

Where Did All the Borrowing Go?

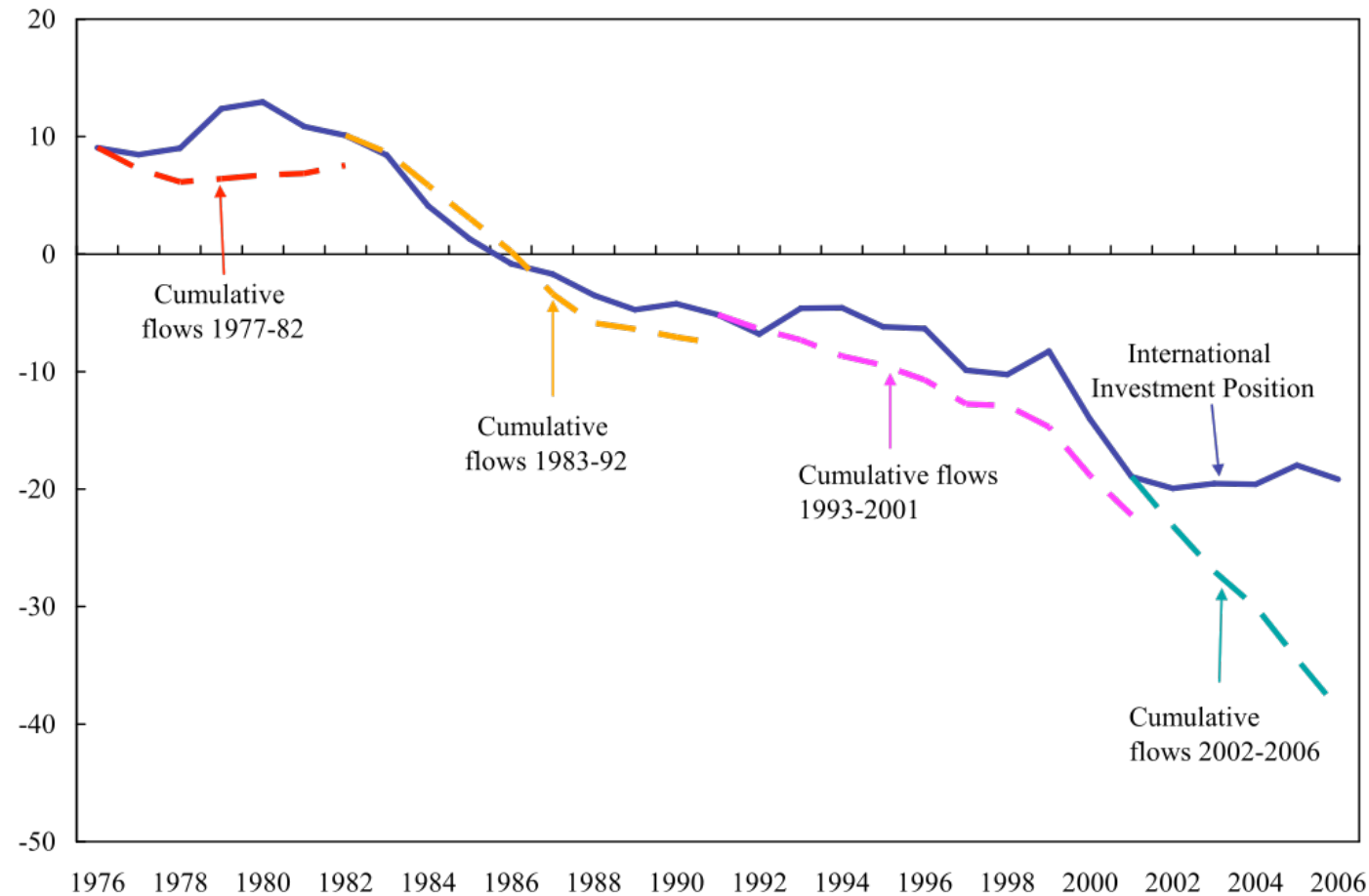
A Forensic Analysis of the U.S. External Position
LMF, JJIE 2009

