Country risk, Financial crisis, and Debt Analysis

October –December 2013

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Bibliography

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- Reinhart C., Rogoff K.: This time it's different (Princeton, 2009)
- Paris Club 2012
- IIF 2012
- IMF, annual report 2012
- BIS reports 2012

External Debt Analysis

4 Objectives:

- Examining the robustness of debt-driven **growth** and the sources of **vulnerability**
- Assessing debt servicing **sustainability** , i.e., **liquidity & solvency** prospects
- Early warning indicators of upcoming debt crisis?
- Analyzing **debt restructuring** workouts

Roots of external financial crisis

Excessive growth in money supply
Large ad cheap bank credit → **D > S = excessive absorption**

High rates of spending on domestic and foreign goods
Shrinking foreign net flows → **Inflationary pressures + Exchange rate overvaluation**

Balance of payments crisis

ADJUSTMENT

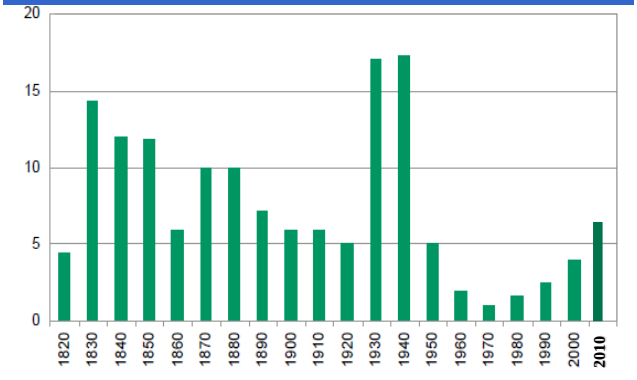
IMF's financing + macroeconomic stabilization

*** Exchange rate adjustment + control of the money supply: decrease in creation of reserve money given the money multiplier of the deposit money banks, + interest rate rise + increase in reserve requirements**

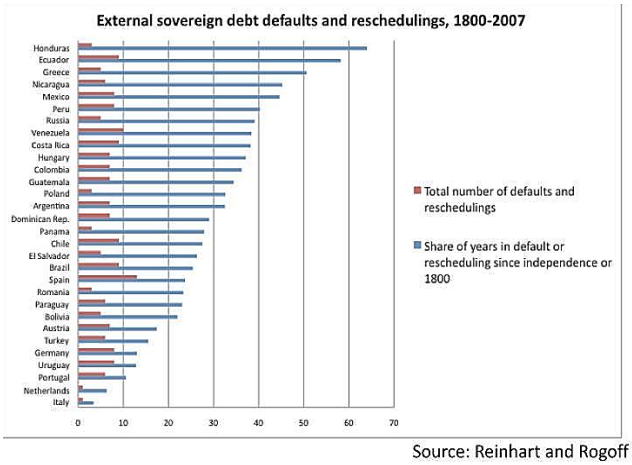
*** Fiscal adjustment + cuts in public spending**

*** Structural measures to stimulate supply and competitiveness**

Number of sovereign debtor countries in default/year



Source : Standard and Poor's, Crédit Agricole S.A.



Source: Reinhart and Rogoff

Fitch-Rated Sovereign IDR Defaults (1995–2011)

Argentina: Defaulted on more than USD80 billion of sovereign foreign currency bonds in December 2001, most of which were held by non-residents. Debt default partially cured in 2005, but some holdout investors remained, constraining the rating to 'RD' until July 2010.

Dominican Republic: Distressed debt exchange in 2005 affected more than USD1.1 billion of eligible foreign currency-denominated bond debt.

Ecuador: Missed coupon payment on its 2012 global bonds followed by an announcement that the government would selectively default on all global bonds. The rating was lowered to 'RD' in December 2008.

Indonesia: Paris and London Club rescheduling operations in June 1998; further rescheduling in 2000 and 2002. Indonesia maintained payments on the single Fitch-rated sovereign bond outstanding at the time.

Moldova: USD75 million eurobond restructured in 2002, followed by a Paris Club deal.

Russian Federation: Exceptionally, Fitch dates sovereign default to August 1998. Although this was when the Russian Federation defaulted on its local currency debt, it began to incur arrears on foreign currency debt owed to the Paris Club official bilateral creditors very quickly afterwards. Defaults on foreign currency debt instruments held by private creditors occurred in 1999, although payments on Russian Federation eurobonds were maintained and honored.

Uruguay: Distressed debt exchange in March 2003 affecting more than USD5 billion of sovereign foreign currency debt, mostly held by non-residents.

Jamaica: A coercive debt exchange in February 2010 affected the country's domestic debt, which included foreign currency denominated instruments to which Fitch's foreign currency rating applied.

RD – Restricted default.

External Debt Analysis

FLOWS: Balance of payments analysis and capital flight

- Sustainability of external debt strategy (refinancing, market access, rescheduling, restructuring..)
- Liquidity

STOCKS: Structure of debt by creditors, maturity (ST/LT), currency and interest rates (fixed/floating)

- Solvency ratios
- London Club debt : secondary market discounts
- Spread/margin over US T Bills and CDS

Why/When does a financial crisis erupt?

Gross and Net Flows

- **Gross Capital Inflows** =

Σ Long-term + Short-term capital flows

- **Net Flows**=

Σ Gross Inflows - Principal Repayments

- **Net Transfers**=

Σ Net Flows - Interest Payments

- **Total debt service payments**=

Σ Principal payments + Interest payments

IIF's analysis of Capital Flows end-2012

Emerging Market Economies: Capital Flows
$ billion

	2010	2011	2012f	2013f
Capital Inflows				
Total Inflows, Net:	*1182*	*1124*	*1067*	*1148*
Private Inflows, Net	1110	1063	1026	1100
Equity Investment, Net	606	529	582	628
Direct Investment, Net	461	526	513	536
Portfolio Investment, Net	145	3	68	91
Private Creditors, Net	503	533	445	472
Commercial Banks, Net	156	168	113	146
Nonbanks, Net	347	365	332	327
Official Inflows, Net	72	61	41	48
International Financial Institutions	33	18	7	15
Bilateral Creditors OECD countries	39	43	34	33
Capital Outflows				
Total Outflows, Net	*-1538*	*-1443*	*-1353*	*-1370*
Private Outflows, Net	-627	-702	-817	-809
Equity Investment Abroad, Net	-273	-216	-276	-293
Resident Lending/Other, Net	-354	-485	-541	-516
Reserves (- = Increase)	-795	-663	-535	-561
Memo:				
Net Errors and Omissions	*-116*	*-78*	*-1*	*0*
Current Account Balance	*356*	*319*	*286*	*222*

Domestic and External Financial Equilibrium

What is disposable income?

Y = gross income minus imports & taxation

$$Y = C + I + G + X - M - T + (KM - K_{flight})$$

Savings = Y – C

$$(S - I) + (T - G) = (X - M) + (KM - K_{flight})$$

Net savings | Fiscal balance | Trade balance | Net capital inflows

Boosting savings to finance investment without external deficit

if S < I ⇒ X < M

- a trade imbalance is always rooted in low savings and excessive domestic spending (absorption).
- It requires macroeconomic correction (interest rate hike, devaluation, ↑ taxation, credit reduction, ↑ reserve requirements…)

The current account of the balance of payments

From less liquid items toward more liquid items!

