War of the Words
How Elites’ Communication Changes the Economy

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Political Economy of Reforms
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People make economic decisions today contingent on the future economy. They would make better decisions if they had expert information.
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Economic experts, such as central bankers, can change the economy by providing information (Mishkin 2008).
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Economic experts, such as central bankers, can change the economy by providing information (Mishkin 2008).

They do this by communicating.
Look who is talking

- What should they talk about? “They should make information symmetric, providing the public to the extent possible the same information they have…” - (Bernanke, 2012)
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Problem is that more than one person is talking
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- What should they talk about? “They should make information symmetric, providing the public to the extent possible the same information they have…” - (Bernanke, 2012)

- Problem is that more than one person is talking

- Having more than one elite introduces inter-elite competition and strategic speech-making
How does inter-elite competition influence what elites’ say?
Research Question

- How does inter-elite competition influence what elites’ say?
- How does variation in information precision covary with changes in the economy?
Theory: Elites Supply Information

- Multiple Political Elites (Zaller 1992)
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  - Have divergent inflation preferences (Frieden 1991; Alesina 1991; Franzese and Hall 1998; Scheve 2004)
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- Elites want to transmit information
- They do so strategically (Krishna and Morgan 2001)
Nature Reveals Inflation Shock, $\theta$
Model Sequence

- Nature Reveals Inflation Shock, $\theta$
  - Seeing $\theta$, $A$ sends a message, $m_1$

Household forms inflation beliefs, $\pi_e$

Inflation at the end of period is dependent on $(\pi_e | m_1, m_2)$
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Elites’ preferences determines information precision
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Greater precision lowers inflation
Imprecise: The Committee “currently anticipates that exceptionally low levels for the federal funds rate are likely to be warranted at least through mid-2015.”
**Imprecise:** The Committee “currently anticipates that exceptionally **low levels** for the federal funds rate are likely to be warranted at least through **mid-2015**.”

**Precise:** “The Committee decided to keep the target range for the federal funds rate at **0 to 1/4 percent** … [This rate] will be appropriate at least as long as the unemployment rate remains above 6-1/2 percent or inflation is above **2.5 percent**”
Table: Predicted influence of elites’ *ex ante* preference configuration on information precision and inflation

<table>
<thead>
<tr>
<th>Elite Consensus</th>
<th>Precision</th>
<th>Inflation Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elite Consensus</td>
<td>Imprecise Information</td>
<td>Higher</td>
</tr>
<tr>
<td>Elite Opposition (Moderates)</td>
<td>Precise Information</td>
<td>Lower</td>
</tr>
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</table>
6 countries from Latin America (Argentina, Brazil, Colombia, Mexico, Peru, and Venezuela) from 1993 to 2010
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New measure for *Information Precision*
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Key Dependent Variable: Inflation (country-month)
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New measure for Information Precision

Key Dependent Variable: Inflation (country-month)

Key Independent Variable: Expected Inflation * Information Precision (country-month)
Information precision is a latent variable generated from strategic speech.
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Reuters News search for these countries generates over 9000 inflation related news articles.
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Filter news articles for “pertinent” inflation announcements.
How to Measure Information Precision?

- Information precision is a latent variable generated from strategic speech
- Reuters News search for these countries generates over 9000 inflation related news articles
- Generate word count frequency of article’s language
- Filter news articles for “pertinent” inflation announcements
- Label remaining articles into 3 levels of information precision
Information precision is a latent variable generated from strategic speech.

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Label remaining articles into 3 levels of information precision.

Calculate monthly proportion of “precise” signals over total signals in a given country-month.
BUENOS AIRES, Sept 2 (Reuter) - After decades as a case study in inflation, Argentina has returned to single-digit yearly price rises with a bang -- nil inflation during August.

"Inflation was zero in August," President Carlos Menem proudly told a gala dinner of the Argentine Industrial Union, which groups the country's leading companies.

The lowest monthly inflation figure in 20 years also means that in the year ending on August 31, Argentine consumer prices rose less than 10 percent.

"For the first time in a quarter of a century, we've broken into single digits," Menem exulted.

The August inflation rate of zero percent was even better than Menem's own forecast last week of 0.2 percent or less.

SAO PAULO, April 25 (Reuter) - Brazil's decision to raise bank reserve requirements will have a limited impact on reining in galloping demand, and tougher measures are required to cool the overheated economy, analysts said.

The measure, which raises reserve requirements on time deposits from 27 percent to 30 percent, fails to target one of the most important factors fuelling demand, analysts say.

"The major factor in the growth of demand is disposable income, and it is pretty hard to control," Ernesto Guedes, partner of MCM Consultores Asociados, said.

Analysts said they predict salaries will rise in coming months as annual wage negotiations conclude, and on May 1 the monthly minimum wage will be increased by 42 percent to 100 reais.

"The possibility of additional anti-consumption measures is very reduced," Guedes said. Raising taxes is politically difficult and credit restrictions have a "debatable effect."

