# Inflation Targeting and the Exchange Rate in Brazil

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May 2005

BANCO CENTRAL DO BRASIL

# 1. Inflation Targeting in Brazil

# Inflation Targeting in Brazil

- Inflation targeting regime → Established in June 1999, complementing the transition to a floating exchange rate regime
  - Targets set up by the CMN (National Monetary Council)
  - Reference index: IPCA (Broad National Consumer Price Index)
  - Targets defined for calendar year
  - Targets set up with tolerance interval, without escape clauses.

# Inflation Targeting in Brazil

- **CMN initial strategy encompassed multi-year declining inflation targets:**

  - **<u>Inflation Targets set up in 1999/2001</u>**

| | | | |
|---|---|---|---|
| **1999** | → | **8% +/- 2%** | |
| **2000** | → | **6% +/- 2%** | **Resolution n. 2,615 of June 1999** |
| **2001** | → | **4% +/- 2%** | |
| **2002** | → | **3.5% +/- 2%** | **Resolution n. 2,744 of June 2000** |
| **2003** | → | **3.25% +/- 2%** | **Resolution n. 2,842 of June 2001** |

# Inflation Targeting in Brazil

- **External shocks led to a revision of the original strategy**

2003 → 4% +/- 2.5%

2004 → 3.75% +/- 2.5%

Resolution n. 2,972 of June 2002 (changing the inflation target and the tolerance interval set up in 2001)

- **2003: Adjusted targets trajectory**

2003 → 8.5%

2004 → 5.5%

Open Letter of the Central Bank's Governor to the Finance Minister (January 2003)

# Inflation Targeting in Brazil

- **Disinflation enabled the return to the previous strategy**

2004 → 5.5% +/- 2.5%

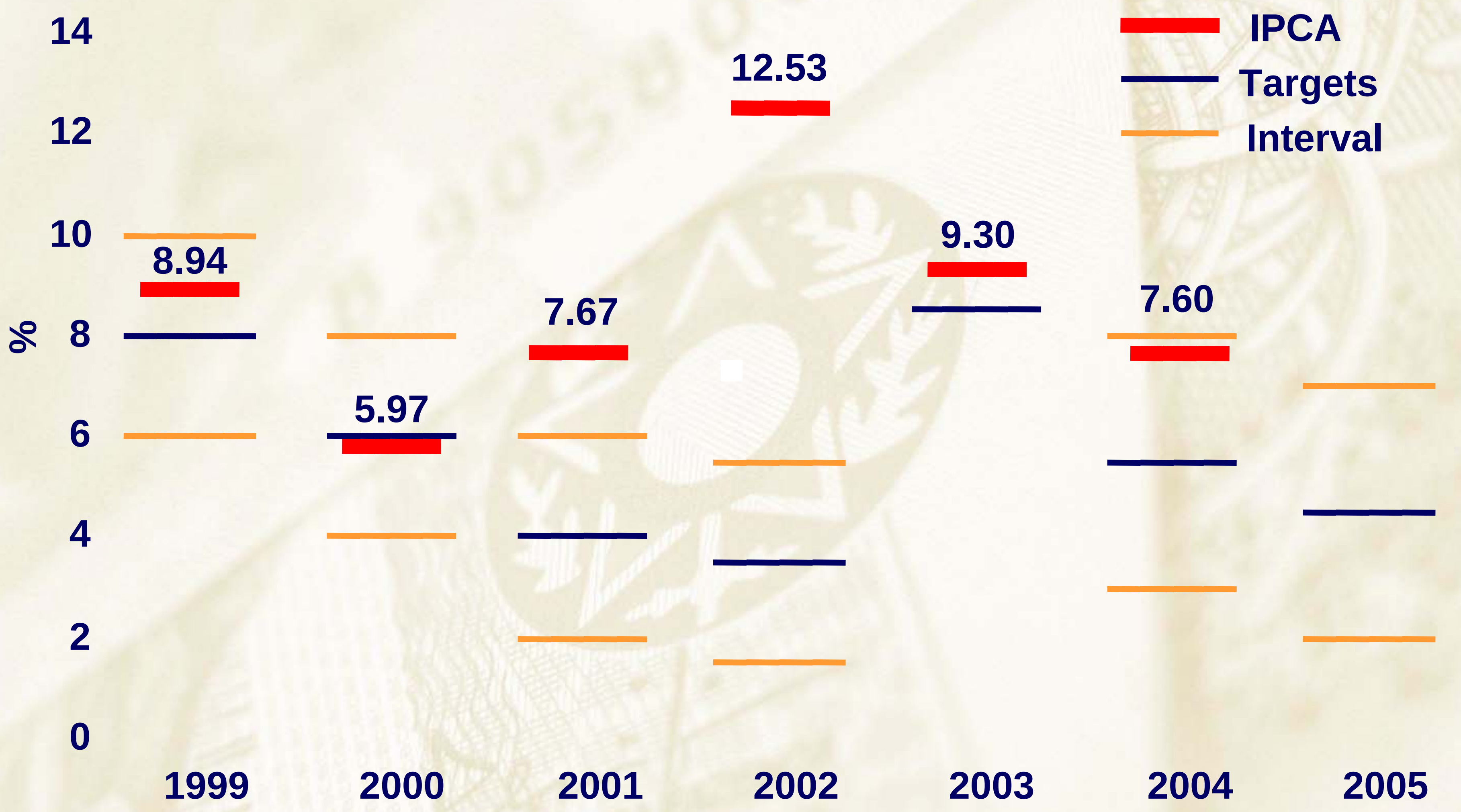
2005 → 4.5% +/- 2.5%

Resolution n. 3,108 of June 2003 (adopted the BCB adjusted target for 2004 as the new CMN target, with a tolerance interval of 2.5%, and established the 2005 target)

- **Return to the original tolerance interval**

2006 → 4.5% +/- 2% Resolution n. 3,210 of June 2004

# Inflation Targets and IPCA



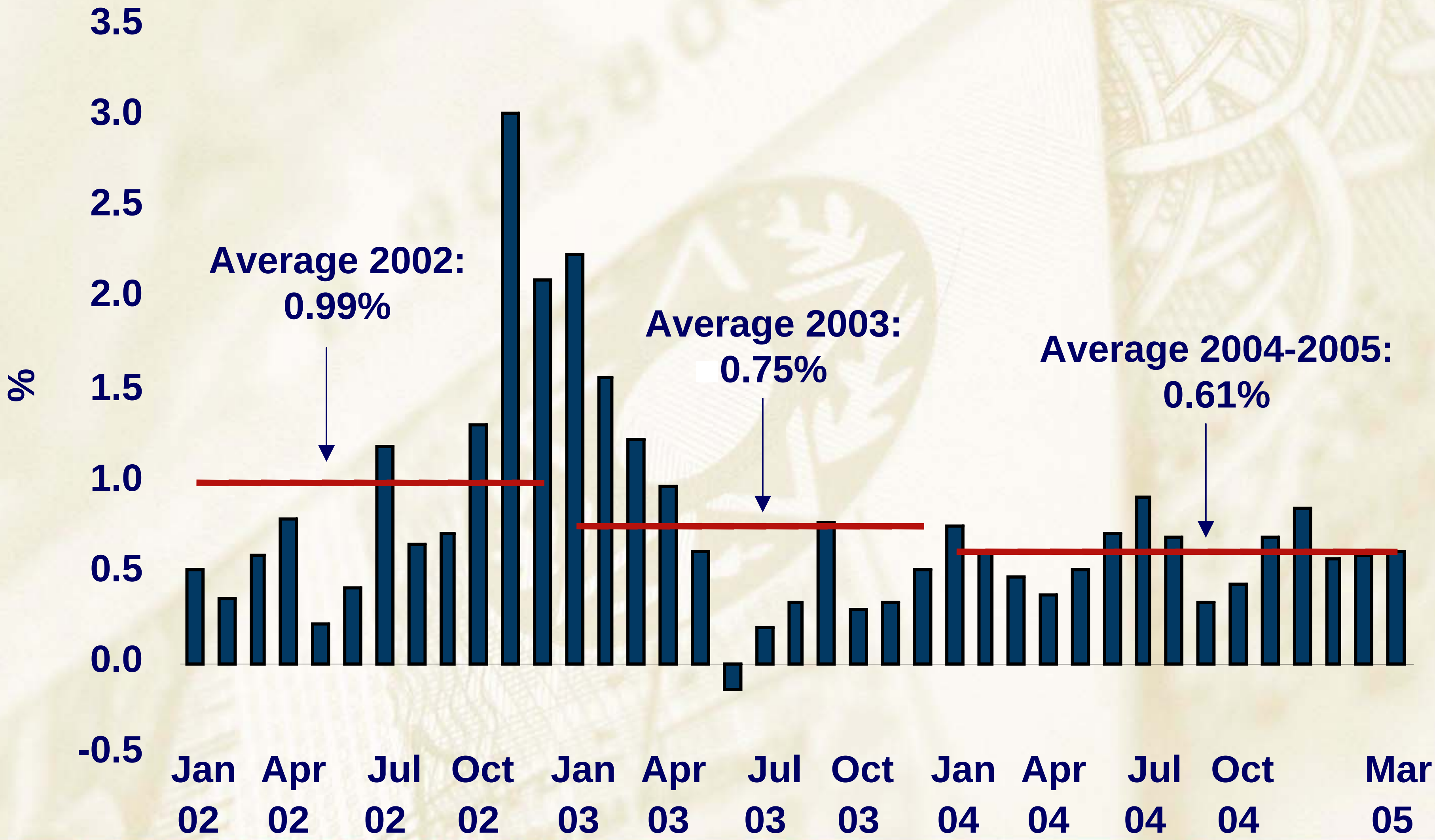
# Inflation, GDP and Interest Rate Volatility

