

Large Current Account Deficits and Neglected Vulnerabilities

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What is the information transmitted by Current Account Deficits?

Sachs (1981), Heymann (1994), Milesi-Ferretti & Razin (1996), Blanchard & Giavazzi (2002), Kaminsky et al. (2003), Edwards (2004), Bernanke (2005), Obstfeld & Rogoff (2007), Reinhart & Rogoff (2009).

Assessments require attending numerous **relevant aspects**:

- Future productive capacities (productivity, resources).
- Trends and fluctuations in international financial markets.
- Evolution of terms of trade.
- Demographic trajectories.
- Institutional environment.
- ...

This work:

Considering these assessments are challenging tasks...

Are vulnerabilities linked to Large Current Account Deficits correctly anticipated?

Empirical strategy:

Analysis of medium term macroeconomic forecasts following large current account deficits.

Beyond expert forecasts: analysis of asset prices and a sentiment metric.

Sample:

46 advanced and emerging economies. Period: 1990-2017.

Results:

On average, Large Current Account Deficits are followed by:

- 1 Surprisingly fast reversals of current account deficit.
- 2 Negative surprises on GDP growth.
- 3 Lower asset returns and sentiment.

Comments:

- Economically significant anomalies. Robust to changes in specification.
- Systematic errors point to neglected vulnerabilities.
- Neglect as a (complementary) mechanism underlying crises.
- Implications for macro-prudential policies. Reassessment of the informativeness of asset prices, expert opinions.

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- **Real-time current account balances:** IMF World Economic Outlook database.
- **Macroeconomic forecasts:** WEO's historical forecast database (five-year-ahead GDP growth and current account balances)
- **Asset returns:** dollar stock market returns (World Bank).
- **Sentiment metric:** inferred from The Wall Street Journal and The Economist. Methodology: Tetlock (2007).

Sample:

Period 1990-2017.

46 advanced and emerging countries (aprox. 80% of world GDP).

Descriptive statistics

Activity Indicator	Obs.	Mean	St. Dev.	Min	Max
Current Account Balance					
Realization	1281	0.001	0.055	-0.144	0.309
One-year-ahead forecast	1281	-0.002	-0.050	0.157	0.267
Three-year-ahead forecast	1281	-0.003	0.046	-0.177	0.266
Five-year-ahead forecast	1279	-0.003	0.044	-0.152	0.251
GDP growth					
Realization	1281	0.031	0.036	-0.185	0.263
One-year-ahead forecast	1281	0.036	0.019	-0.053	0.099
Three-year-ahead forecast	1281	0.039	0.017	-0.004	0.107
Five-year-ahead forecast	1281	0.039	0.018	-0.65	0.100
Other variables					
Stock market returns	1046	0.049	0.351	-1.847	1.345
Changes in Sentiment	1035	0.056	1.374	-5.866	5.457

Preliminary event study exercise:

- 1 An event is identified in year t if:

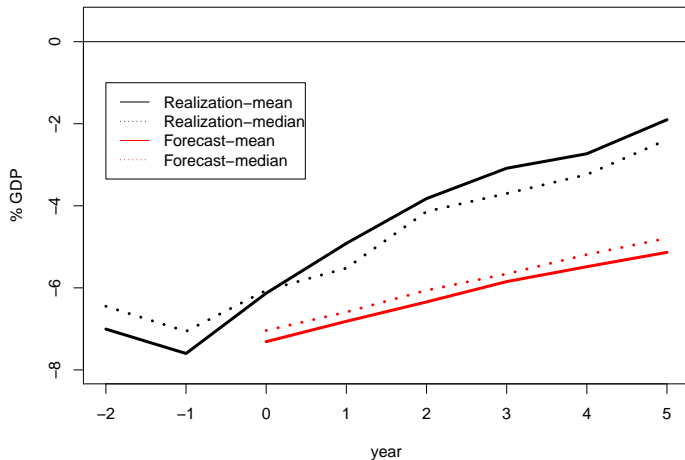
$$ca_{ct-1} < 10\text{th Percentile}$$

Where ca_{ct-1} is the latest figure available at the time of forecast release (April of year t).

- 2 Evaluation of forecasts released at the time of event identification.

Preliminary event study exercise

Current account balances conditional on large deficits



Empirical model

Description:

- An event is identified in year t and country c if:

$$ca_{ct-1} < p_t^x$$

Where p_t^x is percentile x computed using information available in year t .

- Forecast errors for k -year-horizon forecast released in year t :

$$fe_{ct}^k = \sum_{j=1}^k ca_{ct+j} - ca_{ct+j}^t$$

- Given parameters k and x , the model is given by:

$$fe_{ct}^k = \alpha_x^k + \beta_x^k I_{(ca_{ct-1} < p_t^x)} + u_{ct}$$

Comments: Non-overlapping periods, country and time clustered standard errors.