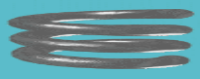
Export of goods f.o.b.
- Imports of goods f.o.b.

= **Trade balance**

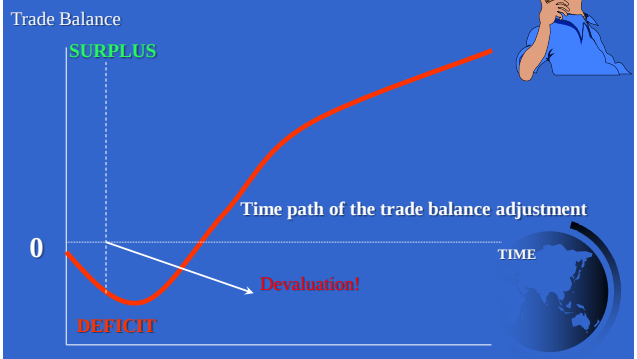
+ Exports of non-financial services
- Imports of non-financial services
+ Investment income (credit)
- Investment expenditures (debit)
+ (-) Private unrequited transfers
+ (-) Official unrequited transfers

= **Current account balance**

US$ 6-month LIBOR



Time lag, elasticities and the adjustment mechanism: "**J curve**"



Reducing the trade deficit?

- Import elasticity of domestic economic growth

△M/ △Y = Income elasticity of demand for imports: percentage of (induced) change in imports divided by the percentage of change in income: if M double while Y is growing 50%, the value of income elasticity = 2.

Trade elasticities: **What about the price effects of exchange rate changes on the BOP?**

- **Import demand elasticity** to prices =
  - **ΔMD/ ΔP $ < 0 ?**

Terms of trade (deterioration post devaluation): it takes more units of Exports to buy x units of imports

- **Export elasticity** to foreign demand change =
  - **ΔX/ ΔFD $ > 0 ?**

This elasticity depends on foreign demand and on trade competitors

- **Supply elasticity** to foreign demand =
  - **ΔS/ ΔFD > 0?**

This elasticity depends on the availability of finance, equipment, (imported) inputs, labor...

Devaluation: the day after

key role of elasticities = ratio of two variations

Supply elasticities

Δ +Domestic production

Δ +Foreign demand

Demand elasticities

Δ - Domestic consumption

Δ+ Import prices

Δ Foreign demand

Δ - export prices

The Capital Account

From less liquid items to more liquid items!

Capital account

+ (-) Direct investment (non debt creating flows)
+ (-) Portfolio investment (NDCF)
+ (-) Other long-term capital (private + official)
+ (-) Other short-term capital (private + official)
+ (-) Net errors and omissions
+ (-) Counterpart items
+ (-) Change in reserves

= **Capital account balance**

+ Exceptional Financing (or arrears)

Risk Management and BOP Analysis

\+ Export of goods f.o.b.
\- Imports of goods f.o.b.
= **Trade balance**
+/- Exports of non-financial services
+ /-Interest payments
+ (-) Private/Official unrequited transfers
= **Current account balance**
+/- FDI
+/- Portfolio capital Flows
+ LT Capital Inflows
- Debt Servicing Payments
+/- ST Capital Flows
Reserve Variation

External Debt Analysis:
The dual face of Country Risk

Liquidity Risk	*Solvency Risk*
Debt Service Ratio: (P+I/X)	Debt/Export ratio
Interest Ratio (I/X)	Debt/GDP ratio
Current account/GDP	Debt/Reserves
Growth rate of exports/ Average external interest rate	ST Debt/Total Debt
	ST Debt/Reserves
	Reserve/Import ratio

Liquidity and Solvency Thresholds

Stock variable

Solvency = Debt/GDP < 66%*

Debt/Exports < 150%

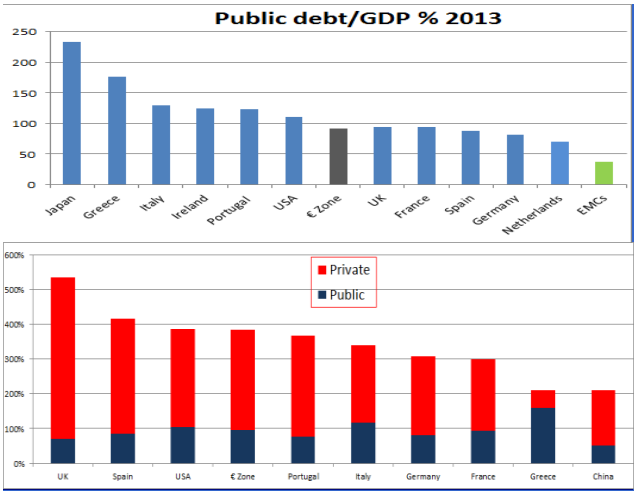
Reserves/months of Imports > 6 months

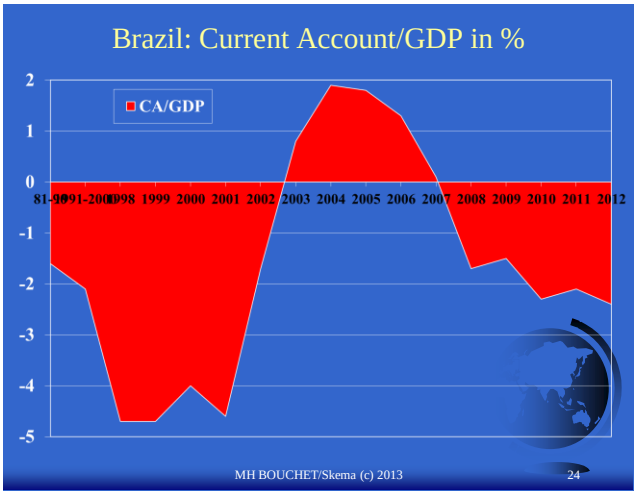
Flow variable

Liquidity = Debt Service ratio < 33% of X

Interest/X ratio < 25%

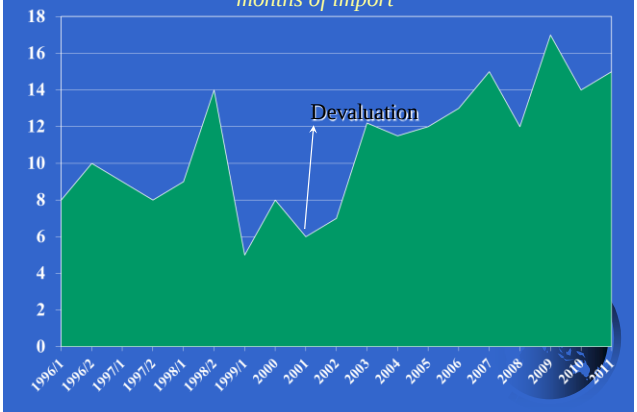
* average debt crisis threshold 1970-2010 Reinhart/Rogoff (Maastricht)



