</td>
<td>-0.002</td>
<td>0.011</td>
<td>-0.033</td>
<td>0.041</td>
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<tr>
<td>(0.005)</td>
<td>(0.012)</td>
<td>(0.018)*</td>
<td>(0.020)**</td>
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</tr>
<tr>
<td>Obs.</td>
<td>4834</td>
<td>4834</td>
<td>4834</td>
<td>4834</td>
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<tr>
<td>Mean</td>
<td>0.029</td>
<td>0.341</td>
<td>0.123</td>
<td>0.247</td>
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<td>0.066</td>
<td>0.304</td>
<td>0.009</td>
<td>0.362</td>
</tr>
</tbody>
</table>

- Increase in inspections decreases the provision of voluntary benefits (food and employer-provided health insurance)

*a There is no data on these outcomes in the Censuses 1980, 1991. Standard errors in parentheses are clustered by city. *** p<0.01, ** p<0.05, * p<0.1*
The share of formal increased, this should have decreased wages in the informal sector, or

CWD: Stricter enforcement increases the cost of providing mandated benefits; decreases wages for workers with mandated benefits and increase for workers without it

Cannot decrease the lowest wages because of MW: tends to affect most high rather than low paid workers
Conclusion

- Brazil has a heavily regulated labour market, enforcement is likely important
- With stricter enforcement, CWD theory predicts firms try to avoid compliance and/or adjust wages and voluntary benefits – that may be more valued by workers and can be related to worker productivity
- Our results for Brazil show that stricter enforcement increases compliance with mandated benefits
- Enforcement does not affect employment but increases the fraction of unpaid workers
- Enforcement reduces provision of negotiable benefits (wages of high skill workers, food benefits, and employer-provided health)
- Effects on total welfare depend on the valuation and costs of provision of each benefit (agenda)