September 2009

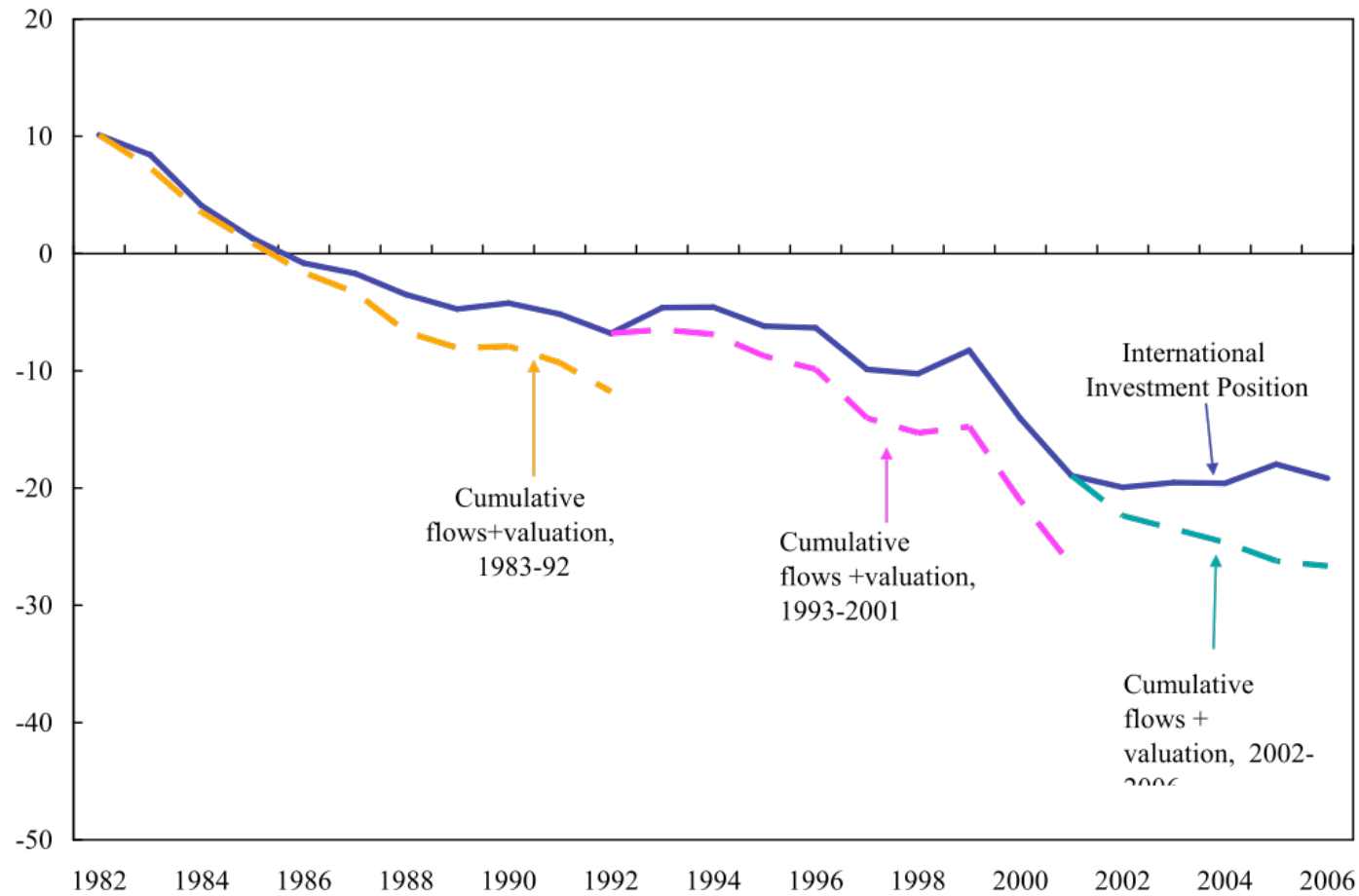
Background

- Well-documented difference between changes in the U.S. external position and cumulative external borrowing
- Total external borrowing exceeds the deterioration of the U.S. IIP by about US **\$3 trillion over 1982-2006 (3.5 trn with FDI at market value)**