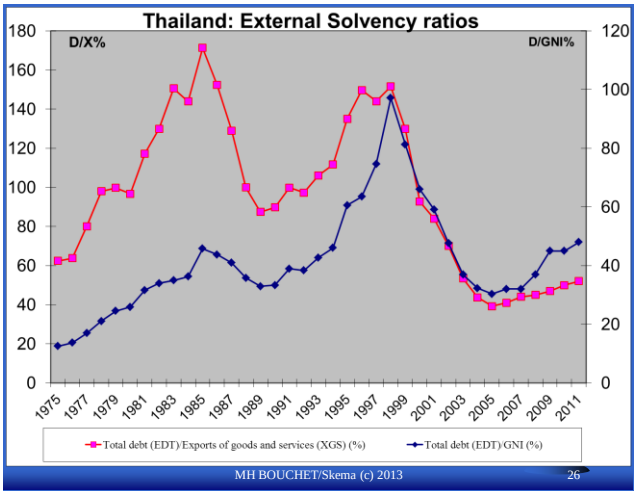


Brazil: Reserve/Import Coverage Ratio

months of import



Thailand: External Solvency ratios



The **debt trap** in a nutshell

« **Expansionary austerity** »

- Deficit shrinking with spending cuts + wage reduction + tight fiscal and monetary policy = **GDP fall** =
- solvency ratios worsening = **Rating downgrading** = Higher borrowing costs

« **Deficit-driven expansion** »

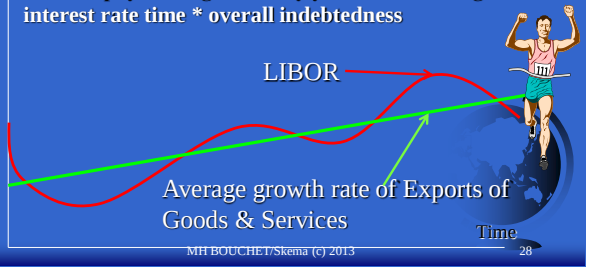
- Large primary fiscal deficit = higher consumption = larger external deficit = larger unfunded financing requirements =
- GDP rise = « stop & go » =
- **Rating downgrading!** = Higher borrowing requirements

External Debt Analysis I

How to stabilize the Interest/Export ratio?

Necessary condition: the growth rate of exports must be at least equal to the average interest rate on total external indebtedness

Interest payments grow every year at the average interest rate time * overall indebtedness



External debt Analysis II

r = average rate of interest and g = average GDP growth rate

- DEBT t= DEBT t-1 * (1+r) – Primary Budget Balance
- GDP t = GDP t-1 * (1 + g)
- $\frac{\text{DEBT t}}{\text{GDP}} = \frac{\text{DEBT t-1}}{\text{GDP t-1}} * (1+r) - \frac{\text{Primary Budget Balance}}{\text{GDP}}$

$$\frac{\text{DEBT}}{\text{GDP t}} = \frac{\text{DEBT}}{\text{GDP t-1}} * \frac{1+r}{1+g} - \frac{\text{Primary Budget Balance}}{\text{GDP}}$$

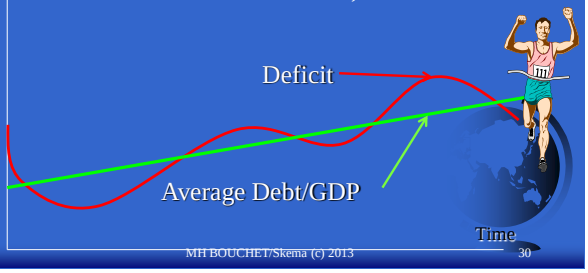
Reducing DEBT= Reducing r, increasing g, or boosting primary surplus

External Debt Analysis III

How to stabilize the Debt/GDP ratio?

Necessary condition: Deficit must be < (Debt/GDP * GDP growth rate)

If Debt/GDP= 85%
If GDP growth = 2%
Then deficit must be < 1,7%



External Debt Analysis IV

How to stabilize the Debt/GDP ratio?

Necessary condition: Deficit must be < (Debt/GDP * GDP growth rate)

g is growth rate of GDP and d is deficit/GDP ratio

DEBT t = DEBT t-1 + DEF t-1 DEF = d * Yt △Yt= Y t-1 (1+g)

$$\frac{\text{DEBT t}}{\text{Y t}} = \frac{\text{DEBT t-1} + \text{d} * \text{Y t-1}}{\text{Y t}}$$

$$\frac{\text{DEBT t}}{\text{Y t}} = \frac{\text{DEBT t-1}}{\text{Y t-1}} * \frac{\text{Y t-1}}{\text{Yt}} + \frac{\text{d}}{1+g}$$

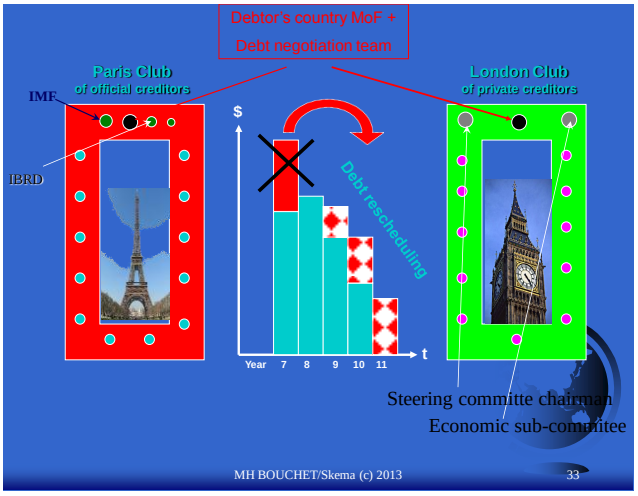
$$= \frac{1}{1+g} * \frac{\text{DEBT t-1}}{\text{Y t-1}} + \frac{\text{d}}{1+g} = \frac{\text{d}/1+g}{1-(1/1+g)} = \frac{\text{d}}{g}$$

So, if DEBT/Y < 120%, DEF should be < 3% for a 2,5% GDP growth rate

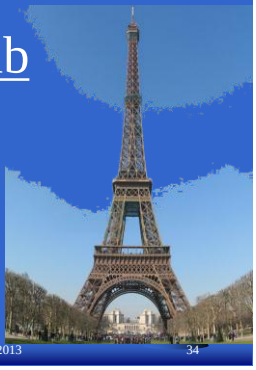
WHO?

