

# External Positions and External Adjustment

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- Cyclical View [intertemporal approach to CA; DSGE-type models]
- Trend View

- Persistence of current account imbalances
  - Persistent drivers of current account imbalances
  - Financial globalisation: increased elasticity of supply of capital
  - Savings glut
  - Financial underdevelopment
- External adjustment

# Long-Term Capital Movements

- One view: cumulation of random shocks
- Alternative view: persistent factors drive persistent *NFA* positions
- "Stages" Theory of Balance of Payments
- LTCM paper (Lane and Milesi-Ferretti 2002)

$$NFA = f(REL.INCOME, REL.DEMOG, REL.PUBLIC DEBT)$$

- Demographic Factors
- Relative Public Debt
- Differences in Financial and Institutional Development
- Key differences between advanced and non-advanced economies

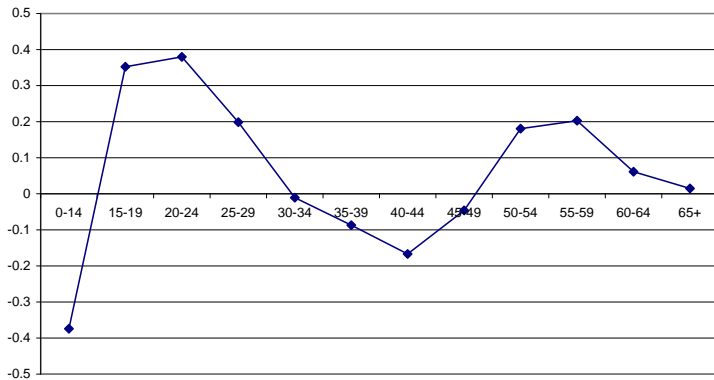
# Determinants of NFA Positions: Advanced Countries

	(1)	(2)	(3)	(4)	(5)
	CUMCA	CUMCA	CUMCA+IIP	CUMCA+IIP	CUMCA Balanced
	1970-98	1980-98	1970-98	1980-98	1972-97
<b>Log GDP per capita</b>	0.91 (12.63)**	0.91 (7.26)**	0.9 (12.55)**	0.89 (6.71)**	0.94 (11.66)**
<b>Public Debt</b>	-0.125 (3.1)**	-0.05 (0.9)	-0.124 (3.01)**	-0.07 (1.1)	-0.18 (4.54)**
<b>Ƨ (Demog.)</b>	30.1 (0.00)**	2.3 (0.51)	22.1 (0.00)**	4.2 (0.24)	43.6 (0.00)**
<b>Adjusted R<sup>2</sup></b>	0.89	0.91	0.89	0.93	0.9
<b>Observations</b>	516	389	516	382	390
<b>Countries</b>	22	22	22	22	15

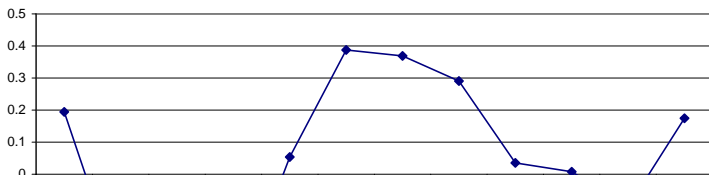
# Determinants of NFA Positions: Developing Countries

	(1)	(2)
	CUMCA 1970-98 All	CUMCA 1980-98 All
<b>Log GDP per capita</b>	-0.21 (4.59)**	-0.08 (1.05)
<b>Public Debt</b>	-0.67 (14.03)**	-0.67 (13.3)**
$\chi^2$ <b>(Demog.)</b>	28.7 (0.00)**	21.2 (0.00)**
<b>Adjusted R<sup>2</sup></b>	0.83	0.87
<b>Observations</b>	779	590
<b>Countries</b>	39	39

### A. Industrial countries



### B. Developing countries



- Global evidence very mixed: Prasad et al (2007), Rodrik and Subramanian (2008), Gourinchas and Jeanne (2007)
- Emerging Asia running surpluses; Africa: low growth and high aid-financed deficits
- Emerging Europe: large and persistent deficits
- Blanchard and Giavazzi (2002), Abiad et al (2008), Herrmann and Winkler (2008)
- Under-development Hypothesis

- BWII
- Willen, “Financial Sophistication and the Trade Balance” (1997)
- Caballero, Farhi, Gourinchas (AER, 2008)
- Mendoza, Quadrini, Rios-Rull (2007)
- Fogli and Perri (2006)

- Difficulties in “asset creation”
- Greater exposure to risks: high demand for liquid assets; need to post collateral
- Difference in precautionary savings motive: long-term imbalances
- Role for international financial intermediation: exchange liquid for illiquid assets (eg FDI)