## Inflation, GDP and Interest Rate
## Mean, Standard Deviation and Coefficient of Variation

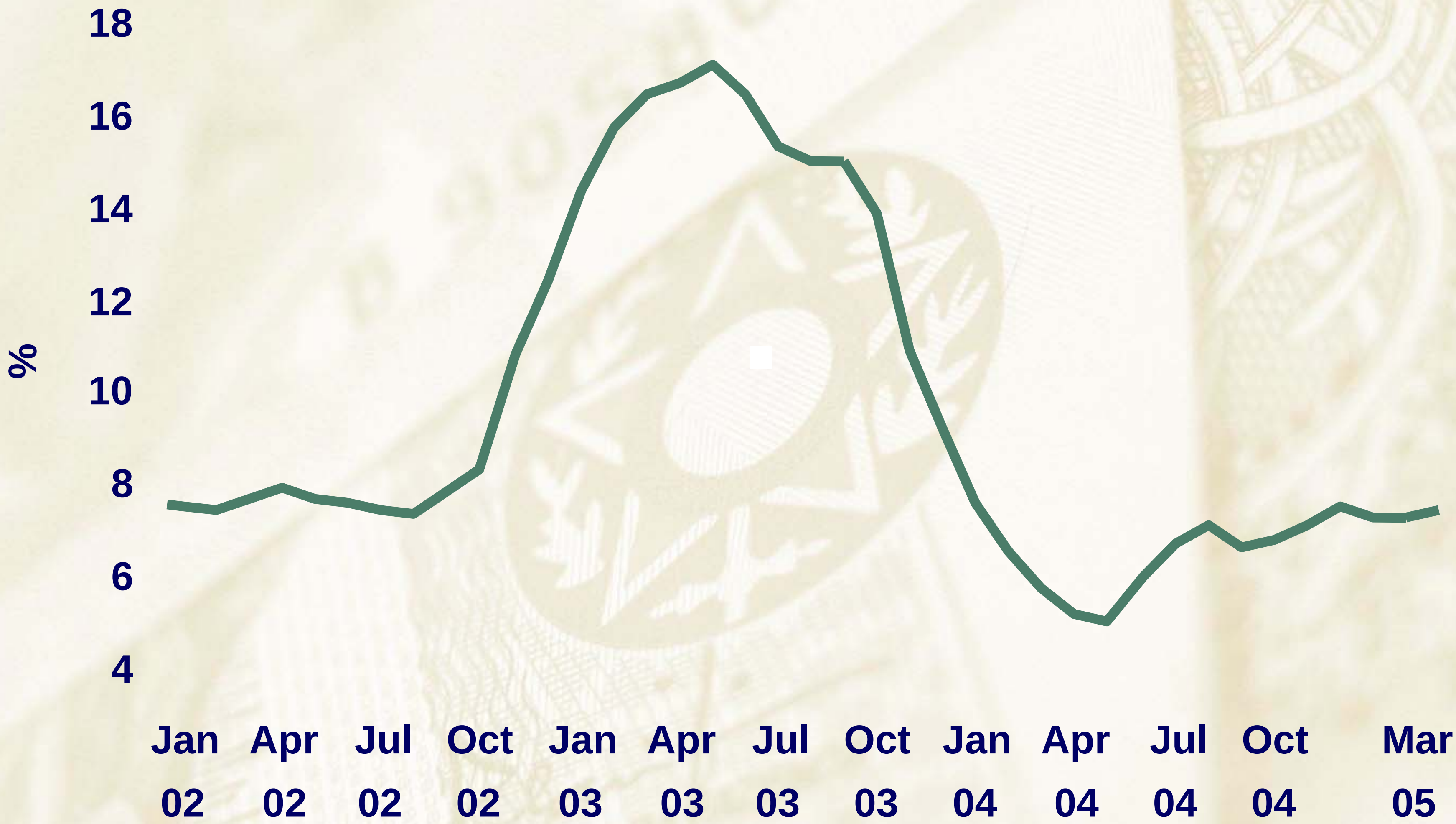
| Period | Inflation | | | GDP | | | Interest Rate | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | S.D. | C.V. | Mean | S.D. | C.V. | Mean | S.D. | C.V. |
| **Previous** | | | | | | | | | |
| 4Q94 – 2Q99 | 9.8 | 9.7 | 99% | 2.1 | 6.8 | 329% | 35.4 | 14.1 | 40% |
| 1Q96 – 2Q99 | 5.6 | 3.9 | 71% | 2.0 | 5.9 | 287% | 28.2 | 6.0 | 21% |
| **Targets** | | | | | | | | | |
| 3Q99 – 4Q04 | 8.7 | 5.9 | 69% | 2.7 | 3.7 | 139% | 18.8 | 3.0 | 16% |
| 3Q99 – 2Q01 | 7.1 | 3.6 | 51% | 3.1 | 3.7 | 121% | 17.6 | 1.6 | 9% |
| 3Q03 – 4Q04 | 7.1 | 1.2 | 17% | 4.8 | 2.2 | 46% | 17.8 | 2.9 | 16% |