Five main groups of private and official creditors:

1. **The IFIs: the IMF and the World Bank + RDBs**
2. **The Paris Club of OECD governments**
3. **Private suppliers: trade debt**
4. **The London Club of international banks**
5. **Institutional investors (pension and investment funds): Eurobond holders**



1. The Paris Club



http://www.clubdeparis.org/sections/donnees-chiffrees/chiffres-cles

1. Paris Club Debt Restructuring

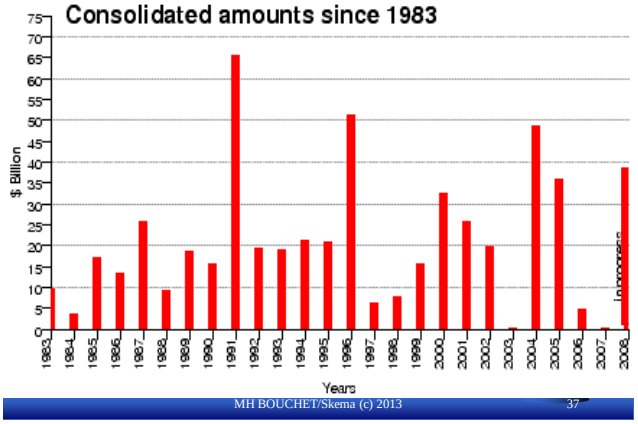
- **Official bilateral debt (government to government)** is renegotiated under the auspices of the Paris Club since 1956
- The Paris Club is a confidential ad-hoc forum of debt negotiations between OECD country creditors and sovereign debtors.
- Only deals with official or officially-guaranteed credits (Coface, Hermes, ECGD, US Eximbank…).
- Total claims on EMCs end-2011: $414 billion

The Paris Club 1956-2012

- The first meeting with a debtor country was in 1956 when Argentina agreed to meet its public creditors in Paris. Since then, the Paris Club creditors have reached 426 agreements (breakdown by year) concerning 88 debtor countries. Since 1983, the total amount of debt covered in these agreements has been **$563 billion**.
- The Paris Club has remained strictly **informal**: voluntary gathering of creditor countries willing to treat in a co-ordinated way the debt due to them by the developing countries.
- It can be described as a "non institution".

Paris Club consolidated debt amounts

in US$ billion



The Paris Club: Functioning

- The creditor countries meet 10 to 11 times a year, for negotiation sessions or to discuss the situation of the external debt of debtor countries or debt related methodological issues.
- 19 creditor countries belong to the Paris Club (incl. Russia)
- These meetings are held in Paris. The Chairman is a senior official of the French Treasury. Deputies to the Chairman in the French Treasury serve as co-president and vice-president. The current Chairman is the head of the Treasury (M. Fernandez)

Paris Club: Debt Restructuring

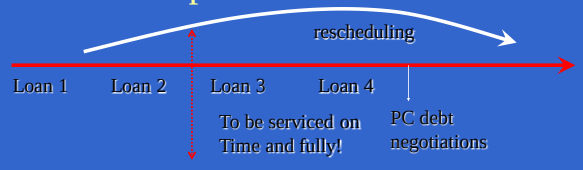
7 Debt Restructuring Guidelines:

1. Consensus
2. Comparability of treatment
3. Solidarity among creditors with on-going information exchanges
4. Case by case treatment of debt difficulties
5. Conditionality based on IMF adjustment program and monitoring
6. No restructuring of « post-cut off date » debt so as to preserve access to new financing
7. Secretariat provided by French Treasury

The four key rules of the Paris Club

- **Consensus :** no decision can be taken within the Paris Club if it is not the result of a consensus among the participating creditor countries.
- **Conditionality** : debt treatments are applied only for countries that need a rescheduling and that implement reforms to resolve their payment difficulties. In practice conditionality is provided by the existence of an appropriate programme supported by the IMF, which demonstrates the need for debt relief.
- **Solidarity** : Creditors agree to implement the terms agreed in the context of the Paris Club.
- The Paris Club preserves the **comparability of treatment** between different creditors, as the debtor country cannot grant to another creditor a treatment less favourable for the debtor than the consensus reached in the Paris Club.

Pre and post cut-off date debt?



- To preserve new money and market access, only **pre cut-off date** debt is eligible to debt relief negotiations through rescheduling, refinancing, debt conversion and debt reduction

Paris Club Debt Restructuring

- From debt rescheduling to debt reduction and debt conversion
- 09/1990: Houston terms: debt service rescheduling (15/8) for countries with GDP per capita <$1345
- Toronto 1988 : 33% debt reduction: Menu approach
- 12/1991: London or « Enhanced Toronto terms » for 23 poorest countries: 50% reduction of eligible debt payments or consolidated debt in NPV, with promise of considering « stock reduction »
- Naples 1994 67% NPV (flow rescheduling) for EMCs with per capita GDP<US$500 and D/X ratio >350%
- Lyon 1996 HIPC 80% debt stock rescheduling
- Cologne June 1999: debt stock reduction up to 80%

« London terms » debt restructuring

In December 1991, Paris Club creditors agreed to implement a new treatment on the debt of the poorest countries, called "London terms ", to raise the level of debt cancellation from the 33.33% as defined in Toronto terms to 50%.
23 countries benefited from London terms between 1991 and 1994, when these terms were replaced by Naples terms.

London terms included the possibility for creditor countries to conduct, on a bilateral and voluntary basis, debt swaps with the debtor country. These swap operations in principle could be carried out without limit on official development aid loans, and up to 20% of the outstanding amount or 15 up to 30 million SDR for non-ODA credits.

Paris Club debt restructuring under the « London terms »

- **Non-ODA credits were cancelled to a 50% level through one of the four following options:**
  - **"debt reduction option" ("DR"): 50% of the claims treated were cancelled (after possible topping-up), the outstanding part being rescheduled at the appropriate market rate (23 years repayment period including 6-year grace and progressive payments).**
  - **"debt service reduction option" ("DSR"): the claims treated were rescheduled at a reduced interest rate (23 years repayment period with progressive payments).**
  - **"moratorium interest capitalisation option" ("MIC"): the claims treated were rescheduled at a reduced interest rate (23-year repayment period including 6-year grace and progressive payments).**
  - **"commercial option": the claims treated were restructured at the appropriate market rate over a longer period (25-year repayment period including 14-year grace). This was a non-concessional option.**
- **ODA credits were rescheduled at an interest rate at least as favourable as the original concessional interest rate applying to these loans (30-year repayment period including 12-year grace and progressive repayment).**

Vietnam and the Paris Club 12/93

- **Amounts treated = $544 million**
- **Repayment profile treatment = London terms (50%debt cancellation)**
- **Cutoff date= January 01, 1990**
- **Participating creditors: AUSTRALIA , AUSTRIA , BELGIUM , DENMARK , FRANCE , GERMANY , ITALY , NETHERLANDS , NORWAY , UNITED KINGDOM , UNITED STATES OF AMERICA**
- **Observers: JAPAN , SPAIN , SWEDEN , Asian Development Bank , IMF , OECD , UNCTAD , World Bank**

Côte d'Ivoire Debt relief agreement 11/2011

- Paris Club external debt relief following the approval by the International Monetary Fund (IMF) of a new 3-year arrangement under the Extended Credit Facility on November 4, 2011.
- "**Cologne terms**" for implementation of the HIPC initiative interim debt relief = 80%
- On an exceptional basis, considering the Republic of Côte d'Ivoire's limited capacity of payment, creditors have agreed to defer and reschedule over a ten-year period the repayment of maturities due by the Republic of Côte d'Ivoire on **short term and post-cut off date debts**; and, over an eight-year period the arrears on those claims. They also agreed to defer all the interest due on the amounts treated.
- These measures are expected to reduce the debt service (including the arrears) due by the Republic of Côte d'Ivoire to Paris Club creditors between 1st July 2011 and 30 June 2014 by more than **78%** which corresponds to $1822 million , of which $397 million cancelled.