# Financial Underdevelopment: Limitations

- High CA deficits in 1970s and early 1990s
- Investment Collapse, not Savings Glut (exception: China)
- Why US and not Europe?
- Simpler explanations: export-driven growth strategy plus capital controls
- Fall out from current turmoil and poor returns

# Why is Europe Different?

- Kose et al (2008): institutional environment central in determining relation between financial integration and growth
- Institutional anchor of EU membership a key differentiating factor
- Other emerging regions do not have close substitutes to assist institutional development

# Features of EU Membership

- multi-dimensional institutional commitment; deep-rooted; irreversible
- Complementarities between free capital mobility and other freedoms (trade, labour, establishment)
- Harmonisation between advanced and emerging member countries
- Monetary anchor: the euro
- Financial anchor: EU FSAP and other initiatives
- Surveillance

- Trade balance
  - exchange rate
  - extensive margin of trade
- Valuation channel
  - exchange rate
  - asset prices
  - stabilising or destabilising?
  - exploitable?

- Long-Run Real Exchange Rate: Transfer Effect
- Sharp shift in demand, plus nominal rigidities: larger short-term movements
- Analytical small-scale models [Obstfeld and Rogoff].
- Quantitative DSGE models (IMF Global Economic Model etc)

- Elasticity of substitution between tradables and nontradables: low elasticity means larger exchange rate movement required
- Elasticity of substitution between home tradables and foreign tradables: terms of trade channel

# Extensive Margin of Adjustment

- “External Imbalances and the Extensive Margin of Trade” (Galstyan and Lane 2008)
- New varieties account for a large proportion of growth in trade over long horizons
- Theory: Extensive margin relevant for external adjustment dynamics (Corsetti et al. 2008)
- But is extensive margin empirically important for adjustment-relevant horizons?
- No internally consistent data for the study of these implications

- Construct extensive and intensive margins for both exports and imports
- Construct varieties-corrected price indices for both exports and imports
- Study role of extensive margin in recent trade and international price dynamics for the major deficit and surplus economies: United States, Japan, Germany, Switzerland and China
- Relates to previous empirical work on varieties-corrected import and export price indices
  - Feenstra (1994), Broda and Weinstein (2006)
  - Feenstra (2004), Broda and Weinstein (2008)

- Exploit 6 digit HS data from COMTRADE/BACI over 2000-2004
- Define good at 4 digit level. Varieties are 6 digits and country-specific
- Elasticities provided by Broda and Weinstein (2006, 2008)
- Calculate extensive and intensive margins of exports and imports
- Calculate varieties-corrected price indices

- Price index of good  $g$ :

$$\frac{P_{g,t}^m}{P_{g,t-1}^m} = \left( \frac{\lambda_{g,t}^m}{\lambda_{g,t-1}^m} \right)^{\frac{1}{\theta_g - 1}} \prod_{j \in IM_g} \left( \frac{p_{gj,t}^m}{p_{gj,t-1}^m} \right)^{w_{gj,t}^m}$$

- Corrected import price index:

$$\frac{P_{M,t}}{P_{M,t-1}} = \prod_{g \in M} \left( \frac{P_{g,t}^m}{P_{g,t-1}^m} \right)^{w_{g,t}^m}$$

# Decomposing Imports II

- Imports growth:

$$\frac{\sum q_{gj,t}^m p_{gj,t}^m}{\sum q_{gj,t-1}^m p_{gj,t-1}^m} = \underbrace{\prod_{g \in M} \left( \frac{\lambda_{g,t}^m}{\lambda_{g,t-1}^m} \right)^{-w_{g,t}^m}}_{\text{extensive}} \underbrace{\prod_{g \in M} \left( \prod_{j \in IM_g} \left( \frac{p_{gj,t}^m q_{gj,t}^m}{p_{gj,t-1}^m q_{gj,t-1}^m} \right)^{w_{gj,t}^m} \right)^{w_{g,t}^m}}_{\text{intensive}}$$

## Intensive Margin:

$$\underbrace{\prod_{g \in M} \left( \prod_{j \in IM_g} \left( \frac{p_{gj,t}^m}{p_{gj,t-1}^m} \right)^{w_{gj,t}^m} \right)^{w_{g,t}^m}}_{\text{price}}$$
$$\underbrace{\prod_{g \in M} \left( \prod_{j \in IM_g} \left( \frac{q_{gj,t}^m}{q_{gj,t-1}^m} \right)^{w_{gj,t}^m} \right)^{w_{g,t}^m}}_q$$