Quarterly annualized data

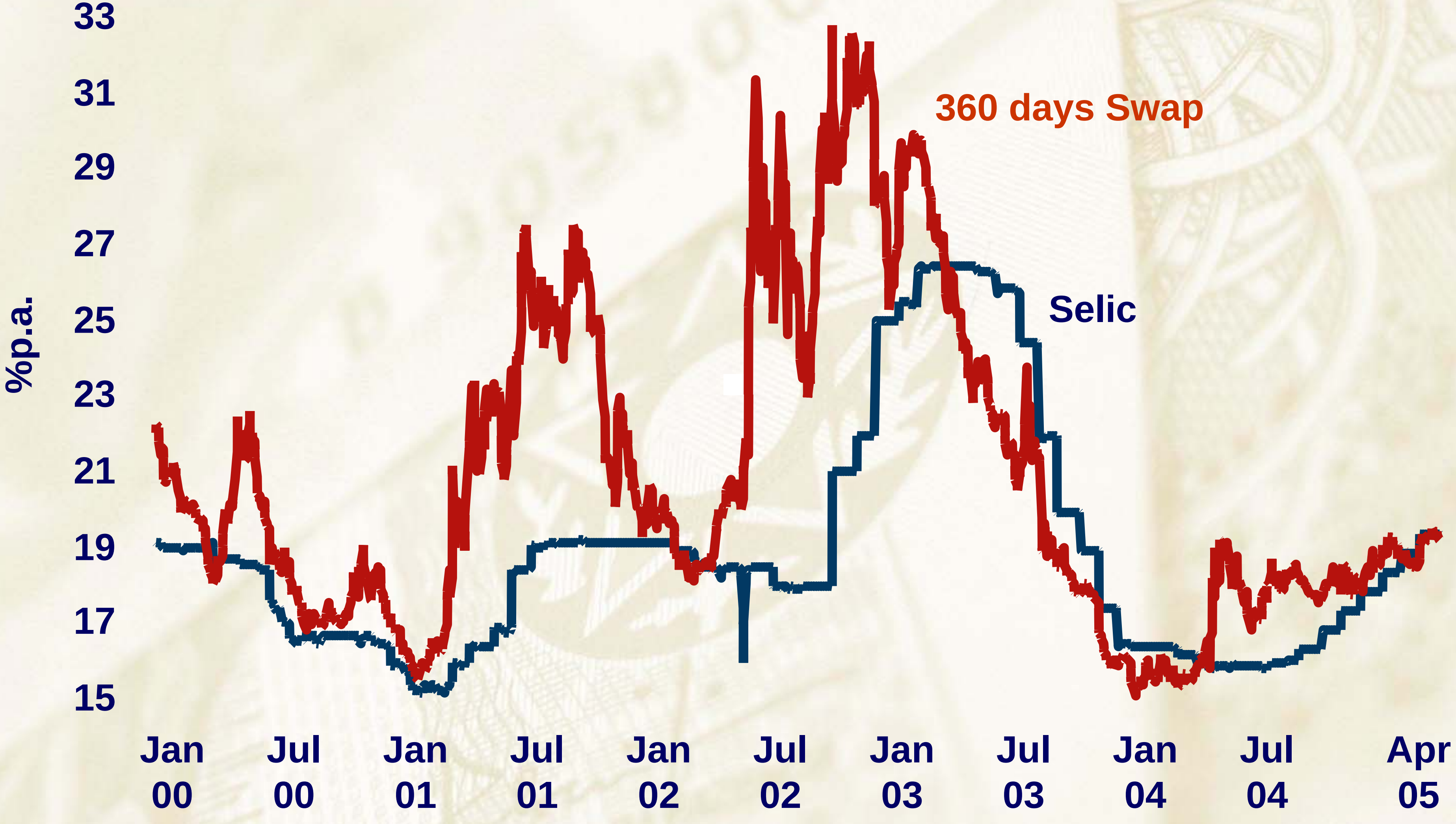
# Monthly IPCA



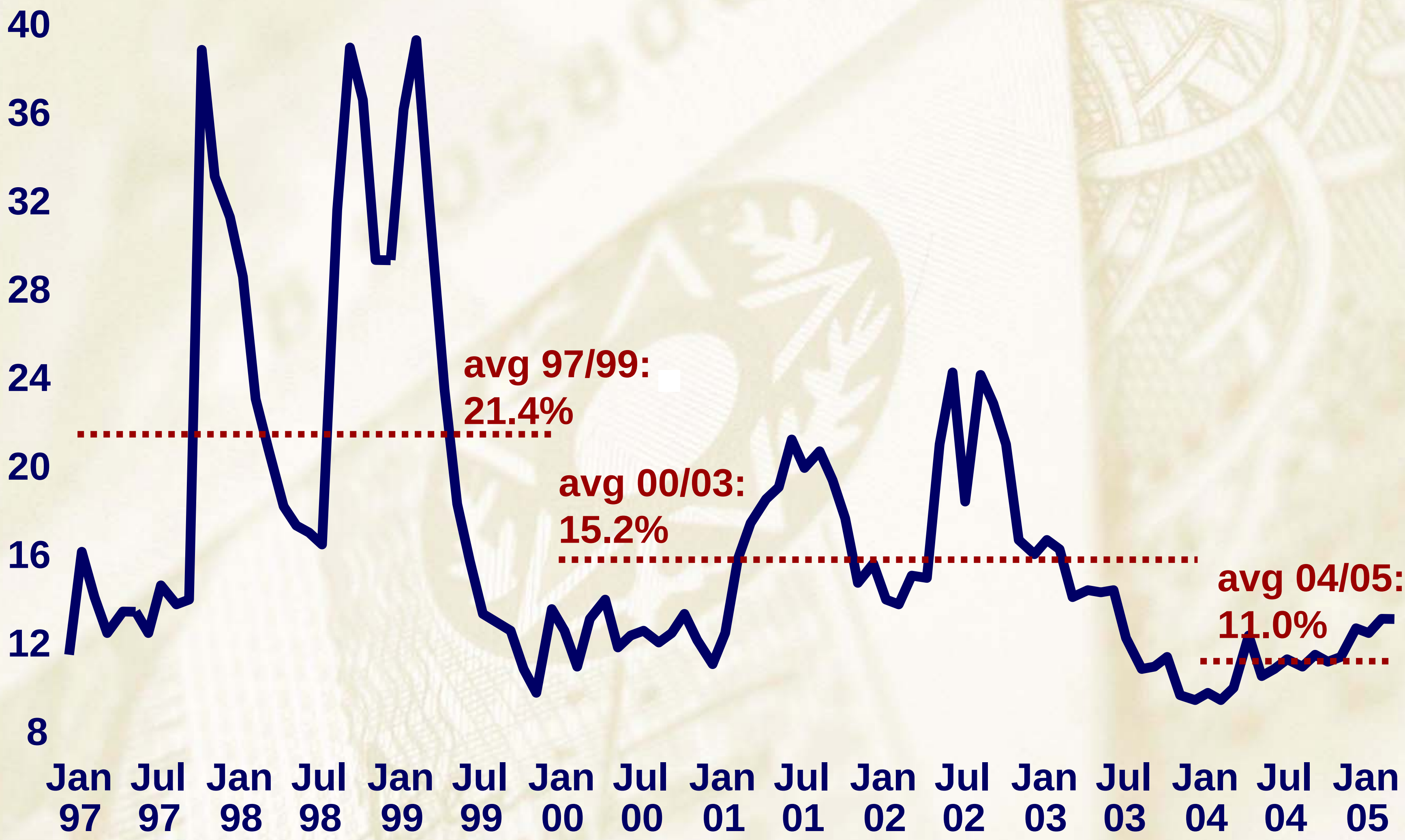
# IPCA Accumulated in 12 Months



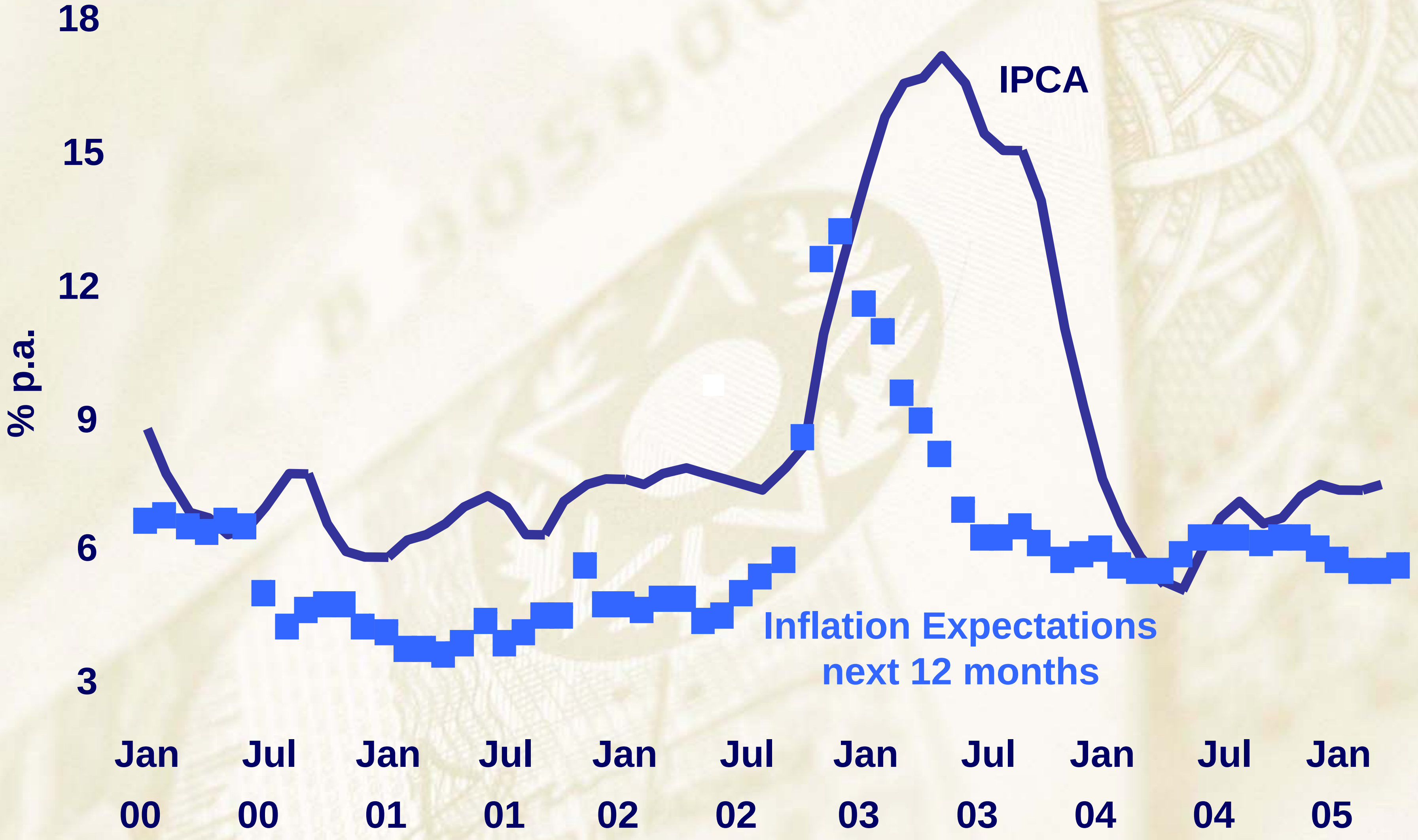
# Interest Rate (Selic and 360 days Swap)