The London Club

Debt restructuring of London Club debt

- Commercial banks' claims on EMCs and the debt renegotiation workouts

What is the « London Club »?

- Since the 1970s, countries facing default have used the London Club process to restructure sovereign debt owed to banks.
- The London Club has evolved as an ad hoc forum for restructuring negotiations. Each London Club is formed at the initiative of the **debtor country** and is dissolved when a restructuring agreement is signed.
- Ad hoc London Club "Advisory Committees" are chaired by a leading financial bank.
- Recently, Advisory Committees have included representatives from nonbank creditors (fund managers holding sovereign bonds)

What is the « London Club »?

- *ad hoc* forum for restructuring negotiations.
- Each London Club is formed at the initiative of the debtor country
- London Club "Advisory Committees" are chaired by a leading financial firm with representatives from a cross-section of international banks
- Meetings in London, New York, Paris, and other financial centers.
- IIF + Economic Subcommittee = macroeconomic, BOP analysis and debt sustainability reports to the Advisory Committees

Source: IIF

What is the IIF?

- The Institute of International Finance, Inc. (IIF), is the world's only global association of financial institutions.
- Created in 1983 in response to the international debt crisis, the IIF has evolved to meet the changing needs of the financial community.
- Members include most of the world's largest commercial banks and investment banks, as well as insurance companies and investment management firms. Among the Institute's Associate members are MNCs, trading companies, ECAs, and multilateral agencies.
- The Institute has more than **320 members** headquartered in more than 60 countries.

External Debt Analysis:
Debt Crisis Forecast

- CDS, bond spread evolution and secondary market of commercial bank claims =

1. Early warning indicator of payment default
2. Barometer of market confidence

- Most traded debt: Mexico, Russia, Brazil, Argentina, Nigeria

Weak Liquidity:

Angola, Nicaragua, Cameroon, Albania, Congo, Tanzania, Zaire (Rep. Democr.), Zambia, Iraq, North Korea

Limited Liquidity:

Cuba, Egypt, Jordan, Madagascar, Panama, Jamaica, Ivory Coast, Senegal

Moderate Liquidity:

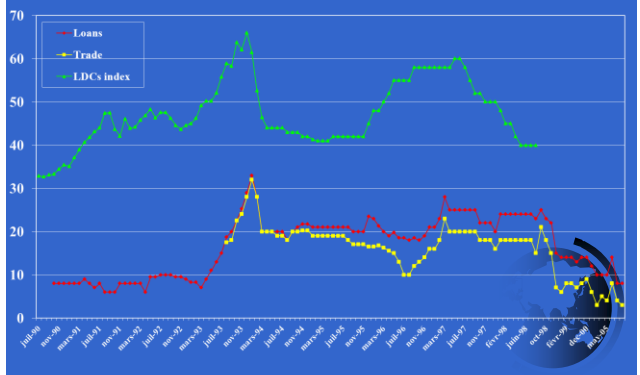
Nigeria, Morocco, Costa Rica, Bulgaria, Peru, Russia, Vietnam

Good Liquidity

Brady Bonds + Eurobonds= Argentina, Brazil, Ecuador, Mexico, Philippines, Poland, Venezuela. South Africa, Turkey

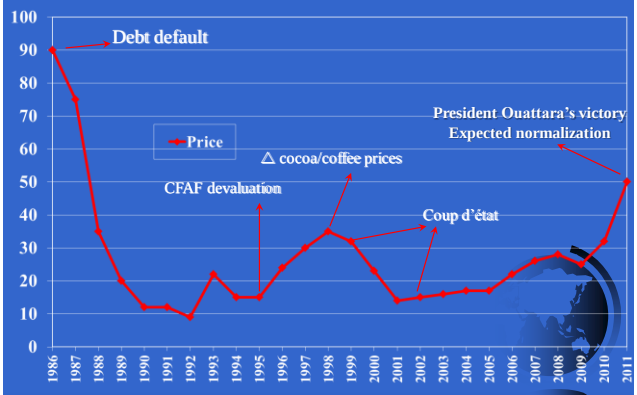
Secondary Market Prices of Cuba's London Club Debt

(1990-2011 in percent of face value)



IVORY COAST's secondary market debt price

(1986-2012 in % of face value)



Hyper-exotic Debt prices (mid-2012)

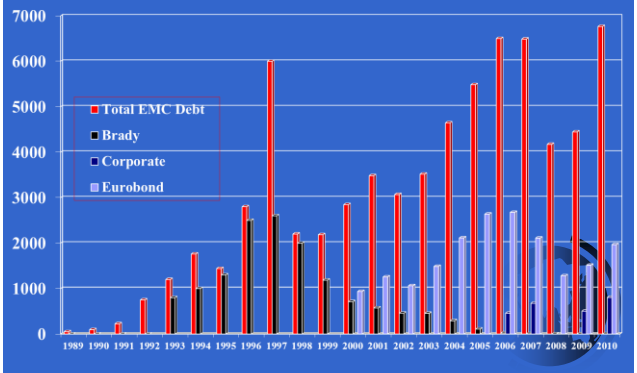
- Myanmar 20%
- Cambodia 20%
- Mongolia 22%
- North Korea 10%

- Argentina (2033 bonds)= 62% following ruling by NY court in 11/2012)
- Cuba Loans 5-10%
- Cuba Trade 2-4%
- Albania 36%
- Bosnia 36%
- Serbia 44%

- Irak Bonds 90%
- Libya 25-35%
- Syria 6-11%
- Yemen 30%

- Angola 50%
- Ethiopia 10%
- Senegal 15%
- Sudan 11-14%
- Uganda 14-1
- Zimbabwe 1

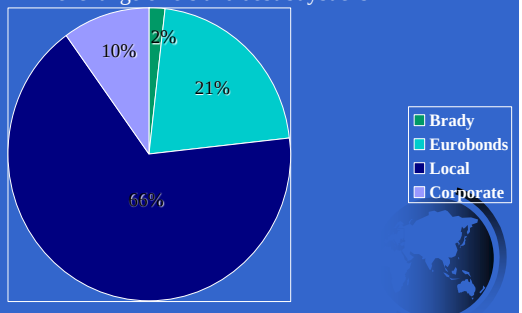
Emerging Market Debt Trading 1989-2011 (US$ billion)



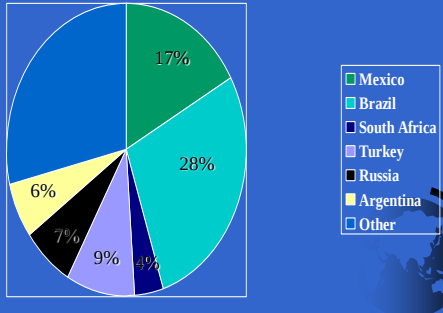
Source: EMTA-London

Trading Volume by instrument turnover

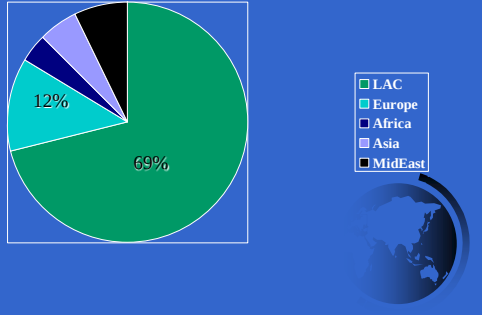
Bradys transactions which accounted for 50% of debt trading in the mid-1990s have shrunk due to early redemption, exchange offers and debt buybacks



