PRICE FLUCTUATIONS AND POLITICAL CONFLICT

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MOTIVATION

• Civil conflict often occurs in waves, affecting multiple countries within a short period of time.

• Examples:

• Suggests international forces can be a catalyst for political strife.
MOTIVATION

• Recent focus on the effect of prices in generating conflict.
  • "Discontent over rising bread prices has played a part in the popular uprisings throughout the Middle East." The Economist 26 Feb. 2011
  • "Rising prices can cause mayhem....In some African markets maize and wheat prices have risen by 30% this year. Political tension invariably rises, too." The Economist 28 May 2011

• Economists are increasingly interested in the role of uncertainty in creating crises.
  • Bloom (2009); Baker, Bloom & Davis (2013); Christiano, Motto & Restagno (2012); Basu & Bundick (2011)
RESEARCH QUESTION

• Are price fluctuations a significant determinant of intrastate civil conflict?

• If so, what kind of price shocks matter? First-moment (price level) shocks or second-moment (price uncertainty) shocks?
LITERATURE

- Political conflict → Economics

- Economics → Political Conflict

- Theories of political transitions
MODEL INGREDIENTS

• 2-period, small open economy model
  • Commodity prices are determined in the rest of the world.

• Agents: citizen and government

• Citizens receive an endowment of a commodity which they sell abroad in return for a consumption good

• Government taxes income
TIMING OF EVENTS

1. Citizens receive endowment $m$.
2. Citizens set reservation utility for complying with dictator. Dictator sets tax rate $\tau$.
3. Prices are realized and goods are traded internationally.
4. Citizens either comply with dictator policy or ignite revolution. Dictator receives rents and, if not kicked out, value of holding office.
MODEL RESULTS

- Global price fluctuations have an effect on domestic political stability.
- Higher prices of commodity exports lead to lower likelihood of political conflict.
- Higher uncertainty regarding future commodity prices leads to greater likelihood of political conflict.
EMPIRICAL METHODOLOGY

- Compiled a quarterly panel dataset of low- and middle-income countries
- Data on political conflict from Armed Conflict Dataset and NAVCO dataset
- Net-export weighted agricultural commodity price index
- Weighted commodity price uncertainty index
- Controls for income shocks, country fixed-effects, quarterly time fixed effects
EMPIRICAL METHODOLOGY CONT.

- \( \text{conflict}_{it} = \begin{cases} 0, & \text{if no conflict in country } i, \text{ period } t \\ 1, & \text{if conflict in country } i, \text{ period } t \end{cases} \)

- Estimate a probability model (linear, logit, probit)

- \( \text{conflict}_{it} = \beta_0 + \beta_1 (\Delta \text{Price level}) + \beta_2 (\Delta \text{Price uncertainty}) + \gamma X + \alpha_i + \epsilon_{it} \)

- Low price levels make revolution more likely: expect negative coefficient on price level variable

- High price uncertainty makes revolution more likely: expect positive coefficient on uncertainty variable
PREVIEW OF RESULTS

Average food price volatility versus average conflict incidence, 1960s
EFFECT OF PRICE LEVEL AND UNCERTAINTY ON CONFLICT INCIDENCE

<table>
<thead>
<tr>
<th></th>
<th>LPM-RE</th>
<th>LPM-FE</th>
<th>LOGIT-RE</th>
<th>LOGIT-FE</th>
<th>PROBIT-RE</th>
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</thead>
<tbody>
<tr>
<td>Δ Price Level</td>
<td>-0.028 +</td>
<td>-0.028 +</td>
<td>-0.350 +</td>
<td>-0.350 +</td>
<td>-0.203 +</td>
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<tr>
<td></td>
<td>(0.017)</td>
<td>(0.017)</td>
<td>(0.198)</td>
<td>(0.198)</td>
<td>(0.114)</td>
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<tr>
<td>Δ Price Uncertainty</td>
<td>0.082 **</td>
<td>0.082 **</td>
<td>0.952 **</td>
<td>0.952 **</td>
<td>0.556 *</td>
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<tr>
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<td>(0.029)</td>
<td>(0.029)</td>
<td>(0.321)</td>
<td>(0.321)</td>
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<tr>
<td>Overall p</td>
<td>0.007</td>
<td>0.010</td>
<td>0.005</td>
<td>0.006</td>
<td>0.005</td>
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<tr>
<td>Hausman p</td>
<td>0.481</td>
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</table>

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001
Cluster-robust standard errors in parentheses.
### EFFECT OF PRICE UNCERTAINTY (RANGE) ON CONFLICT ONSET

<table>
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<tr>
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<th>IV-LPM-FE</th>
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<th>IV-LPM-FE</th>
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</thead>
<tbody>
<tr>
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<td>-0.032 **</td>
<td>-4.492 ***</td>
<td>-1.433 ***</td>
<td>-0.032 *</td>
<td>-3.539 ***</td>
<td>-1.175 **</td>
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<td></td>
<td>(0.012)</td>
<td>(1.177)</td>
<td>(0.393)</td>
<td>(0.013)</td>
<td>(0.979)</td>
<td>(0.345)</td>
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<tr>
<td>Δ Price Uncertainty</td>
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<td>4.104 *</td>
<td>1.516 *</td>
<td>0.025 +</td>
<td>3.438 +</td>
<td>1.250 +</td>
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<tr>
<td></td>
<td>(0.013)</td>
<td>(1.717)</td>
<td>(0.728)</td>
<td>(0.015)</td>
<td>(1.782)</td>
<td>(0.736)</td>
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<td>Δ Reserves</td>
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<tr>
<td></td>
<td>(0.140)</td>
<td>(0.070)</td>
<td>(0.065)</td>
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<td>Δ Income</td>
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<td></td>
<td>(1.351)</td>
<td>(4.010)</td>
<td>(1.953)</td>
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<td>0.000</td>
<td>0.005</td>
<td>0.105</td>
<td>0.002</td>
<td>0.001</td>
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<td>Endog. p</td>
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<td>0.598</td>
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CONCLUSION

• In addition to price level shocks, increased uncertainty about future food commodity export prices is a significant predictor of conflict in developing countries.

• Policies that reduce the uncertainty in export prices faced by producers may generate a more conducive environment for a new/transitioning government to consolidate its role.

• Financial market regulation in the developed world can have an effect on the political stability of developing countries.
Thank you!