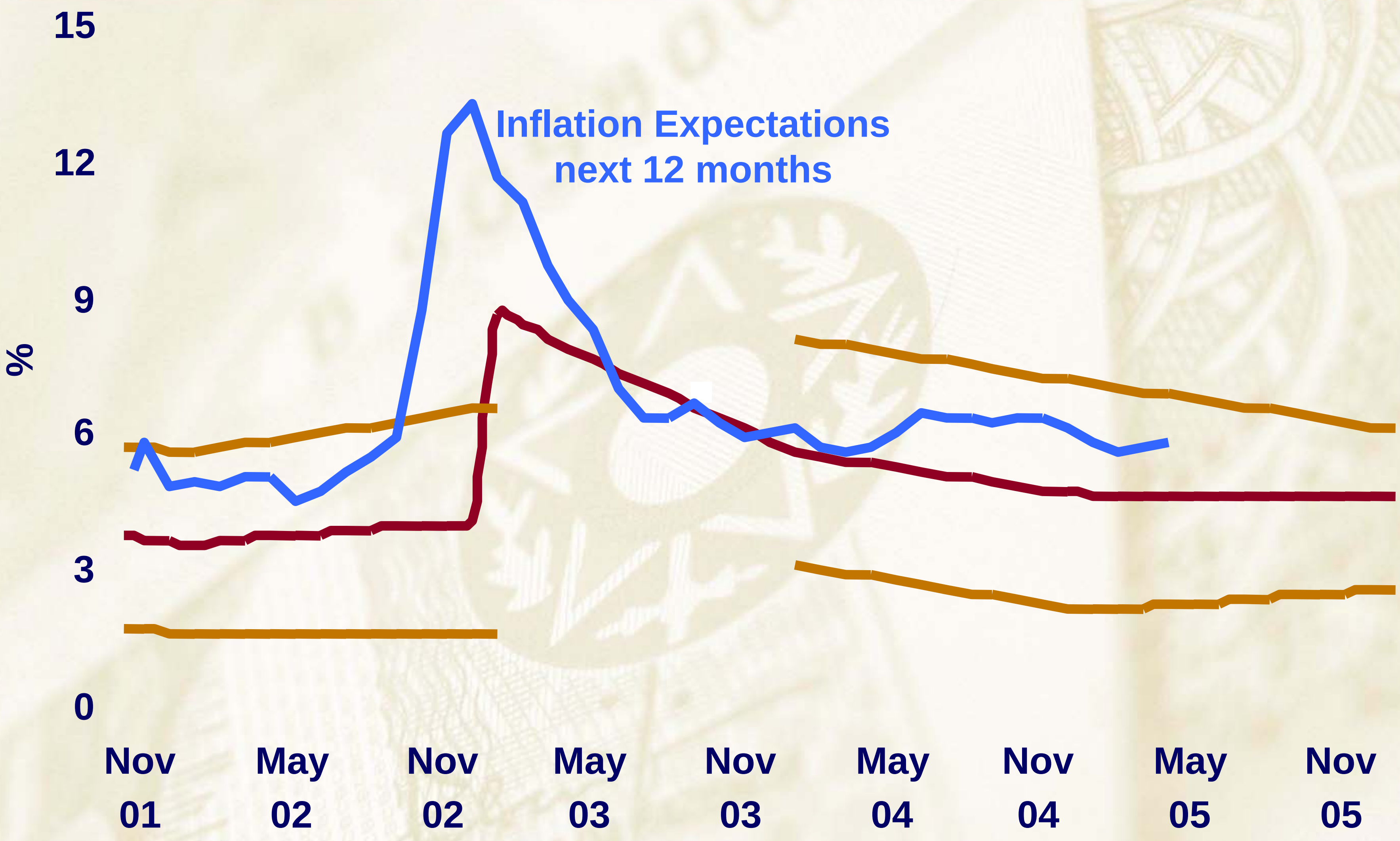
# Real Interest Rate (360 days Swap)