Trading Volume by Country (EMTA)



Trading Volume by Region

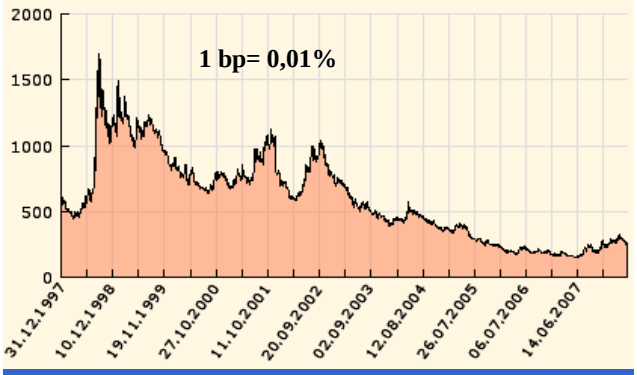


The evolving structure in the secondary debt market

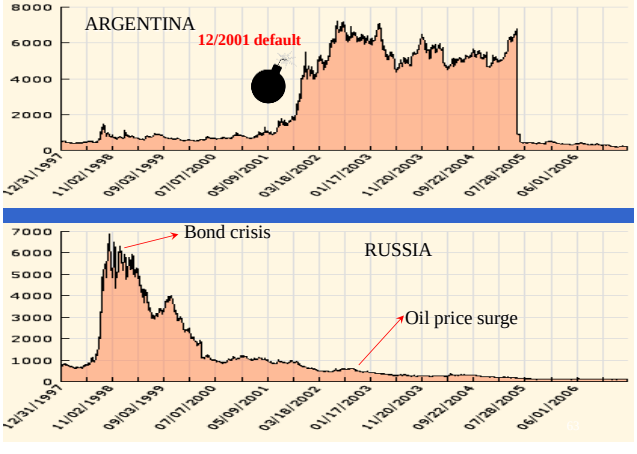
MARKET SHARE COMPARISON		
	2005	1997
Eurobonds	48%	23%
Local Instruments	47%	25%
Options and Warrants	2%	6%
Brady Bonds	2%	41%
Loans	>1%	5%

Source: EMTA 2006

Emerging market bond spread index 1997-2008



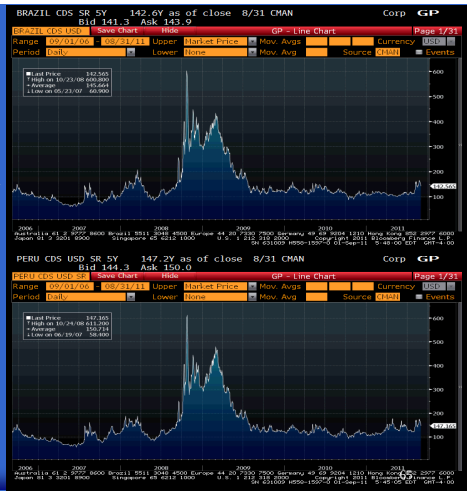
Argentina's and Russia's shrinking spreads 1997-2008



Market Price of risk: yield on Greece's 10-year bonds 2009-2010

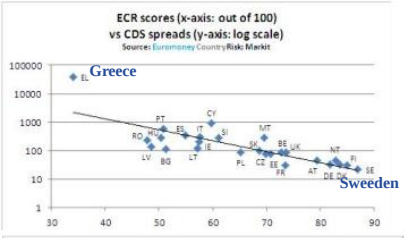
Risk contamination = 5-year CDS Prices: the global spill-over effect 2006-2011

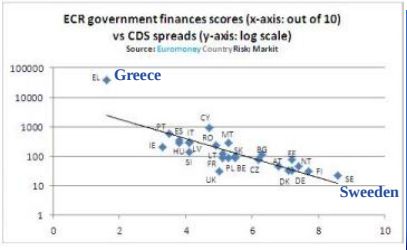
600 bp= $600,000 to insure $10 million/year



CDS spreads as early country-risk warning indicators

CDS spread of 200 bp implies that it costs $200,000/year to insure $10 million worth of debt





The Brady Plan = Menu-based debt restructuring

The 1989-2012 Brady Debt Reduction Plan

- Debtor countries:

1. Tough macroeconomic adjustment programs under the monitoring of the IMF/WB (SALs)
2. Cofinance LT debt repayment guarantees with purchase of zero-coupon bonds

- London Club banks:

1. Provide deep discounts through interest or debt stock reduction
2. Get accounting and regulatory incentives
3. Shift to specific purpose financing and voluntary lending (2003-2007)

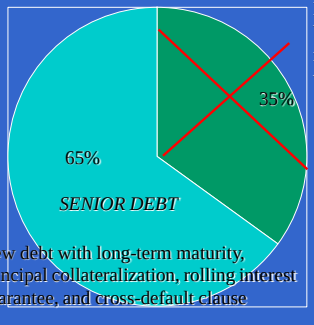
The 1989 Brady Plan

- Objective: defaulted sovereign London Club bank loans would be exchanged for collateralized, easily **tradeable** 30-year bonds, with bullet repayment
- London Club banks would grant some amount of debt relief to debtor nations, in some proportion of secondary market discounts.
- The new Brady bonds would be guaranteed by zero-coupon US Treasury bonds which the defaulting nation would purchase with financing support from the IMF/World Bank.

Brady Bonds

- Brady Bonds are named after former U.S. Treasury Secretary Nicholas Brady.
- Brady bonds have their principal guaranteed as well as x semi-annual interest payments, whose guarantee is rolled over.
- Bullet repayment is collateralized by 30-year zero coupon bonds, with a specific-purpose issue of the US Treasury, the Banque de France or the BIS.
- Cross-default clause

The Brady plan in action



Debt cancellation backed up by commercial banks' reserves for loan-losses with regulatory incentives

New debt with long-term maturity, principal collateralization, rolling interest guarantee, and cross-default clause

Types of Brady Bonds

- **Par Bonds** *Maturity:* Registered 30 year bullet issued at par *Coupon:* Fixed rate semi-annual below market coupon *Guarantee:* Rolling interest guarantees from 12 to 18 months Generally principal is collaterallized by U.S. Treasury zero-coupon bonds
- **Discount Bonds (DB)** *Maturity:* Registered 30 year bullet amortization issued at discount *Coupon:* Floating rate semi-annual LIBOR *Guarantee:* Rolling interest guarantees from 12 to 18 months.
- **Front Loaded Interest Reduction Bonds (FLIRB)** *Maturity:* Bearer 15 to 20 year semi-annual bond. Bond has amortization feature in which a set proportion of bonds are redeemed semi-annually. *Coupon:* LIBOR market rate until maturity. *Guarantee:* Rolling interest guarantees generally of 12 months available only the first 5 or 6 years.