External position and cumulative financial flows (FDI at current cost)



External position and valuation-adjusted cumulative flows (FDI at current cost)



There is still a puzzle

- Price and exchange rate valuation explain about \$1 trn of the stock-flow discrepancy (1.8 trn with FDI at mkt value).
- They explain most of the discrepancy for 2002-2006!
- “Other factors” are often subsumed into the calculation of K-gains
- Here we seek to understand whether they are more likely to reflect
 - Capital gains
 - Mismeasured financial flows
 - Mismeasured holdings

Related literature

- Curcuru et al. (2007) find no systematic positive return differential between U.S. portfolio assets and liabilities during 1994-2005
- Dark matter debate (Hausmann-Sturzenegger 2007 and many others)

Data

- Excellent data from BEA
- IIP data 1976-2006 with FDI at current cost (1982-2006 with FDI at market value)
- From 1989, every IIP data release includes a stock-flow reconciliation table
 - Initial NFA + Net capital outflows +
 - Valuation effects from asset prices +
 - Valuation effects from exchange rates +
 - Other changes
 - = new NFA

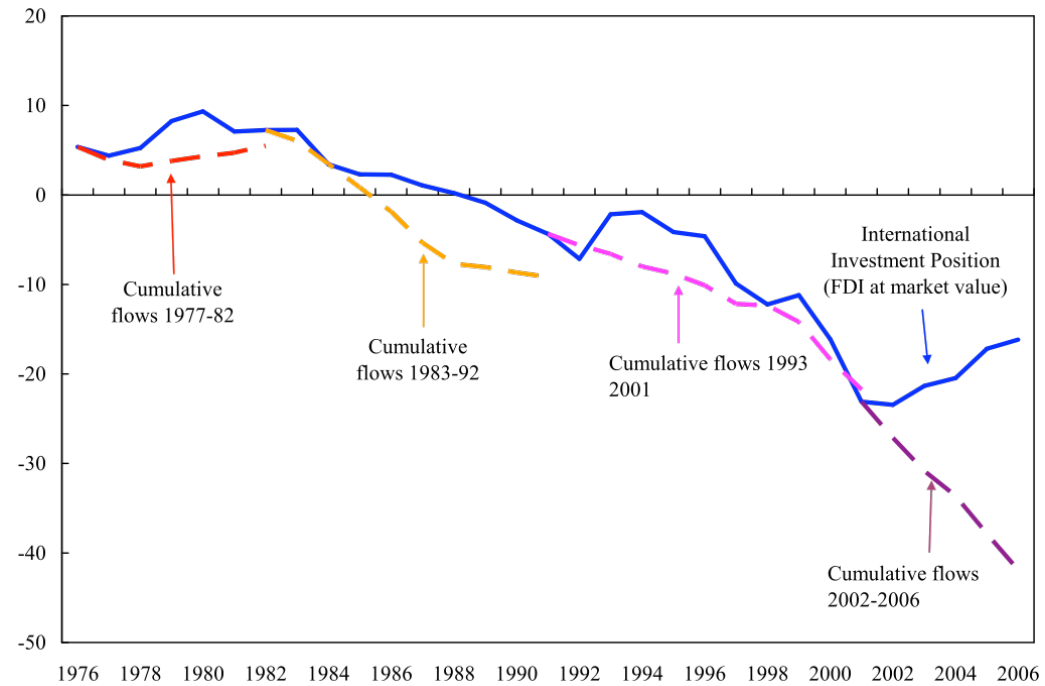
Data revisions

- BEA provides detailed explanations on data revisions....
- ...but “reconciliation table” is available for revised data only in the aggregate (for total assets, total liabilities, and IIP), for 1989-2006