Current account Forecasts

$$fe_{ct}^k = \alpha_x^k + \beta_x^k I_{(ca_{ct-1} < p_t^x)} + u_{ct}$$

		[1] < p_t^{25}	[2] < p_t^{10}	[3] < p_t^5
k=1	$\hat{\beta}_x^k$	0.009** [2.17]	0.013*** [3.16]	0.015*** [2.63]
	# obs. < p_t^x	292	123	64
k=3	$\hat{\beta}_x^k$	0.036** [1.97]	0.061*** [3.33]	0.090*** [3.32]
	# obs. < p_t^x	96	41	23
k=5	$\hat{\beta}_x^k$	0.041 [0.99]	0.111** [2.67]	0.097** [2.05]
	# obs. < p_t^x	48	22	12

First result:

Large current account deficits are followed by surprisingly fast reversals.

Additional results:

- No evidence of linear association.
- No information from large current account surpluses.
- More distant large current account deficits provide additional information.

Surprisingly fast reversals are not necessarily an indication of negative surprises (Heymann 1994, Arezki et al. 2017).

⇒ Need for additional characterizations.

Reduced form evidence:

News arrival following large current account deficits:

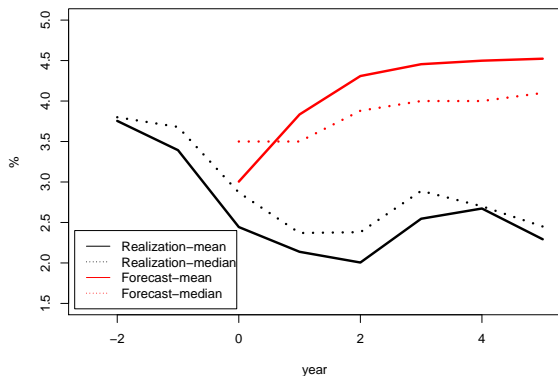
- Growth forecast errors.
- Asset returns.
- Sentiment metric (tone of economic press content).

Systematic arrival of negative news is consistent with neglected vulnerabilities.

Evidence on neglected vulnerabilities

Preliminary event study exercise:

GDP growth



Growth forecast errors as a surprise metric:

$$gfe_{ct}^k = \sum_{j=1}^k GDPgr_{ct+j} - GDPgr_{ct+j}^t \quad (1)$$

where $GDPgr_{ct+j}$ is the annual GDP growth rate for year $t + j$ and $GDPgr_{ct+j}^t$ is the associated forecast released in year t .

Empirical model:

$$gfe_{ct}^k = \alpha_x^k + \beta_x^k I_{(ca_{ct-1} < p_t^x)} + u_{ct} \quad (2)$$

Under neglected vulnerabilities, $\beta_x^k < 0$.

Estimated conditional bias

		$< p_t^{25}$	$< p_t^{10}$	$< p_t^5$
k=1	$\hat{\beta}_x^k$	-0.012*** [-3.47]	-0.013*** [-3.77]	-0.015*** [-3.31]
k=3	$\hat{\beta}_x^k$	-0.041*** [-4.06]	-0.042*** [-3.17]	-0.057** [-2.34]
k=5	$\hat{\beta}_x^k$	-0.045*** [-2.91]	-0.043* [-1.71]	-0.013 [-0.31]

Note: For $x = 10$ and $k = 3$, estimated expected error is -6.2% (-4.2% conditional bias plus 2% unconditional bias).

Alternative indicators of news arrival:

- **Asset returns:** stock prices summarize opinions regarding expected profitability of corporations and, plausibly, are correlated with the expected performance of the economy.
- **Changes in sentiment:** media content conjectured to reflect shared views regarding future prospects (Genztkow & Shapiro 2010).

Complementary characterization of incoming information and robustness tests.

Mean returns

$$ret_{ct}^k = \alpha_x^k + \beta_x^k I_{(ca_{ct-1} < p_t^x)} + u_{ct}$$

		$< p_t^{25}$	$< p_t^{10}$	$< p_t^5$
k=1	$\hat{\beta}_x^k$	-0.060*** [-2.71]	-0.109*** [-2.74]	-0.131* [-1.74]
k=3	$\hat{\beta}_x^k$	-0.125 [-1.15]	-0.296** [-2.26]	-0.320* [-1.69]
k=5	$\hat{\beta}_x^k$	-0.208 [-0.98]	-0.425*** [-5.01]	-0.268 [-1.33]

Notes: for $k = 3$ and $x = 1$, the estimated cumulative mean return is -0.11 and the estimated yearly volatility is 0.4 (vs. 0.28 in the absence of large current account deficits).