Brady Bonds

- **Debt Conversion Bonds (DCB)** *Maturity:* Bearer bonds maturing between 15-20 years. Bonds issued at par. *Coupon:* Amortizing semi-annual LIBOR market rate. *Guarantee:* No collateral is provided
- **New Money Bonds (NMB)** *Maturity:* Bearer bonds maturing 15-20 years. *Coupon:* Amortizing semi-annual LIBOR. No collateral
- **Past Due Interest (PDI)** *Maturity:* Bearer bonds maturing 10-20 years. *Coupon:* Amortizing semi-annual LIBOR. No collateral
- **Capitalization Bonds (C-Bonds)** Issued in 1994 by Brazil in their Brady plan. Maturity: Registered 20 year amortizing bonds initially offered at par. Coupon: Fixed below market coupon rate stepping up to 8% during the first 6 years and holding until maturity. Both capitalized interest and principal payments are made after a 10 year grace period.

Brady Bonds

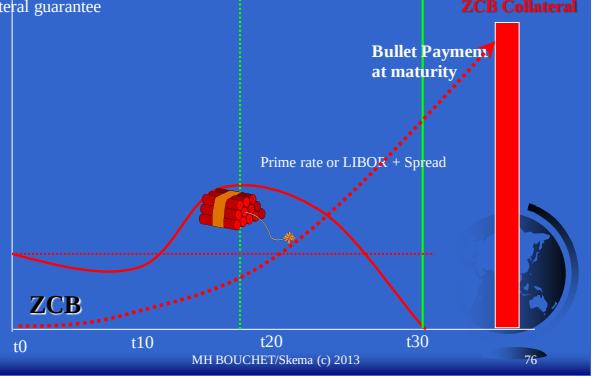
- Brady Bonds are named after former U.S. Treasury Secretary Nicholas Brady.
- Brady bonds have their principal guaranteed as well as x semi-annual interest payments, whose guarantee is rolled over.
- Bullet repayment is collateralized by 30-year zero coupon bonds, with a specific-purpose issue of the US Treasury, the Banque de France or the BIS.
- Cross-default clause

Brady Bonds

Arg Par	48.000	50.000
Arg FRB	41.000	42.000
Arg '27	31.000	33.000
Brz C	75.250	75.437
Brz '27	72.750	73.000
Bul IAB	85.000	85.500
Mex Par	93.000	93.250
Pol Par	75.250	76.250
Rus '28	107.750	108.000
Ven DCB	78.250	78.750
Vie Par	44.000	45.000

Brady Bonds

Default on interest payments triggers exercice of interest guarantee + principal collateral guarantee



The Greek 2011-12 menu-based « Brady debt restructuring » = 65% « *hair cut* »

1. **Par Bond** Exchange into a 30 year instrument (4% coupon)
2. **Par Bond** offer involving rolling-over maturing Greek government bonds into 30 year instruments
3. **Discount Bond** Exchange into a 30 year instrument with 20% discount and 5% coupon
4. **Discount Bond** Exchange into a 15 year instrument with 5,9% coupon
5. **Buyback** at 35% price (65% discount) of London Club debt (11/2012)

- For instruments, 1, 2 and 3 the principal is fully collateralized by 30 year zero coupon AAA Bonds.
- For instrument 4, the principal is partially collateralized through funds held in an escrow account.

Calculation: IIF & http://www.voxeu.org/index.php?q=node/6818

Challenges of the Greek debt restructuring workout 2011-12

- 1. Pari passu: Private investors insist that government bail-out lenders would be treated the same way as the private sector, to lessen the risk of another cut in their payouts down the line
- 2. New bonds issued to private investors as part of the hair cut to be governed by London rather than Greek law
- 3. Threat of free riders and legal actions: VEGA Hedge Fund

Vietnam & Brady

- Brady debt restructuring (12/97)=
- (P= 311 million) + (PDI= 486)
- = **797 million**
- 30-year bonds with 50% discount, par bonds, and buyback at 44%

Vietnam's government securities in 2011

VIETNM (12 Found) Cpn Typ All Mty Typ All Exclude None

Issuer	Coupon	Maturity	Series	Rtg	Freq	Mty Type	Cntry	Curr	Ask Px
1)VIETNAM (REP OF)	6.875	01/15/16	REGS	B+	S/A	BULLET	VN	USD	106.2500
2)VIETNAM (REP OF)	6.875	01/15/16	144A	B+	S/A	BULLET	VN	USD	106.2500
3)VIETNAM-PDI	VAR	03/12/16	US	NR	S/A	SINKABLE	VN	USD	N.A.
4)VIETNAM-PDI	VAR	03/12/16	18YR	NR	S/A	SINKABLE	VN	USD	88.0000
5)VIETNAM (REP OF)	6.750	01/29/20	REGS	B+	S/A	BULLET	VN	USD	101.5000
6)VIETNAM (REP OF)	6.750	01/29/20	144A	B+	S/A	BULLET	VN	USD	102.2500
7)VIETNAM-PAR	3.750	03/12/28	US	NR	S/A	CALL/SINK	VN	USD	N.A.
8)VIETNAM-PAR	4.000	03/12/28	30YR	B+	S/A	CALL/SINK	VN	USD	75.0000
9)VIETNAM-DISC	FLOAT	03/13/28	30YR	B+	S/A	BULLET	VN	USD	84.0000
10)VIETNAM-DISC	FLOAT	03/13/28	US	NR	S/A	BULLET	VN	USD	N.A.
11)VIETNAM-DM LOAN	0.000	12/29/49	DM	NR	S/A	CALL/SINK	VN	DEM	N.A.
12)VIETNAM-US$ LOAN	0.000	12/29/49	US$	NR	S/A	CALL/SINK	VN	USD	N.A.

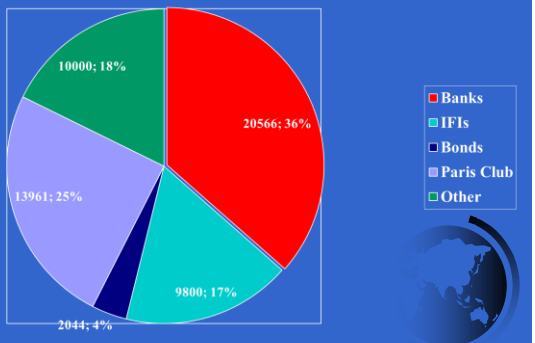
Vietnam's external debt outstanding 2011-12

Total external debt: US$56 billion

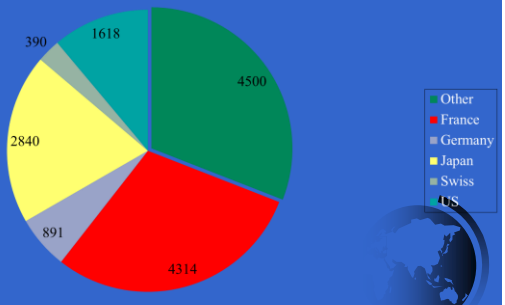
- Debt/GDP= 55%
- **Debt/XGS= 50%**
- **Debt service ratio/XGS < 5%**