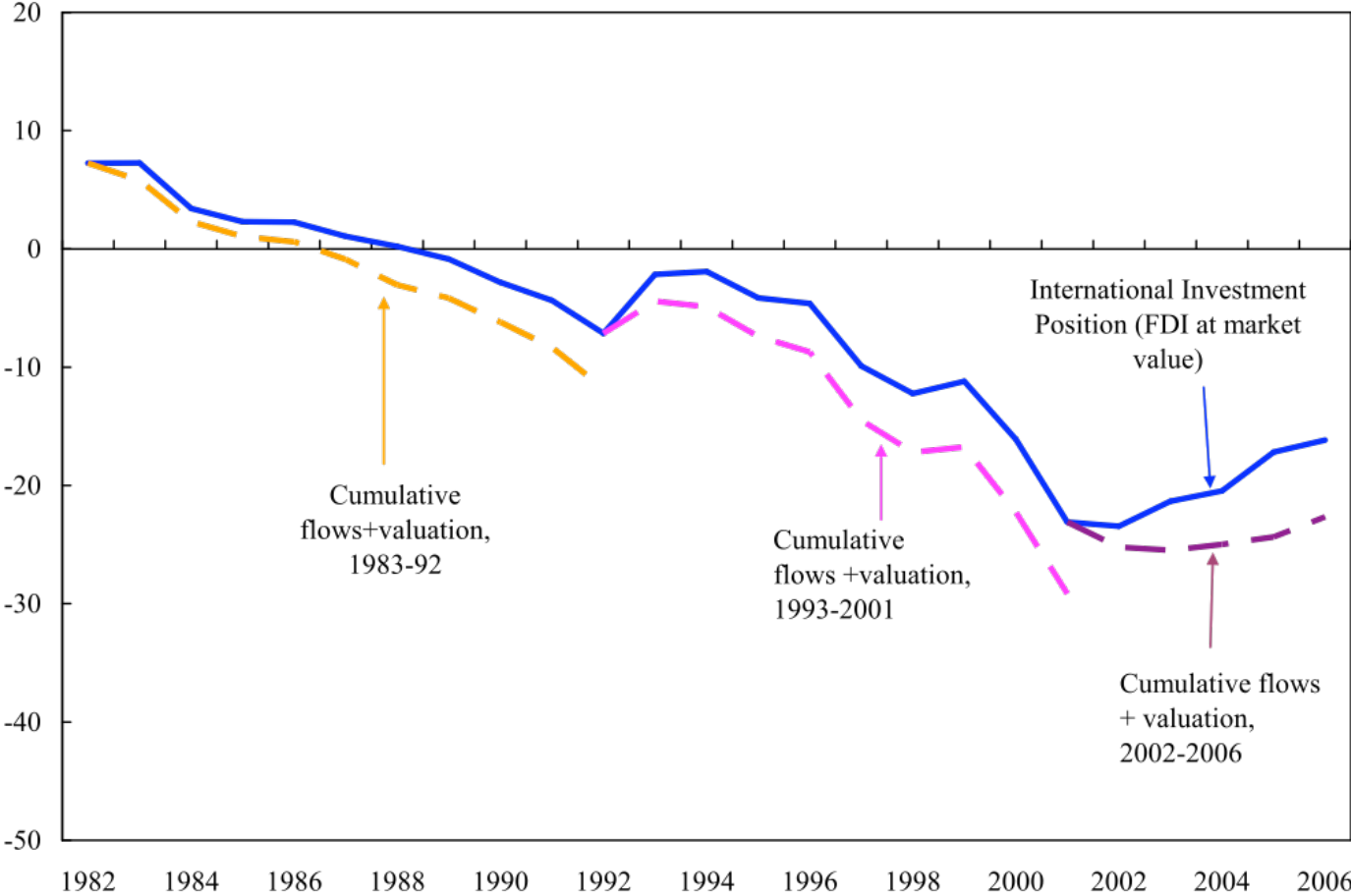
Our Contribution

- Use BEA data to construct a revised series for valuation effects and “other changes” for all asset and liability categories
- Look at original data releases and history of data revisions to understand their sources
- “Make a call” on whether the revised “other factors” are more likely to reflect mis-measured flows, stocks, or capital gains

