Outline

• Why does the volatility of foreign aid matter?
• How can aid “uncertainty” (as opposed to variance) be measured?
• What are the determinants of that uncertainty?
  – Recipient-country characteristics
  – Donor sources of aid
  – Aid portfolio characteristics
• How to reform the global foreign aid regime?
Poor Economies are More Volatile

- Climate and trade shocks to primary product exports
- Currency and real sector shocks from capital flight
- Political instability and policy uncertainty
- Aid flows have been historically volatile (in fact, one of the most volatile sources of foreign exchange)
  - Donors unable to make long-term commitments
  - Aid is “negotiated” and subject to relative bargaining strengths of recipients
ODA is Highly Volatile

• One of the most volatile capital flows
  – 5 x GDP
  – 3 x exports
• ODA volatility contributes to adverse income shocks
• Deadweight loss (difference between expected receipts and the aid “certainty equivalent”) due to volatility has been estimated (Kharas 2008)
  – 1.9% of average aid recipient’s GDP
  – $0.07 – $0.28 per dollar of ODA
Why Does this Matter?

• Aid volatility affects macroeconomic variables (inflation, real exchange rates) in ways that can have adverse effects on
  – Fiscal balances
  – Ability of recipients to use aid as a smoothing device
  – Growth
• Empirical evidence on the effects of volatility
  – Macroeconomic instability
  – Poor quality of aid (effectiveness)
  – Lower growth rates
• *Paris Declaration*: reduce volatility!!
Aid Volatility: The US in Haiti

- The history:
  - 1950 – 1960: 20-fold increase
  - 1961 – 1969: aid cut 75%
  - 1970 – 1977: 7x increase
  - 1991: aid increased

- This does not include humanitarian relief
- Not only the US (although the US was the most fickle donor)
DAC vs. US Volatility

DAC

USA

Percent annual change

-50
-40
-30
-20
-10
0
10
20
30
40
50


DAC

USA

Net ODA

Net ODA less Iraq and Afghan

GNI
US vs. EU/EC Volatility

The graph shows the volatility of the US and EU/EC over time, with the EU+EC represented in light blue and the US in dark blue. The y-axis represents the volatility measure, and the x-axis represents the years from 1960 to 2000.
Measuring Aid Volatility

• Sample variation commonly used, BUT
  – Variability is not the same as “uncertainty” (predictability)
  – No temporal variation allowed
  – May be distorted by cross-sectional heterogeneity

• Our approach: 3 steps
  – Estimate an ARCH(1) specification for each recipient country
  – Generate recipient country-year conditional variances
  – Regress these panel data on
    • Recipient country characteristics
    • Indicators of donor sources & concentration
    • Herding
Shortfalls/Windfalls

• We are also interested in the direction (not the mere presence) of volatility therefore we create a dichotomous variable coded 1 if disbursements have increased/decreased by more than 10%, i.e., if

$$|\frac{A_{it}}{A_{it-1}} - 1| \geq 0.1$$

• Main controls
  – Economic and political conditions in recipient countries
  – Nature of the aid portfolio
Aid Portfolio

• Donor concentration (Herfindahl index)
• Shares of aid from major donors
  – United States
  – European Union members + European Commission
  – Multilateral donors
• Donor “herding” index (Frot-Santiso):

\[ = p_{it} - \pi_{it} \]

Where \( p_{it} \) is % of all donors increasing allocations in country \( i \) between \( t - 1 \) and \( t \), \( \pi_{it} \) is % of all donors active in country \( i \) increasing allocations between \( t \) and \( t - 1 \)

(Basically measures deviation of donor behavior in a recipient country from “average” donor behavior)
Good vs. Bad Volatility

• Not all volatility in foreign aid is bad
  – Aid that responds to natural disasters
  – Food aid
  – Humanitarian assistance

• We subtract the following from Official Development Assistance (ODA) flows
  – Emergency, humanitarian, and food relief
  – Technical cooperation
  – Debt relief

• The result = “Country Programmable Aid” (CPA)
Findings: Recipient-Country Sources

• Recipient-country macroeconomic conditions
  – GDP and GDP change—not a reliable predictor of overall aid volatility (but falling GDP is more likely to produce aid spikes)
  – Populous, trade-dependent, indebted, aid-dependent countries receive more volatile aid (but there is no clear direction)
  – Fuel-rich economies receive less volatile aid

• Recipient-country events/conditions
  – Instability and civil war has a weak effect on raising aid volatility (and being a “post-conflict” country has no effect)
  – Democratic withdrawals increase aid volatility (no clear direction)

• What does NOT matter
  – Elections
  – Ideology or ideological direction
  – Natural disasters
Findings: Aid Portfolio and Composition

• Donor-patron effect: Donor concentration increases overall volatility, mainly due to windfalls
• US is biggest contributor to volatility
• EU effect is about ¼ that of the US
• Multilateral effect is about ½ that of the EU
• Herding increases volatility
CPA Findings

- Far less subject to volatility-inducing factors than total ODA
- Otherwise CPA patterns are consistent with ODA
- There is still a “donor-patron effect”: recipients relying on a smaller number of donors face greater volatility
- US contributed the most among donors to CPA volatility—mainly due to unexpected windfalls in CPA
- Democracies face more volatile CPA flows
## Contributions to Volatility

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Do Effects Vary with Volatility Levels?

- We examine stability of effects at different percentiles of volatility (of both total ODA and CPA)
- Effect of donor concentration (lack of portfolio diversification) is mainly in lower volatilities
- US effect is higher among higher volatilities
Implications

• Recipient-countries (esp. those receiving aid from volatile aid givers) should develop reserve funds and other mechanisms
• Donor fragmentation may increase volatility; better donor coordination can stabilize medium-term commitments
• Counter-cyclical loan instruments
• Allowing countries to draw down reserves in the event of aid shortfalls
• “Donor of Last Resort” function to make up for shortfalls (perhaps by IDA and/or regional DBs)