Changes in sentiment

$$sent_{ct}^k = \alpha_x^k + \beta_x^k I_{(ca_{ct-1} < p_t^x)} + u_{ct}$$

		$< p_t^{25}$	$< p_t^{10}$	$< p_t^5$
k=1	$\hat{\beta}_x^k$	-0.105 [-1.32]	-0.350*** [-3.18]	-0.404** [-2.27]
k=3	$\hat{\beta}_x^k$	-0.468 [-1.50]	-0.925*** [-5.02]	-0.900** [-2.38]
k=5	$\hat{\beta}_x^k$	-0.566 [-1.36]	-0.771*** [-2.65]	-0.629 [-0.86]

Recent vs. old large current account deficits

Events identified (under $k = 3$ and $x = 10$) are classified as:

- **Recent:** No large deficit observed in $t - 4$ (percentile 20).
- **Old:** Large deficit observed in $t - 4$ (percentile 20).

Recent vs. old large current account deficits

	fe_{ct}^k	gfe_{ct}^k	ret_{ct}^k	$sent_{ct}^k$
$\hat{\beta}_x^{Rec}$	0.019	-0.028***	-0.324***	-0.634**
	[1.50]	[-3.50]	[-12.01]	[-2.19]
$\hat{\beta}_x^{Old}$	0.090***	-0.062***	-0.249	-1.444***
	[3.50]	[-3.05]	[-1.10]	[-3.95]

Different country groups and sample periods

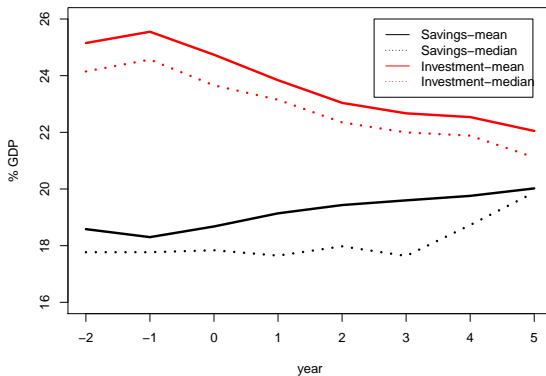
	fe_{ct}^k	gfe_{ct}^k	ret_{ct}^k	$sent_{ct}^k$
A. By country group				
$\hat{\beta}_x^A$	0.043 [1.60]	-0.065** [-3.53]	-0.345*** [-3.73]	-1.02** [-2.11]
$\hat{\beta}_x^E$	0.066*** [3.54]	-0.035** [-2.05]	-0.273 [-1.55]	-0.896*** [-4.70]
B. By sample period				
$\hat{\beta}_x^{ES}$	0.068** [2.51]	-0.037 [-1.55]	-0.277 [-1.19]	-0.647** [2.31]
$\hat{\beta}_x^{LS}$	0.053* [1.75]	-0.049*** [-3.25]	-0.312*** [-2.72]	-1.505*** [-8.08]

Country groups: Advanced (A) if per capita GDP above 50% of US level (otherwise Emergent).

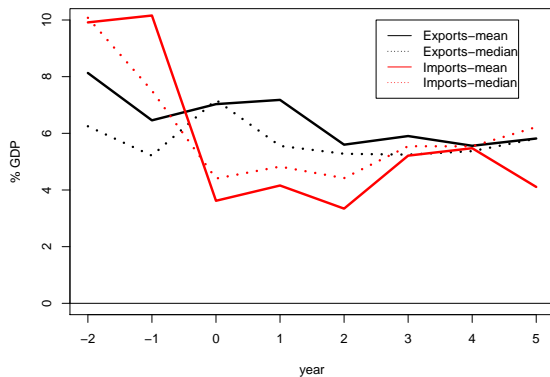
Sample periods: Early (ES) if year equal to or prior to 2002 (otherwise Late sample).

Notes: estimations for $k = 3$ and $x = 10$.

Investment and saving rates



Yearly growth rates of export and imports



Evidence consistent with neglected vulnerabilities:

- Large current account deficits are reversed at a surprisingly fast pace.
- Large current account are followed by negative surprises (GDP growth, asset prices, sentiment).

Implications:

- Systematic errors in the perception of vulnerabilities as a mechanism explaining economic crisis (vs. moral hazard, bad luck).
- Macro-prudential policy design should consider these biases and reconsider the value of information provided by forecasters/asset prices/media tone.

Extensions:

- Which vulnerabilities are neglected? Uncertain productive capacities? Unstable financial markets? Unexpectedly costly reassignment process?...
- Which are the underlying cognitive mechanisms? (naive projection/disregard for mean reverting properties, reasoning through categories, naive social learning)
- Is there evidence of a learning curve? How fast are these errors corrected?