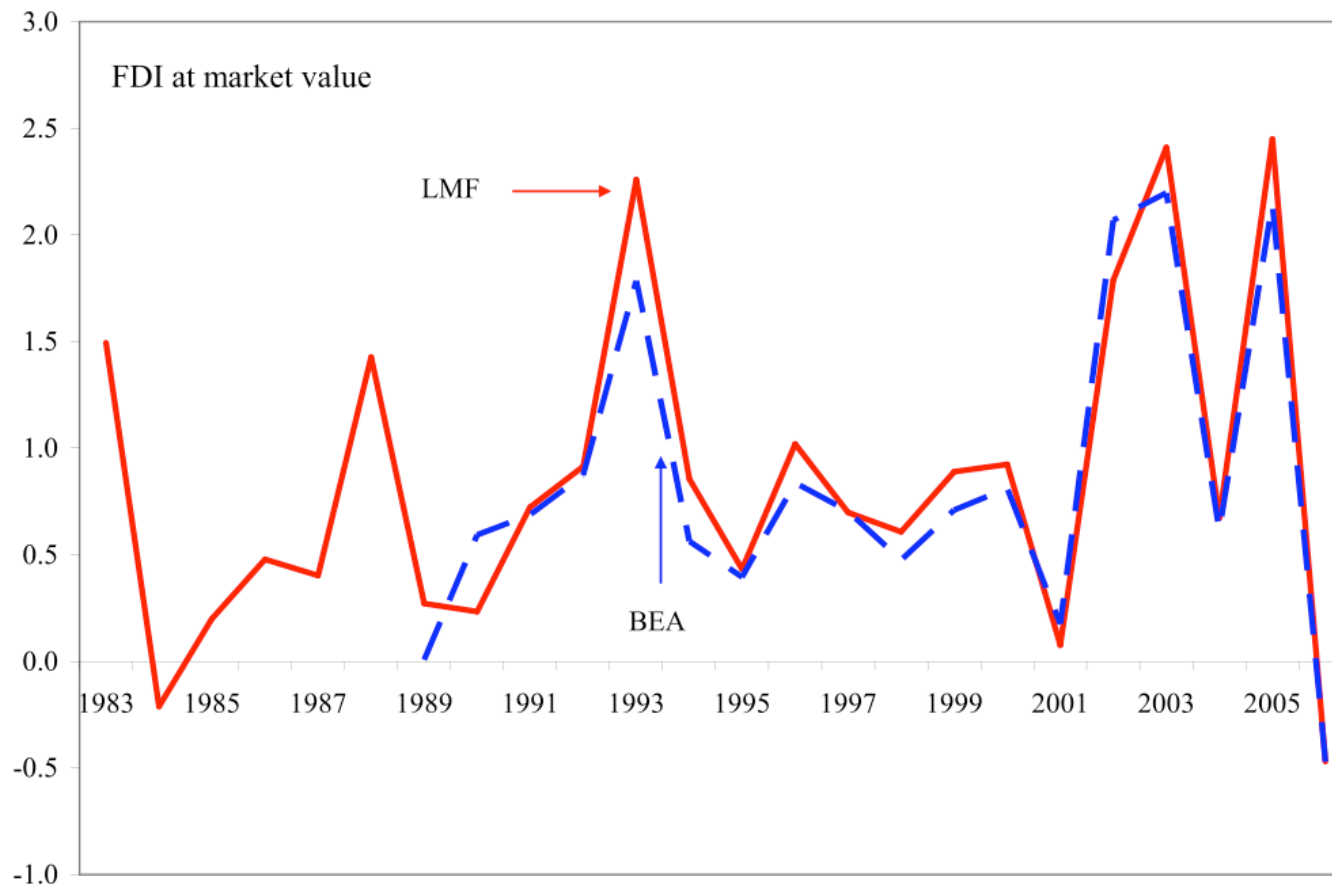
IIP and Financial Flows



Val-Adj Flows and IIP



IIP: other changes (in percent of GDP)