IMF/2010

Vietnam's total external debt: US$56 billion (e) o/w <30% ST



Vietnam's international bank debt

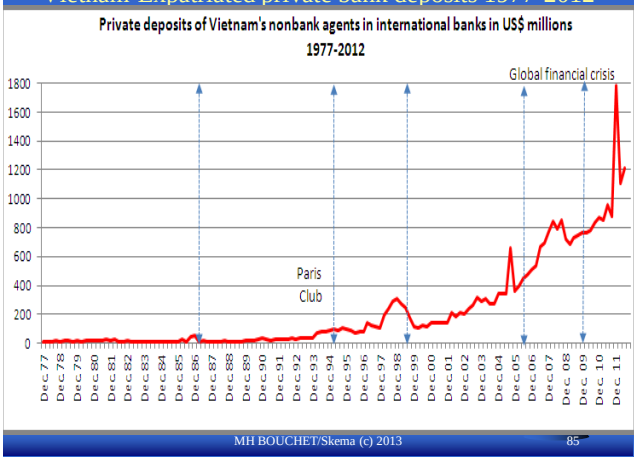


Source: BIS 2012

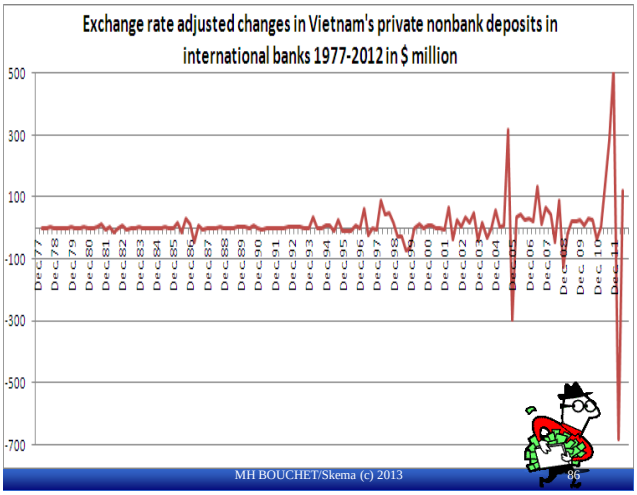
VIETNAM's international bank debt

- **International bank claims** on Vietnam= US$ 20,6 billion as of end-12 (o/w 24% from UK banks, 17% from French banks, 11% from US banks)
- o/w US$4,8 on the non-bank private sector.
- Short-term debt: US$8,5 billion
- Undisbursed credit commitments: US$0,92 billion
- **Total overseas deposits** in international banks: US$ 4,9 billion
- o/w Deposits of **private nonbank** agents: US$1213 million (US$360 million end-2005)

Vietnam-Expatriated private bank deposits 1977-2012



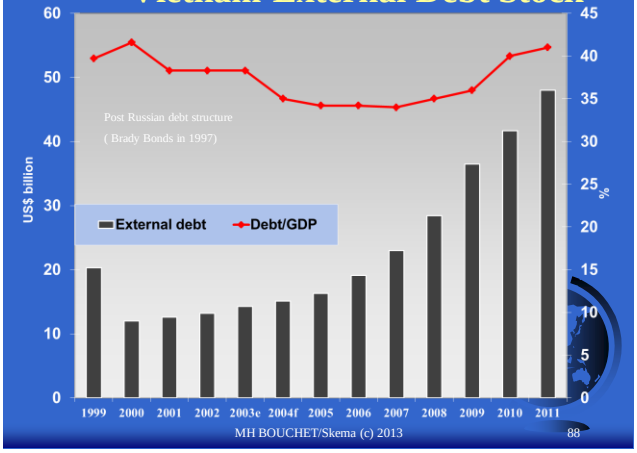
Exchange rate adjusted changes in Vietnam's private nonbank deposits in international banks 1977-2012 in $ million



Vietnam-Net Liquidity Ratios

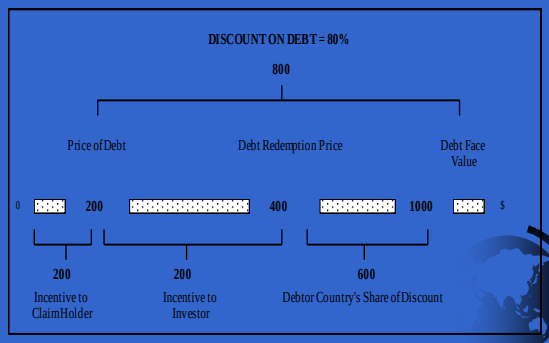
VIETNAM		2006	2007	2008	2009	2010	2011	2012
Bank Loans		4,795	9,052	16,081	12,380	15,990	18,600	
Bonds		2,000	2,000	2,000	2,000	2,000	2,000	
Bank deposits		4,509	6,324	3,438	4,086	4,847	4,559	
Private dep		0,509	0,770	0,720	0,765	0,796	0,956	
Reserves		20	21	23	14,1	12,4	14	
GDP		57,294	71,100	90,300	93,200	103,600	118,600	128,500
NET RATIO%		30,918%	22,886%	9,255%	4,084%	-0,717%	-1,721%	0,000%
Private dep/R		2,55%	3,67%	3,13%	5,43%	6,42%	6,83%	

Vietnam-External Debt Stock



Debt Conversion: a positive sum game?

Face value= $1000

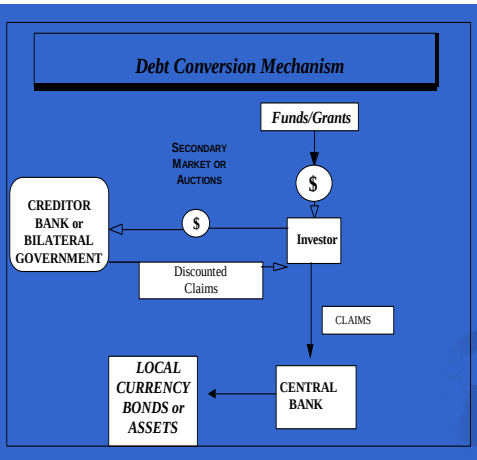


Positive Sum Game!

- Debtor: debt cancellation with local currency payments while stimulating foreign direct investment and enhancing the role of private sector activity in the local economy (privatization)
- Creditor: cleaning up of portfolio with upfront cash payment while accounting losses get absorbed by loan-loss reserves
- Investor: access to local currency at a discounted exchange rate that boils down to an investment subsidy, thereby mitigating the overall country risk and the specific project risk

Corporate debt swap transactions

- 04/2001: South Korea's largest builder HEC (Hyundai Engineering & Constr.) makes a debt swap with its creditors to reduce debt ratios from 1240 % to 250%, by issuing new shares and bonds to creditors as a part of the rescue package after Hyundai reported losses >US$2.2 billion that wiped out its equity capital!



Source: OSF

External Debt Analysis:
Debt Crisis Forecast

- Bond spread evolution and secondary market of commercial bank claims =

1. Early warning indicator of payment default
2. Barometer of market confidence

- Most traded debt: Mexico, Russia, Brazil, Argentina, Nigeria