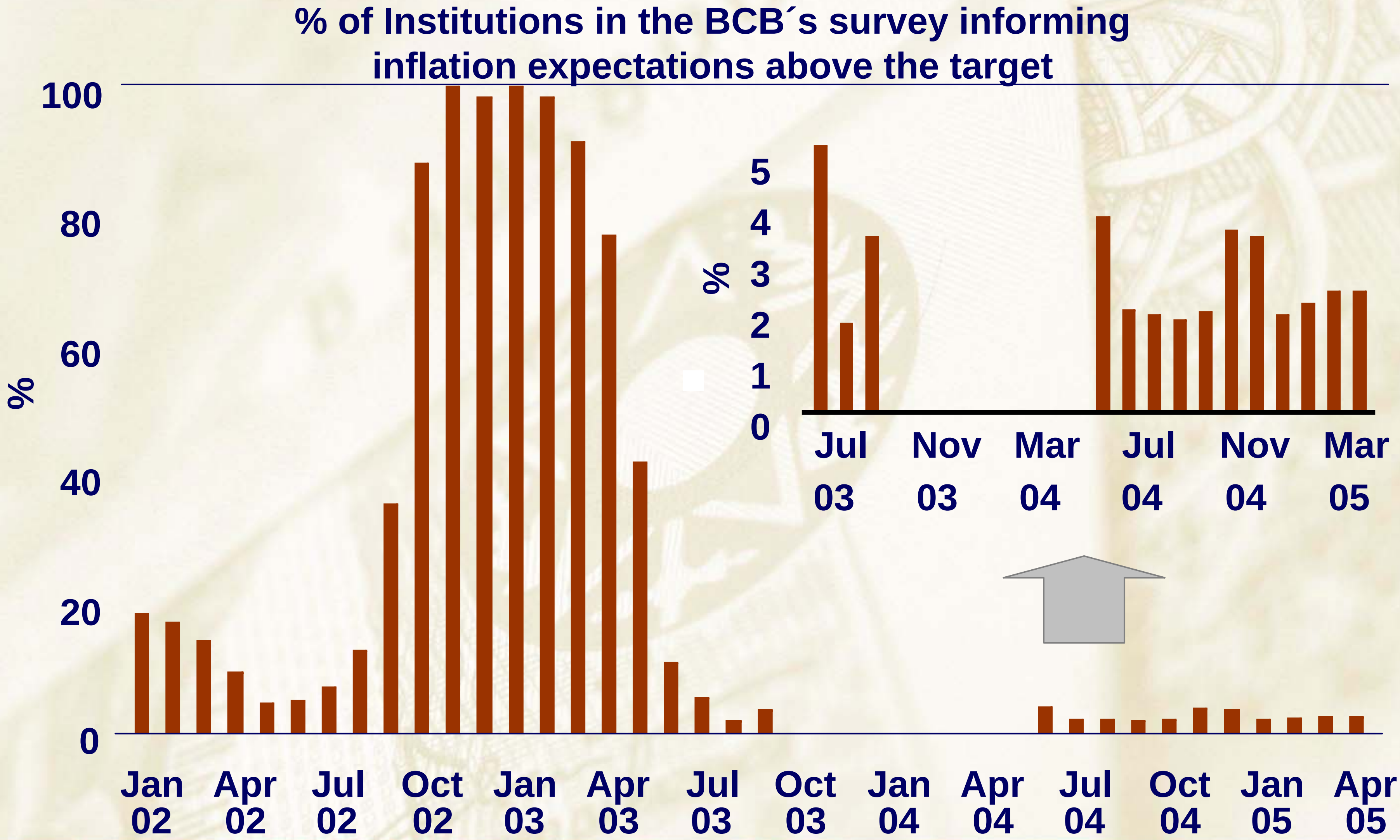
# IPCA and Inflation Expectations



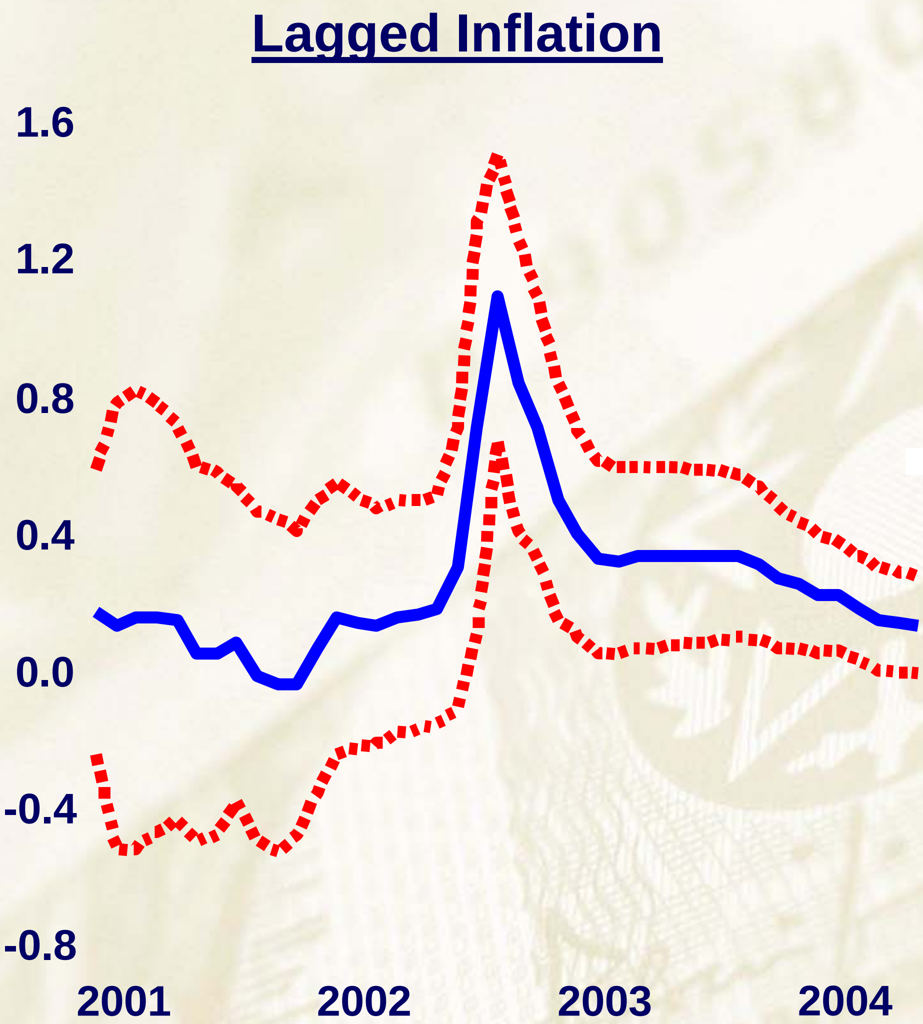
# Inflation Targets and Expectations

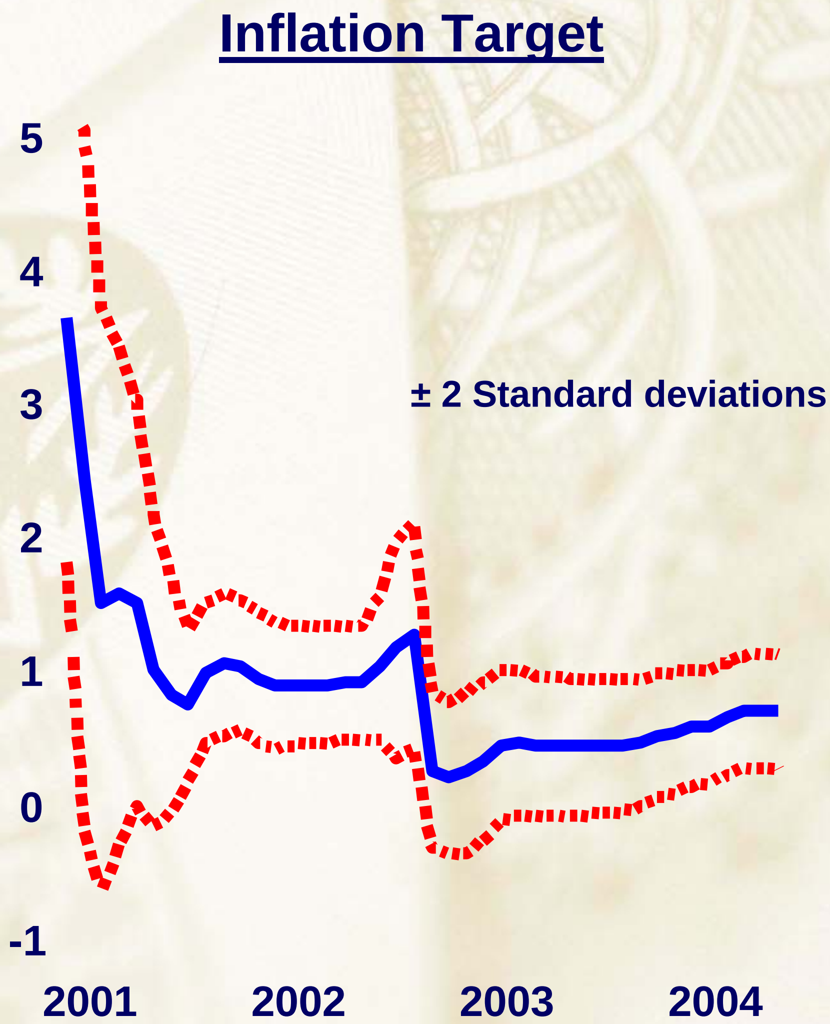


# Inflation Expectations