Stylized facts on “other” component

- Positive residuals for assets (0.7% of GDP on average)
- Small negative residuals for liabilities (-0.1-0.2 % on average)

Sources of residuals

(cumulative, in pct of end-period GDP)

PORTFOLIO DEBT

| | 1983-92 | 1993-2001 | 2002-06 |
|------------------------|---------|-----------|---------|
| Residual (Assets) | 0.7 | 0.9 | 1.8 |
| Residual (Liabilities) | -0.1 | -2.3 | -2.3 |
| Residual (Net) | 0.8 | 3.2 | 4.1 |

PORTFOLIO EQUITY

| | | | |
|------------------------|------|-----|-----|
| Residual (Assets) | 2.1 | 2.2 | 2.6 |
| Residual (Liabilities) | -0.1 | 0.8 | 2.0 |
| Residual (Net) | 2.2 | 1.4 | 0.6 |

Residuals: Portfolio Assets

- 1994 portfolio asset survey: found \$850bn (estimated \$540bn)
 - *Stocks revised backwards, but not flows*
- Annual surveys since 2003
- 2003 bond holdings raised from \$500bn to \$875bn!
 - *Problems with TIC data reporting*
 - *Some revision to flows, but much smaller than discrepancy*

Residuals: Portfolio Liabilities

- Bonds: March 2000 Survey: \$400bn over-estimate of U.S. bond liabilities
 - *Identified problems in measuring flows: redemptions, principal repayments on ABSs*
- Bonds: 2003 and 2005 surveys found lower than estimated bond holdings
 - *Lingering problems with recording principal repayments on ABS*
- Positive residual for equity liabs over 2002-2006

Residuals: FDI

FDI at Current Cost

| | 1983-1992 | 1993-2001 | 2002-2006 |
|------------------------|-----------|-----------|-----------|
| Residual (Assets) | -0.2 | -0.7 | 0.9 |
| Residual (Liabilities) | -0.6 | -3.3 | -0.5 |
| Residual (Net) | 0.3 | 2.6 | 1.4 |

FDI at Market Value

| | | | |
|------------------------|------|------|------|
| Residual (Assets) | -0.1 | 0.2 | -0.2 |
| Residual (Liabilities) | -0.2 | -0.7 | -0.7 |
| Residual (Net) | 0.0 | 1.0 | 0.5 |

Residuals: FDI

- Primarily, 'true' valuation effects
- Example: once-off gain from disposal at price greater than book value
- Current Cost: Adjustments needed since flows are recorded at mkt value. Residual typically negative, reflecting large foreign acquisitions of US firms in the late 1990s

Residuals: Banks and Non-Banks

| | 1983-1992 | 1993-2001 | 2002-2006 |
|------------------------|-----------|-----------|-----------|
| Residual (Assets) | 2.3 | 1.0 | 1.8 |
| Residual (Liabilities) | 0.6 | 0.5 | 1.1 |
| Residual (Net) | 1.7 | 0.5 | 0.7 |

- Progressive increase in coverage over time
- Residual relates to information on positions of new reporters

A “Zero Residual” Scenario

Some options:

1. Treat residuals as ‘extra’ K-gains
2. Allocate residuals to most plausible source
 - Portfolio – flows
 - FDI – capital gains
 - Banks and nonbanks – initial position)