- Price index of good  $g$ :

$$\frac{P_{g,t}^x}{P_{g,t-1}^x} = \left( \frac{\lambda_{g,t}^x}{\lambda_{g,t-1}^x} \right)^{-\frac{1}{\omega_g+1}} \prod_{j \in EX_g} \left( \frac{p_{gj,t}^x}{p_{gj,t-1}^x} \right)^{w_{gj,t}^x}$$

- Corrected export price index:

$$\frac{P_{X,t}}{P_{X,t-1}} = \prod_{g \in X} \left( \frac{P_{g,t}^x}{P_{g,t-1}^x} \right)^{w_{g,t}^x}$$

# Decomposing Imports II

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- Intensive Margin:

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- The terms of trade is defined as the ratio of exports to imports price indices
- Fixed-variety TT: - Defined as the ratio of price components for intensive margins
- Variety-corrected TT: - Defined as the ratio of variety-corrected price indices
- Ratio of variety corrected to fixed terms of trade

## External Imbalances, 2000-2006

Year	Country	Exports	Imports	TB	CA
2000	United States	10.9	14.8	-3.9	-4.3
2004	United States	9.9	15.1	-5.2	-5.5
2006	United States	11.0	16.7	-5.7	-6.2
2000	Germany	32.9	32.8	0.1	-1.7
2004	Germany	38.1	33.1	5.0	4.3
2006	Germany	44.7	39.4	5.3	5.0
2000	Switzerland	32.0	25.6	6.5	12.3
2004	Switzerland	32.5	23.2	9.3	12.9
2006	Switzerland	35.7	28.4	7.3	15.1
2000	Japan	11.3	9.8	1.5	2.6
2004	Japan	13.8	11.8	2.0	3.7
2006	Japan	16.7	15.3	1.4	3.9
2000	China	23.3	20.9	2.4	1.7
2004	China	34.0	31.4	2.6	3.6
2006	China	40.1	32.2	7.9	9.4

# Evolution of Trade Volumes, 2000-2004

	USA	DEU	CHE	JPN	CHN
Export Volumes:					
Fixed Varieties	0.91	1.20	1.05	1.11	1.78
Varieties-Corrected	0.93	1.21	1.11	1.11	1.84
Intensive Margin	1.03	1.60	1.39	1.17	1.79
Extensive Margin	1.15	1.01	1.20	1.01	1.15
Import Volumes:					
Fixed Varieties	1.06	1.10	1.03	1.04	1.83
Varieties-Corrected	1.38	1.17	1.22	1.19	3.03
Intensive Margin	1.21	1.45	1.36	1.18	2.08
Extensive Margin	1.09	1.01	1.03	1.02	1.26

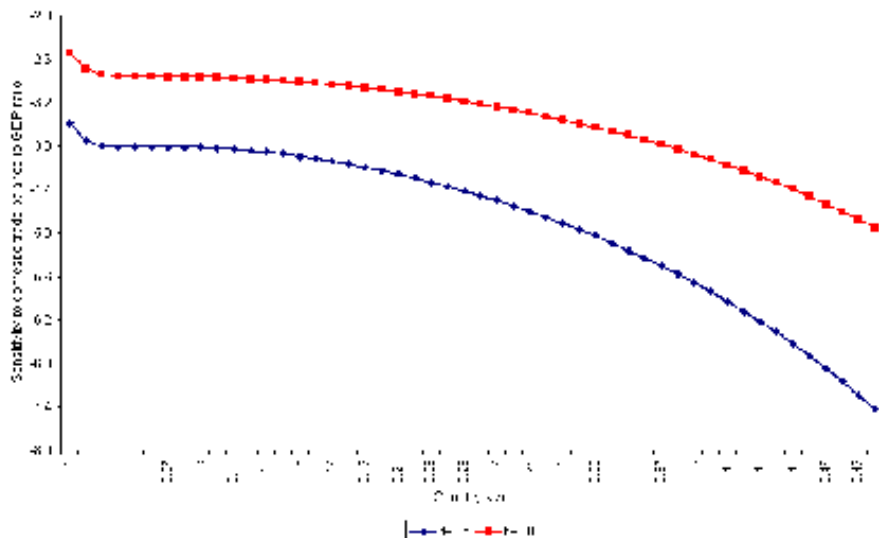
# Growth in Varieties, 2000-2004

	USA	DEU	CHE	JPN	CHN
Varieties					
Exports in 2000	440	517	277	360	293
Exports in 2004	497	559	312	379	586
Imports in 2000	245	247	147	149	74
Imports in 2004	280	270	164	164	172
Destinations:					
Exports in 2000	66	76	45	55	42
Exports in 2004	76	83	51	59	85
Sources:					
Imports in 2000	34	35	22	22	11
Imports in 2004	40	39	25	24	26

