The Short-Run Macroeconomic Impact of Foreign Aid to Small States

An Agnostic Time Series Analysis

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Background

- We often promise to increase aid substantially within a few years

- Such promises worries the IMF
  —Not because they are evil
  —But because they care about *short run* macroeconomic imbalances

- Studies by the IMF discuss the optimal macoeconomic response to (increased) aid inflows
- The optimal (text-book) response requires that increases in aid inflows are equally

  Absorbed (Increasing imports) and
  Spent (Increasing expenditure)

- Country studies by the IMF show that aid flows are far from fully absorbed and spent—moreover spending exceeds absorption leading to short run macroeconomic imbalances

- We try to investigate the short run responses econometrically

The main results

- We analyze 20 small developing countries
  - 13 countries are aid-dependent
  - 7 countries are not aid-dependent
- In aid dependent countries absorption more or less equals spending—but both are substantially smaller than the increase in the aid flow
- In non-aid-dependent countries aid seems to be neither absorbed not spent in any systematic fashion

Absorption of aid flows

- The current and the capital account are defined as

$$CA_t = (X_t - M_t) + W_t - i_t L_{t-1} + A_t^g$$
$$KA_t = \Delta L_t^o + (A_t^l - A_t^r)$$

- Using this + the change in currency reserves we can relate aid flows to the other BoP flows

$$A_t^g + A_t^l - A_t^r = \Delta R_t + (M_t - X_t) + i_t L_{t-1} - W_t - \Delta L_t^o$$

Hence, by definition aid can

- Increase foreign reserves
- Increase net imports of goods and services
- Finance interest payments on foreign debt
- Finance a decrease in private transfers
- Decrease net external debt (or increase capital flight)

We think of increases in net imports of goods and services as absorption of aid

$$\text{Absorption} = \frac{\Delta(M_t - X_t)}{\Delta(A_t^g + A_t^l - A_t^r)}$$

Spending of aid flows

- Aid is hard to find in the SNA

$$disp.\,GNI_t = (C_t + I_t + G_t) - (M_t - X_t)_t - i_t L_{t-1} + W + A_t^g$$

- We define spending of an aid flow as the relative increase in domestic demand

$$\text{Spending} = \frac{\Delta(C_t + I_t + G_t)}{\Delta(A_t^g + A_t^l - A_t^r)}$$

Absorption, Spending and Production

- We can now describe possible macroeconomic responses to an increased aid inflow using the notions of absorption and spending

$$\text{Absorption} = \frac{\Delta(M_t - X_t)}{\Delta(A_t^g + A_t^l - A_t^r)}$$

$$\text{Spending} = \frac{\Delta(C_t + I_t + G_t)}{\Delta(A_t^g + A_t^l - A_t^r)}$$

Production = Spending- Absorption

$$= \frac{\Delta(C_t + I_t + G_t) - \Delta(M_t - X_t)}{\Delta(A_t^g + A_t^l - A_t^r)}$$