# Coefficients' Recursive Estimative: Lagged Inflation and Inflation Target

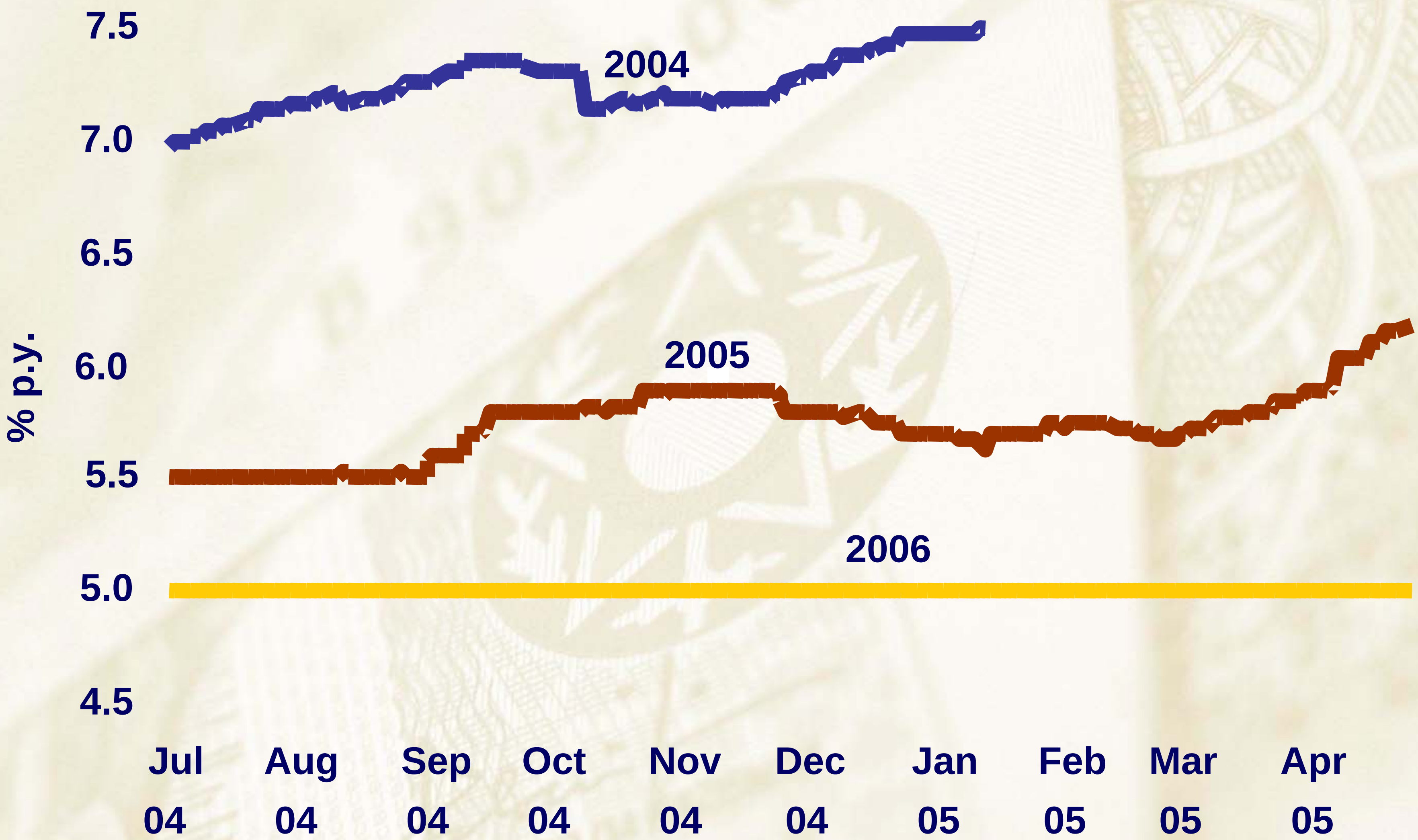


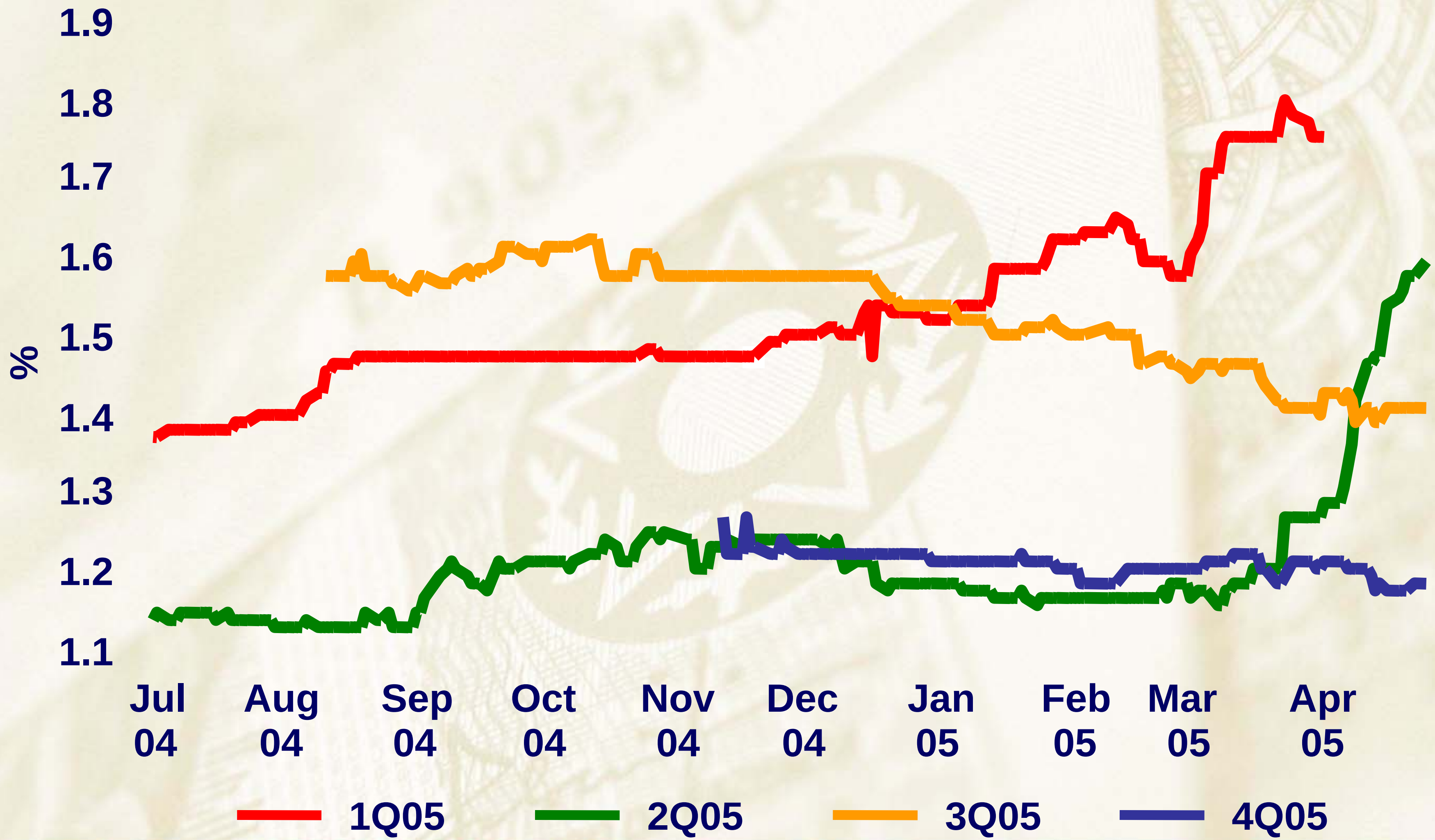



Red lines: ± 2 standard deviations

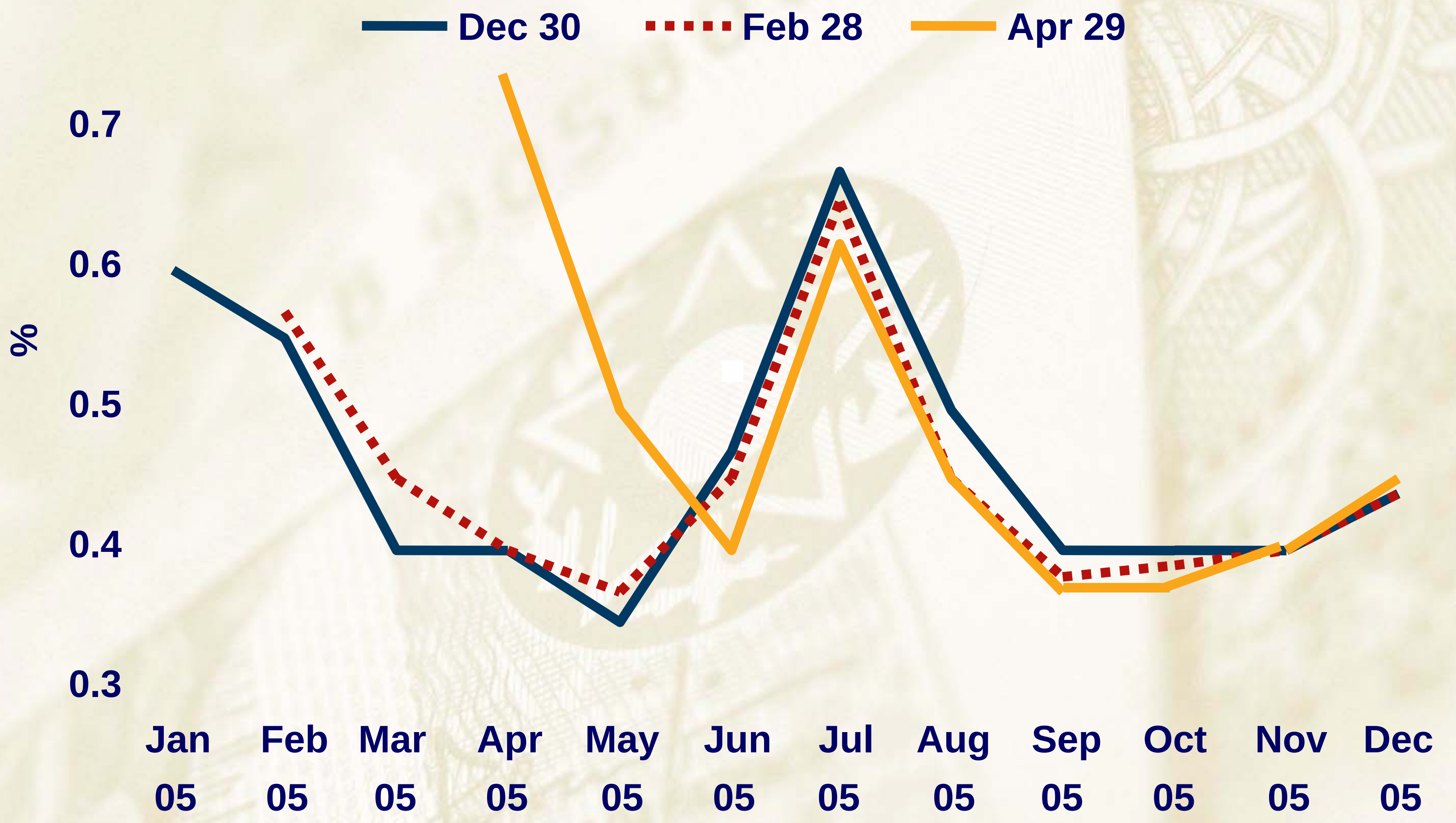