Finance Minister Pedro Malan said additional cooling measures will be adopted this week to curb demand "which generates expectations of future inflation ... and causes a balance of payments imbalance."
Empirical Model

\[ \text{Inflation}_t = \alpha_{0,j} + \beta_1(\text{Inflation}_{t-1}) \]
\[ + \beta_2(\text{ExpectedInflation}_t) + \beta_3(\text{InformationPrecision}_t) \]
\[ + \beta_4(\text{ExpectedInflation}_t \ast \text{InformationPrecision}_t) + \epsilon \]
Table: Dependent Variable: Year-over-Year monthly inflation

<table>
<thead>
<tr>
<th>Regressor</th>
<th>FE Model</th>
<th>Imputed Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged Inflation</td>
<td>0.9 (0.0)</td>
<td>0.9 (0.0)</td>
</tr>
<tr>
<td>Inflation Expectations</td>
<td>0.9 (0.1)</td>
<td>0.7 (0.1)</td>
</tr>
<tr>
<td>Information Precision</td>
<td>2.3 (7.8)</td>
<td>1.1 (4.95)</td>
</tr>
<tr>
<td>Inflation Expectations * Information Precision</td>
<td>-1.2 (0.2)</td>
<td>-0.9 (0.1)</td>
</tr>
<tr>
<td>N Observations</td>
<td>523</td>
<td>1236</td>
</tr>
</tbody>
</table>
**Figure:** The marginal effect of inflation expectations on inflation
Counterintuitively, those countries with oppositional elites may speak more precisely about the economy.
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Precise information is better at managing household inflation expectations and stabilizing inflation.
Contributions

- In those instances where the household is the key driver of outcomes, political competition produces lower inflation.
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- Signals more influential when there is a richer marketplace of (moderate) opinions (Schultz 2010; Reiter and Stam 2002).
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Signals more influential when there is a richer marketplace of (moderate) opinions (Schultz 2010; Reiter and Stam 2002).

Finally, biased senders are important for the transmission of credible signals (Kydd 2007; Chapman 2011), but only information improving when there is inter-elite political competition and moderates. (Fang and Stone 2012)
Questions?
# Equilibrium Results

<table>
<thead>
<tr>
<th>Consensual Messages</th>
<th>Ex ante Elite Consensus</th>
<th>Ex ante Elite Polarization</th>
</tr>
</thead>
</table>
|                     | $\pi^e = \frac{1}{2}[a_n + a_{n+1}]$ | $\pi^e = \theta$ if $\theta \leq 1 - 2b_B$
|                     |                           | $\pi^e = 1 - b_B$ if $\theta > 1 - 2b_B$ |
| Conflicting Messages| $\pi^{e'} > \pi^e$       | $\pi^e = \min\{m_1 + b_B, \theta + b_B\}$ if $\theta \leq 1 - 2b_B$
|                     |                           | $\pi^e = \max\{1, \min\{m_1 + b_B, \theta + b_B\}\}$ if $\theta > 1 - 2b_B$ |
Relationship between Inflation and Inflation Expectations

Argentina

Brazil

Columbia

Mexico

Peru

Venezuela

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## Inflation: A Global and Persistent Phenomenon

<table>
<thead>
<tr>
<th>Country</th>
<th>Year High Inflation Starts</th>
<th>Duration</th>
<th>Average Annual Inflation</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>1972</td>
<td>20</td>
<td>471</td>
<td>792</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1972</td>
<td>5</td>
<td>2,741</td>
<td>5,071</td>
</tr>
<tr>
<td>Brazil(^1)</td>
<td>1981</td>
<td>15</td>
<td>772</td>
<td>910</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1991</td>
<td>7</td>
<td>262</td>
<td>372</td>
</tr>
<tr>
<td>Croatia(^1)</td>
<td>1986</td>
<td>9</td>
<td>513</td>
<td>570</td>
</tr>
<tr>
<td>Israel</td>
<td>1978</td>
<td>8</td>
<td>165</td>
<td>113</td>
</tr>
<tr>
<td>Peru</td>
<td>1978</td>
<td>16</td>
<td>809</td>
<td>1,963</td>
</tr>
<tr>
<td>Poland</td>
<td>1988</td>
<td>5</td>
<td>196</td>
<td>220</td>
</tr>
<tr>
<td>Romania</td>
<td>1991</td>
<td>10</td>
<td>121</td>
<td>82</td>
</tr>
<tr>
<td>Russian Federation(^1)</td>
<td>1993</td>
<td>7</td>
<td>222</td>
<td>111</td>
</tr>
<tr>
<td>Turkey</td>
<td>1979</td>
<td>25</td>
<td>62</td>
<td>23</td>
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Table: Dependent Variable: Year-over-Year monthly inflation

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<tr>
<th>Regressor</th>
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<td>0.5 (2.7)</td>
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<td>Inflation Expectations * Precision</td>
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<tr>
<td>Month Fixed Effects</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<td>No</td>
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<td>Yes</td>
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</tr>
<tr>
<td>R-square</td>
<td>0.98</td>
<td>0.97</td>
<td>-</td>
<td>-</td>
<td>-</td>
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