Aid may be

1. Absorbed and Spent
2. Absorbed and Not-Spent
3. Not-absorbed and Spent
4. Not-Absorbed and Not-Spent

A simple econometric model

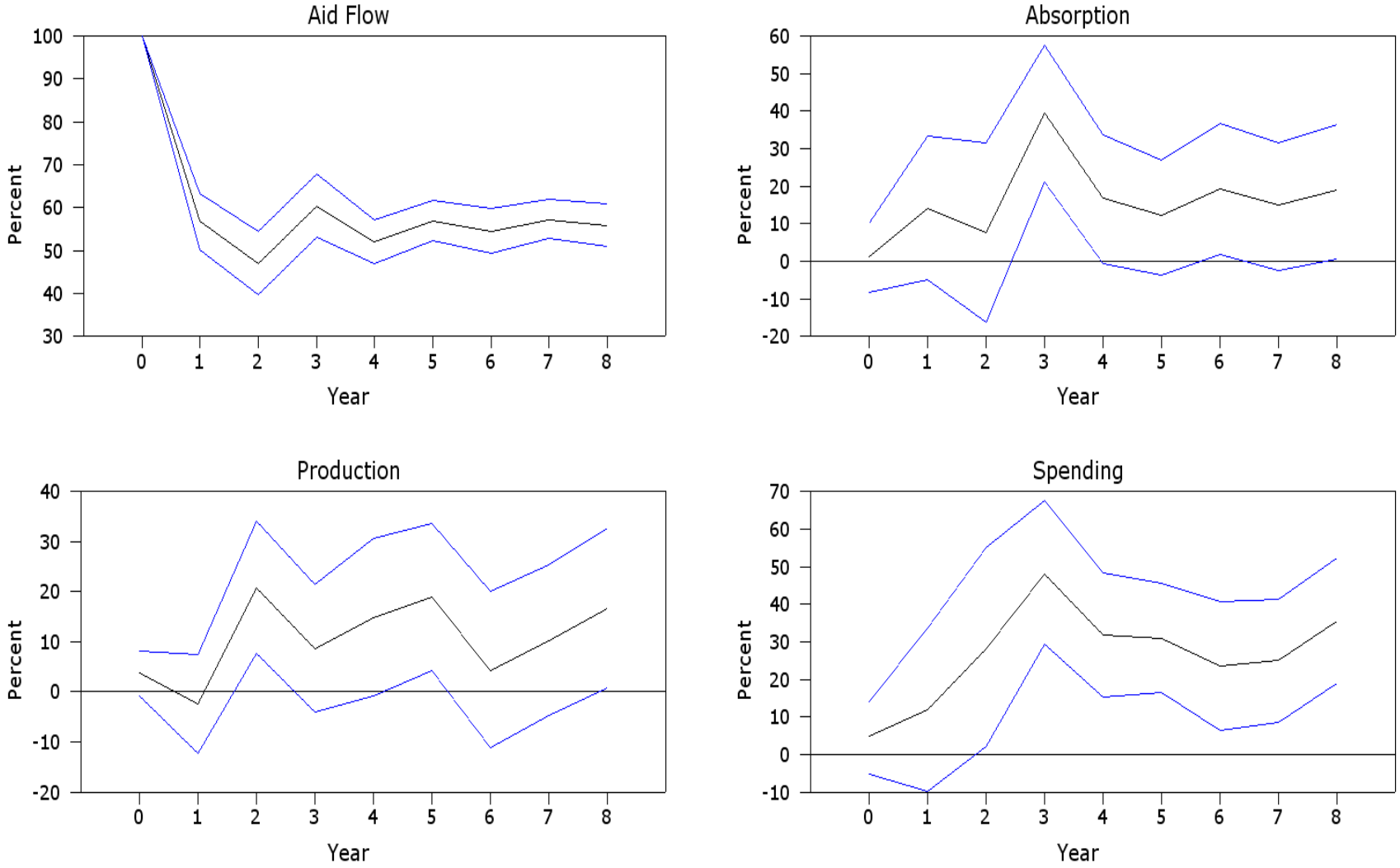
- We formulate a VAR model for the annual changes in the national income identity augmented by the annual changes in aid flows
- We estimate panel-VAR parameters using the mean-group estimator
- Subsequently we estimate the mean-group impulse-response functions
- From the IR-functions we estimate dynamic versions of mean-group absorption, spending and production

The Data

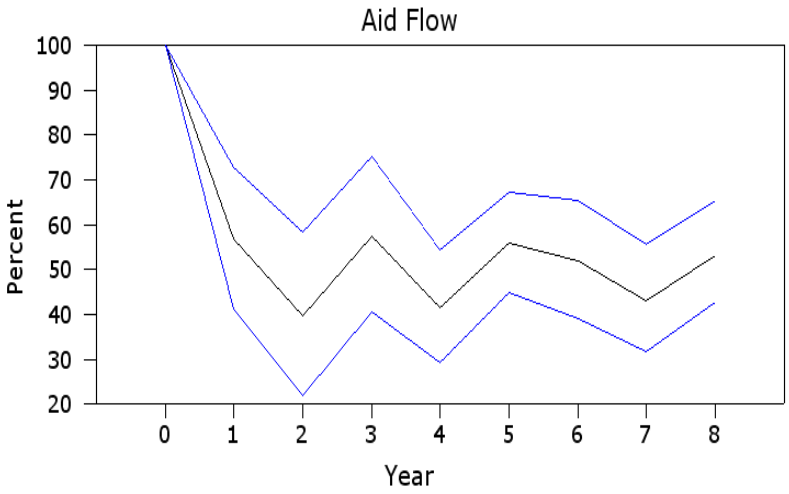
Cape Verde	French Polynesia	Mauritius*	Seychelles
Comoros	Gabon*	St. Lucia*	Suriname*
Djibouti	The Gambia	St. Kitts & Nevis*	Togo
Dominica	Grenada*	St. Vincent & the Grenadines	Tonga
Fiji*	Guinea-Bissau	Sao Tome & Principe	Vanuatu