# IPCA Inflation Expectations



# Quarterly IPCA Inflation Expectations (2005)



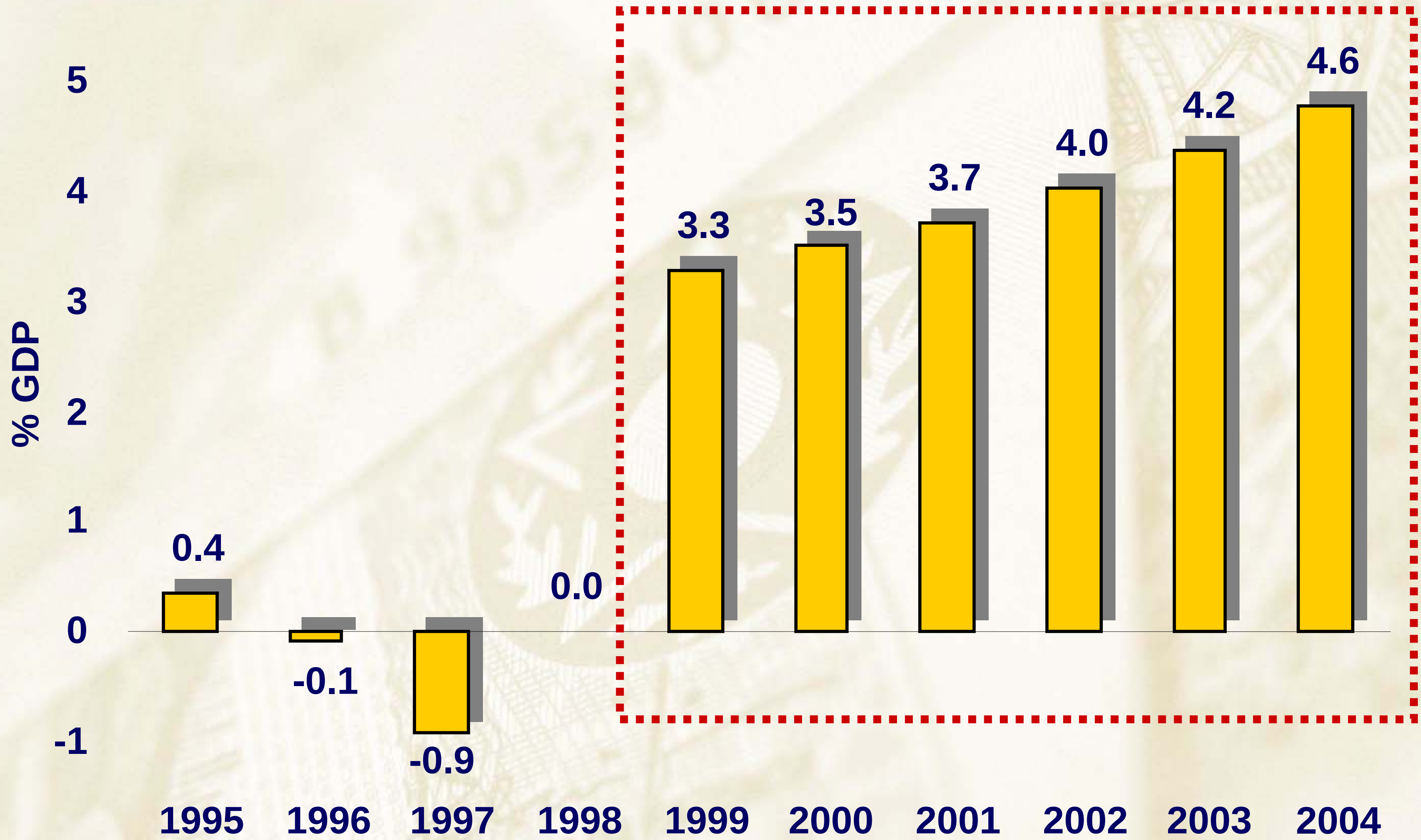
# Monthly IPCA Expectations



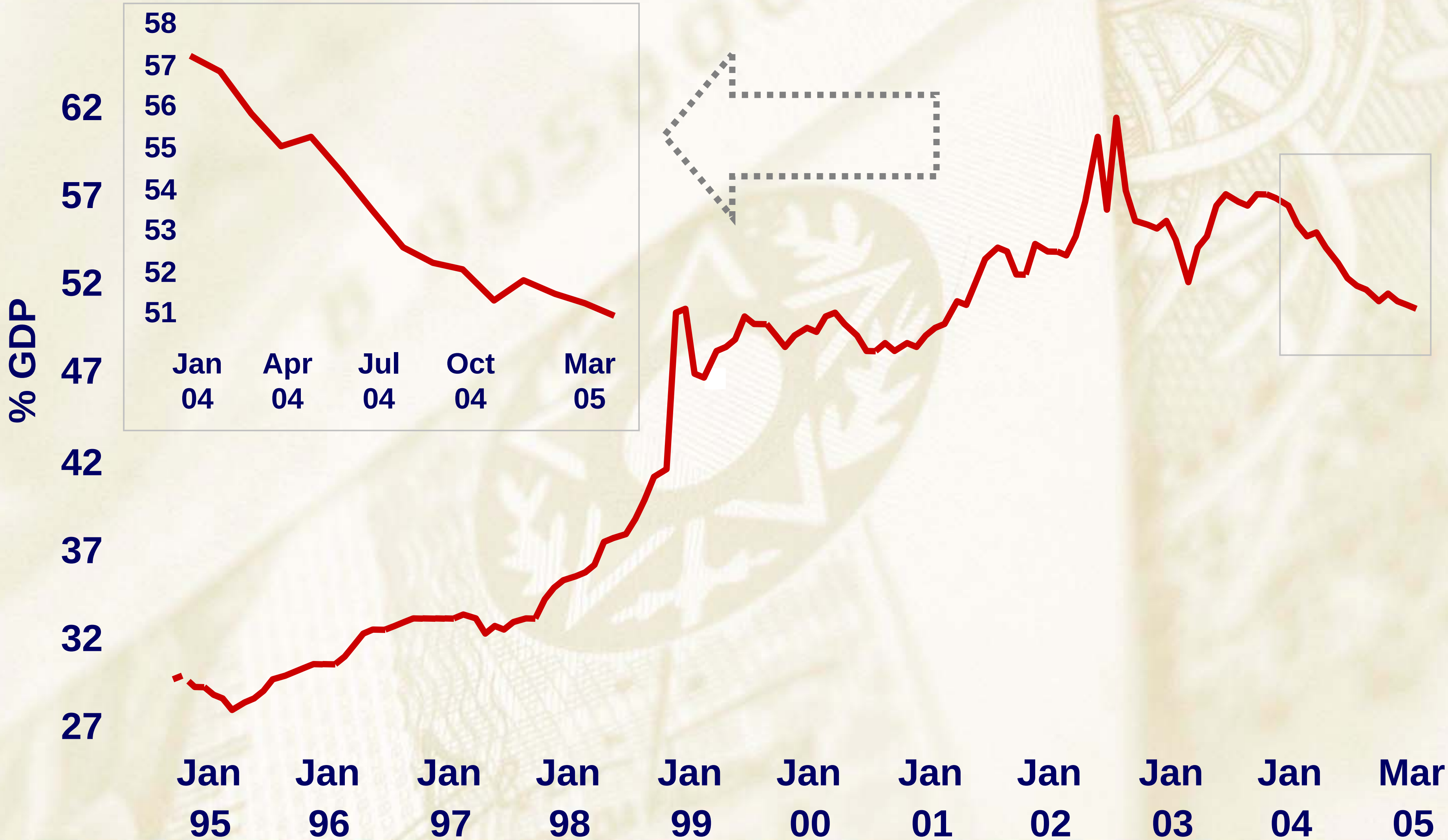
# Inflation Expectations for next 12 Months

