Do Industrial Disputes Reduce Employment? Evidence from South Africa

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Why Does Labour Regulation Matter in South Africa?

Unemployment Rates, UMI Country Sample

- South Africa
- Malaysia
- Russia
- China
- Chile
- Peru
- Uruguay
- Paraguay
- Brazil
- Ecuador
- Tunisia
- Colombia
- Mexico
- Costa Rica
- Serbia
- UMI
The Literature Lineage

- A conceptual framework for Contract Law & Economics: Fuller & Perdue (1936)
- Lazear (1990) integrated the debate of labor market regulation with the traditional economic contract law research.
- Botero et al (2003) coded labor regulation in 85 countries to examine the impact of state regulation on the labor market.
- Autor et al (2007) utilized the adoption of wrongful discharge in America as a proxy for dismissal costs and estimated the impact of it on important margins of firm behavior.
How Are Industrial Disputes Resolved in South Africa?

• Three Forms of Labour Dispute Resolution:
  – Conciliation
  – Arbitration
  – Con-Arb

• Indicators of Labour Dispute Resolution in South Africa:
  – Total Annual Count of Disputes
  – Annual Count by Dispute Process
  – Time to Completion of Dispute
  – Internal Inefficiency Measure of Dispute (IIM)
A Unique Administrative Dataset

- Commission for Conciliation Mediation and Arbitration (CCMA): Dispute Resolution Body
- CCMA has a national administrative database of all dispute resolution cases for period 2000-2008.
- Data Matching Exercise: Regional labour market data available from the Labour Force Survey
Approach and Method

- Estimate the Impact of Industrial Disputes on Region-Specific Variation in Employment.

- Efficiency levels assumed exogenous: Efficiency of CCMA depends on regional office characteristics e.g. staff and equipment resources.

- No. of industrial disputes likely to be Endogenous:
  - Higher caseloads may result in lower employment levels as high levels of disputes may be an indicator of an economic downturn.
  - Alternatively, declining employment levels may result in more industrial and workplace disputes as the probability of disputes (particularly unfair dismissal disputes) increases.
  - Therefore industrial dispute variables potentially correlated with the error term – OLS inconsistent.
Econometric Approach

• Identification Strategy: Find an appropriate instrument for endogenous regressor.
• Utilize *Expenditure by the CCMA on each industrial dispute case* as an instrumental variable.
  – This variable measures the total costs associated with dispute cases such as commissioner fees, venue hire, transport and telecommunication costs and so on.
• Expect *Expenditure on Resolving Disputes* to be strongly correlated with number of disputes, but not DV.
• 2SLS Estimation with the IV to obtain consistent variables across all specifications.
Estimation Approach

- \( Employment_{i,t} = \alpha + \beta_1 A_{i,t} + \beta_2 X_{i,t} + \beta_3 S_{i,t} + \beta_4 M_{i,t} + \beta_5 P_{i,t} + u_{i,t} \)

Where \( Employment_{i,t} \) employment within district \( i \) in year \( t \)

\( A_{i,t} \): Economic activity of region \( i \) in time period \( t \) through quantifying the real GDP growth rate and real wage change (both in 2005 prices) within the labour force by region \( i \) in time period \( t \).

\( X_{i,t} \): Individual characteristics of those employed detailing race, gender, age and education levels.

\( S_{i,t} \): Nature of employment (sector, firm size and so on) by region \( i \) in time period \( t \).

\( M_{i,t} \): Dummy variable representing the amendment to the Labour Relations Act in 2002.

\( P_{i,t} \): A vector of our different industrial dispute variables including, total caseload, caseload by determinative process, mean time taken to complete cases by determinative process as well as an internal inefficiency measure (IIM).
Econometric Approach

- 1\textsuperscript{st} stage of OLS on instrument:
  \[ P_{i,t} = \gamma + \beta_1 A_{i,t} + \beta_2 X_{i,t} + \beta_3 S_{i,t} + \beta_4 M_{i,t} + \beta_5 C_{i,t} + \nu_{i,t} \]

- \textit{Fitted values of DV (}P_{i,t}\textit{) above, fed into 2\textsuperscript{nd} Stage OLS.}

- Standard Errors are clustered by region and year, given that data is in region-year format. (Following Cameron, Gelbach and Miller, 2006).
## Dispute Resolution and Employment Outcomes: 2SLS Results

<table>
<thead>
<tr>
<th>Ind.Vars.</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>-1.52**</td>
<td>-1.05*</td>
<td>-1.05*</td>
<td>-0.71*</td>
</tr>
<tr>
<td>Arbitration</td>
<td>-3.14**</td>
<td>-2.12*</td>
<td>-2.11*</td>
<td>-1.55*</td>
</tr>
<tr>
<td>Conciliation</td>
<td>-4.62**</td>
<td>-3.0</td>
<td>-2.95</td>
<td>-1.46*</td>
</tr>
<tr>
<td>Con-Arb</td>
<td>-5.97**</td>
<td>-4.72***</td>
<td>-5.35**</td>
<td>-6.76</td>
</tr>
<tr>
<td>IIM</td>
<td>-5.1**</td>
<td>-2.8***</td>
<td>-2.7**</td>
<td>-8.0</td>
</tr>
</tbody>
</table>


Notes:
1. Robust standard errors in parentheses (***p<0.01; **p<0.05; *p<0.1)
2. In terms of validity of the model, the F-statistic estimates indicate that the null hypothesis cannot be rejected and thus that the regression have validity in the fitting of the data.
3. The R-squared is not presented as Wooldridge (2008) states that this measure in the IV context does not explain the “percentage of variation” and thus makes the analysis of the R2 statistics difficult to interpret.

The null hypothesis is that the full model is true; that all of the regression coefficients are zero.
Results and Policy Lessons

Industrial disputes in levels, over 2000-2007, remain significant and negative determinant of the region-specific variation in employment over this eight-year period.

– **Total conciliation caseloads do not** have a statistically significant impact on employment.

– **Higher levels of longer, more complex process are associated with lower levels of employment.**

– Employers’ perceived resistance against con-arbs might explain part of the relatively large negative relationship between con-arb caseloads and employment levels.
Results and Policy Lessons cont.

• If Internal Inefficiency Measure (IIM) increases by 1%, employment decreases by 2,702 workers.
• Negative relationship between lagged caseloads and employment levels indicates that employment in year $t+1$ is still affected by the caseloads in year $t$.

Policy Lessons

– High quantity of industrial dispute cases may not matter for employment levels, if they are all speedily resolved.
– Efficient resolution of industrial dispute cases matter significantly for employment creation.
– Sticky contracts in the labor market engender labor market rigidities.
– Reinforces the importance of efficient and effective labor market institutions in reducing undue rigidities in the labor market.