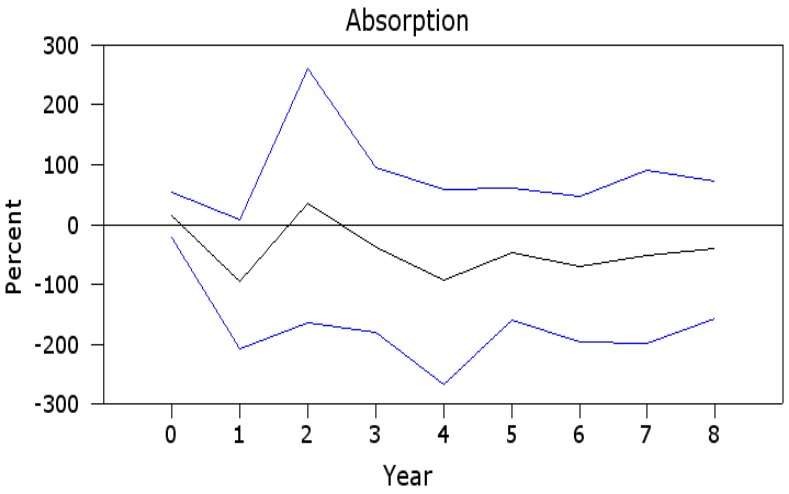
	All (N = 20, Obs. = 577)		Aid dependent (N = 13, Obs. = 374)		Non-Aid dependent (N = 7, Obs. = 203)	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
GDP per capita (Constant USD)	2467	3274	2225	3786	2914	1945
Dom. Dem./GDP	120.6	19.8	127.0	19.1	108.8	15.3
Net Imports/GDP	20.6	19.8	27.0	19.1	8.8	15.3
Exports/GDP	41.5	21.8	34.8	22.8	53.7	12.8
Imports/GDP	62.1	24.8	61.8	27.8	62.5	18.1
Aid/GDP	10.9	13.6	15.0	15.2	3.2	3.2
Aid/Trade	13.6	19.3	19.4	21.7	2.8	3.0

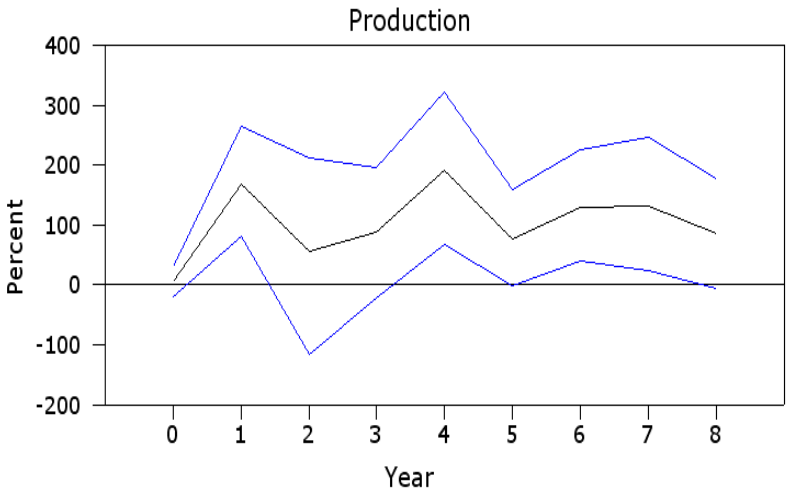
Results for aid-dependent countries

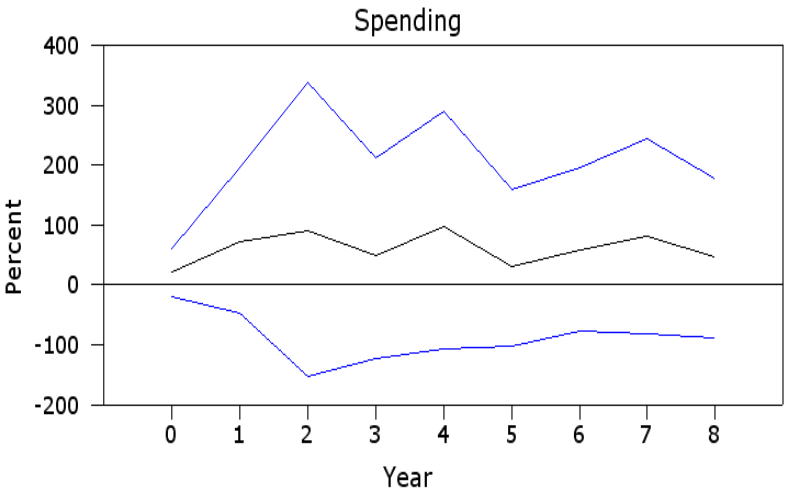


Results for non-aid-dependent countries









Concluding remarks

- We think the ”absorption” and ”spending” measures suggested in this paper make sense as short run macroeconomic responses to aid inflows

- Allowing for dynamics in the responses is important because aid flows are volatile —and mean reverting

- In aid-dependent countries we find a reasonable co-movement between absorption and spending—implying manageable short run macroeconomic imbalances
- This is in contrast to the country studies by IMF and Foster and Killlick

- In aid is not a decisive resource flow relative to other flows such as exports of natural resources or financial services, then the optimal use of aid may be to augment foreign reserves—making it hard to find the direct effects
- In such situations large aid increases may well lead to short run problems and macroeconomic imbalances