# Evolution of International Trade Prices, 2000-2004

	USA	DEU	CHE	JPN	CHN
Export Prices:					
Fixed Varieties	1.14	1.33	1.33	1.06	1.01
Varieties-Corrected	1.27	1.34	1.51	1.07	1.12
Import Prices:					
Fixed Varieties	1.15	1.32	1.32	1.13	1.13
Varieties-Corrected	0.95	1.25	1.15	1.01	0.87
Terms of Trade:					
Fixed Varieties	1.00	1.01	1.01	0.94	0.89
Varieties-Corrected	1.34	1.08	1.31	1.06	1.30

# Relative Terms of Trade and the Extensive Margin

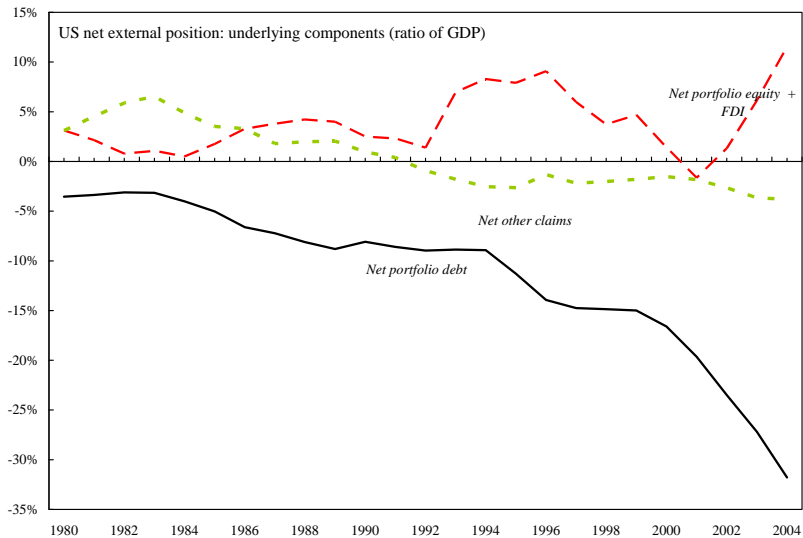


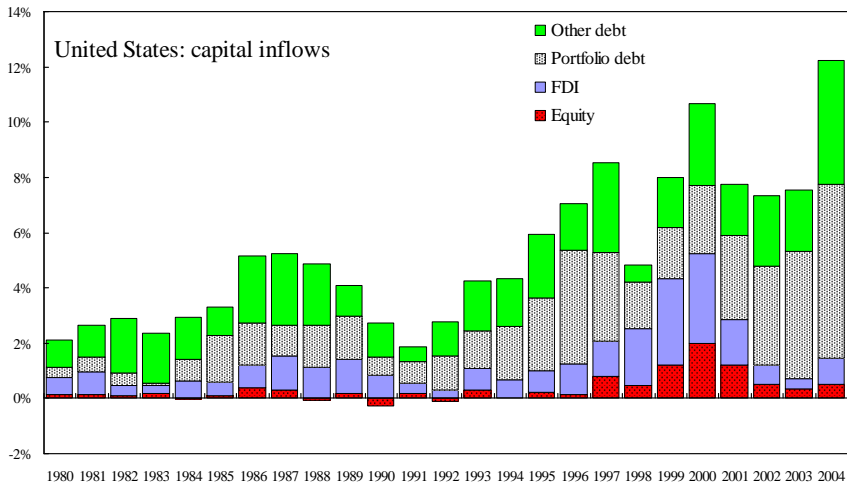
- Composition of trade matters for aggregate trade dynamics
- Substantial contribution from extensive margin over 2000-2004
- Matters for true dynamics of the terms of trade
- Implications for modeling of external adjustment
- Relevance to policy: regulatory environment?

# Valuation Channel Exploitable?

- Gourinchas and Rey (JPE 2007)
- Interest rate parity kicks in if depreciation expected
- Monetary policy driven by domestic concerns
- Lucas critique

- Re-balancing: negative return induces capital inflow
- Return chasing: negative return induces capital outflow





- Textbook model: external debt pays non-contingent fixed interest rate
- Increasing importance of tradable assets in international balance sheets
- Also increase in variable-return FDI
- State-contingent returns: potentially good for risk sharing
- Relation between growth and external sustainability altered
- Also volatility in net external position

- Positive expected returns from 'long equity, short debt' position
- Risk: exposure to liquidity run on liability side
- Risk: exposed to global equity losses
- Foreign-currency debt: a problem
- Intra-EMU: country-specific liquidity problem
- Intra-EMU: engineering real devaluation
- Lessons from current crisis