1. Rate of return differentials between external assets and liabilities (residuals as capital gains)

| | 1983-92 | 1993-2001 | 2002-2006 |
|------------------|---------|-----------|-----------|
| FDI current cost | 0.3 | 0.9 | 5.5 |
| full residual | 2.0 | 2.8 | 7.9 |
| | | | |
| FDI market value | 1.7 | 0.9 | 6.9 |
| full residual | 2.9 | 2.2 | 8.9 |

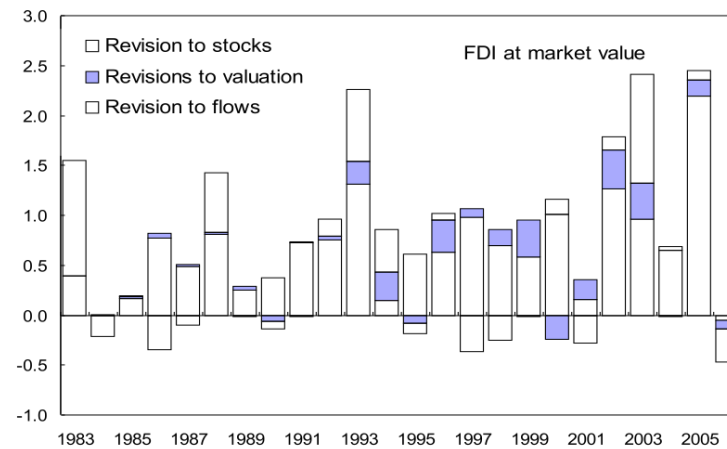
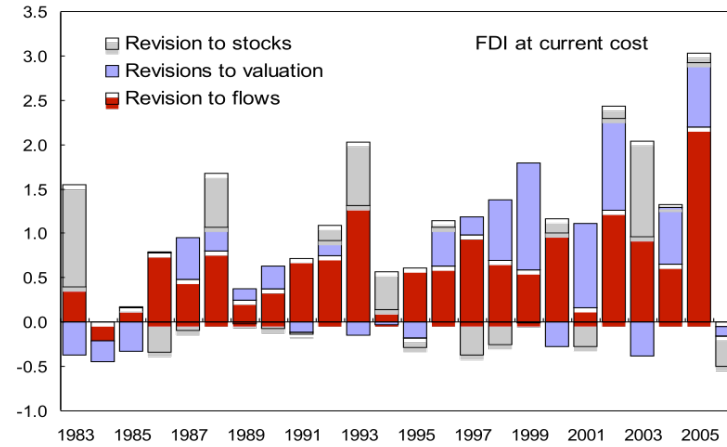
Residual as capital gains

- Results problematic in several cases
 - 15 percent annual return on US bond holdings overseas (2002-2006)
 - Annual returns on US equity holdings overseas 10 percent above market for 1983-94

“Zero Residual” Decomposition

| | | 1983-1992 | 1993-2001 | 2002-2006 |
|------------------|---------------|-----------|-----------|-----------|
| Portfolio Debt | Net Flows | 0.8 | 3.2 | 4.0 |
| | Net Valuation | 0.0 | 0.0 | 0.1 |
| Portfolio Equity | Net Flows | 2.0 | 1.3 | 0.5 |
| | Net Valuation | 0.1 | 0.1 | 0.1 |
| FDI at MV | Net Valuation | 0.0 | 1.0 | 0.5 |
| Banks+Non-Banks | Net Flows | 0.9 | 0.5 | -0.1 |
| | Net Valuation | 0.0 | 0.0 | 0.0 |
| | Position | -0.9 | -0.1 | -0.8 |

Decomp. Of Stk-Flow Residual



Implications of decomposition

- U.S. external position somewhat stronger than currently estimated in the past
- U.S. financial outflows higher by 0.6 percent of GDP per year
- Solve one puzzle, find a new puzzle: reconciling higher K-outflows with the current account

Final Remarks

- Alternative scenario: Net financial flows to US overstated by 0.6% of GDP per year
- Future path for residuals?
- Capital gains central to understanding 2002-2006 dynamics: future directions?
- 'Yield' privilege
- Shift in composition of int. bal. sheet