# 2. Fiscal Sustainability

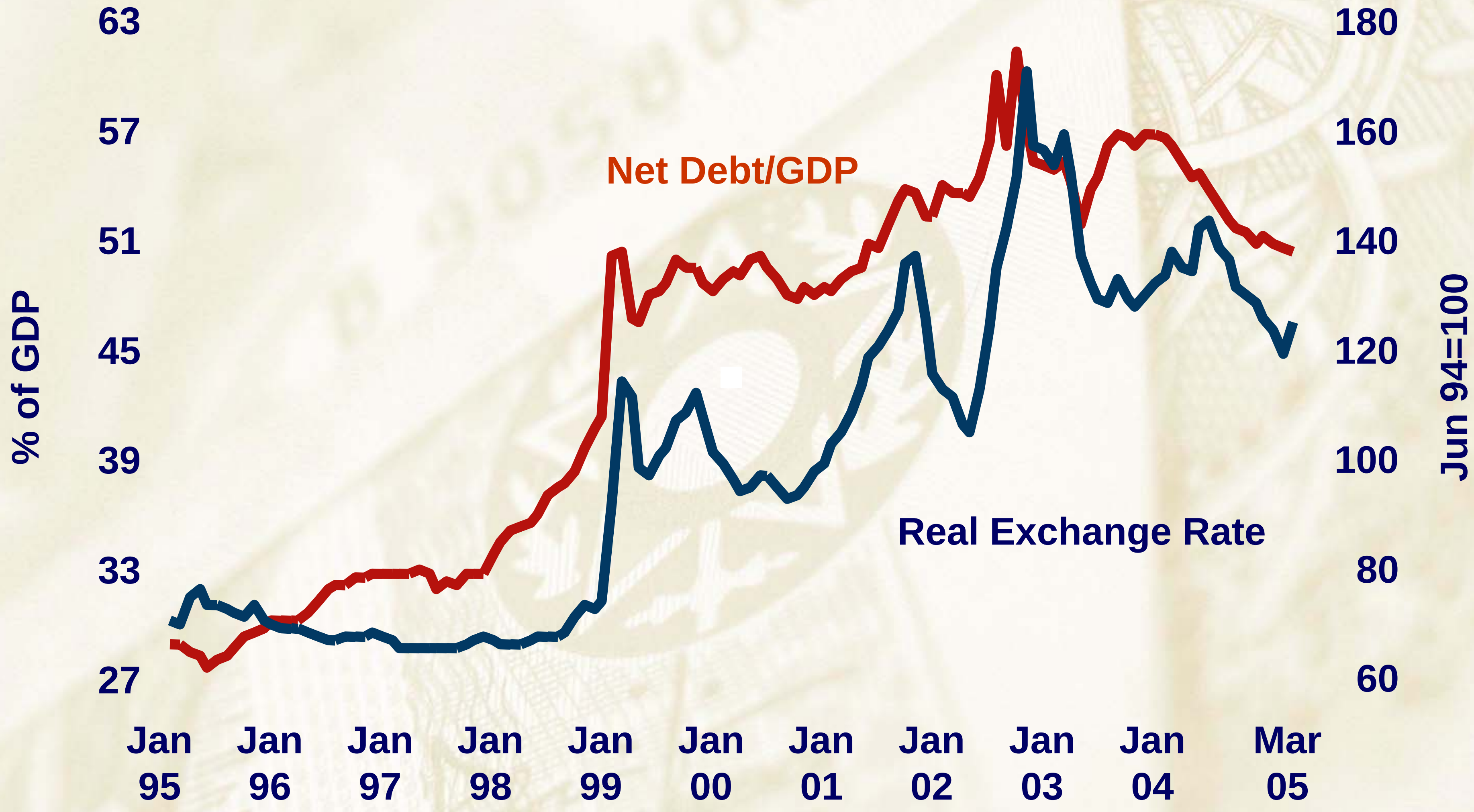
# Consolidated Public Sector Primary Surplus



# Net Debt/GDP Ratio



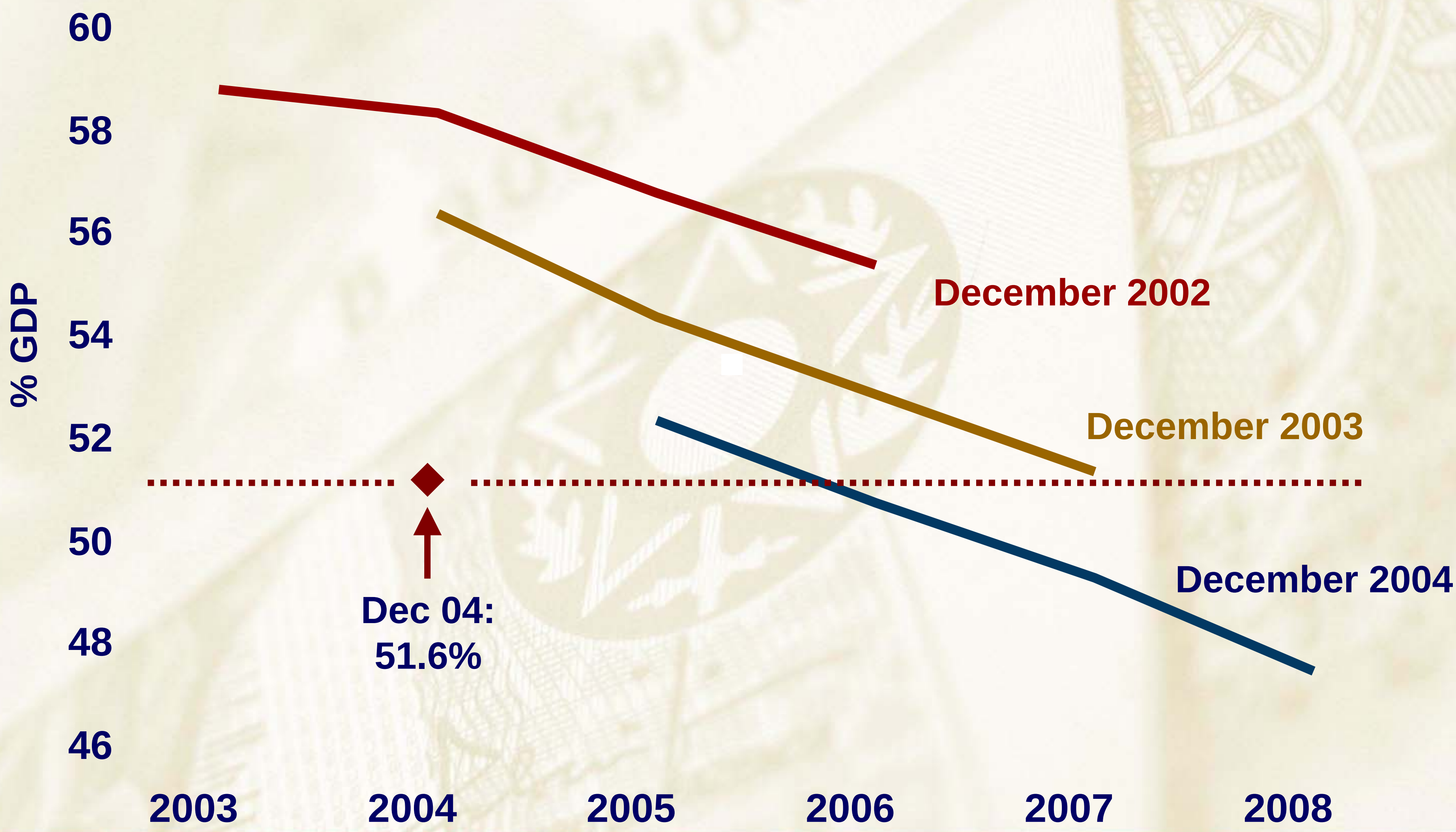
# Public Sector Net Debt and Real Exchange Rate



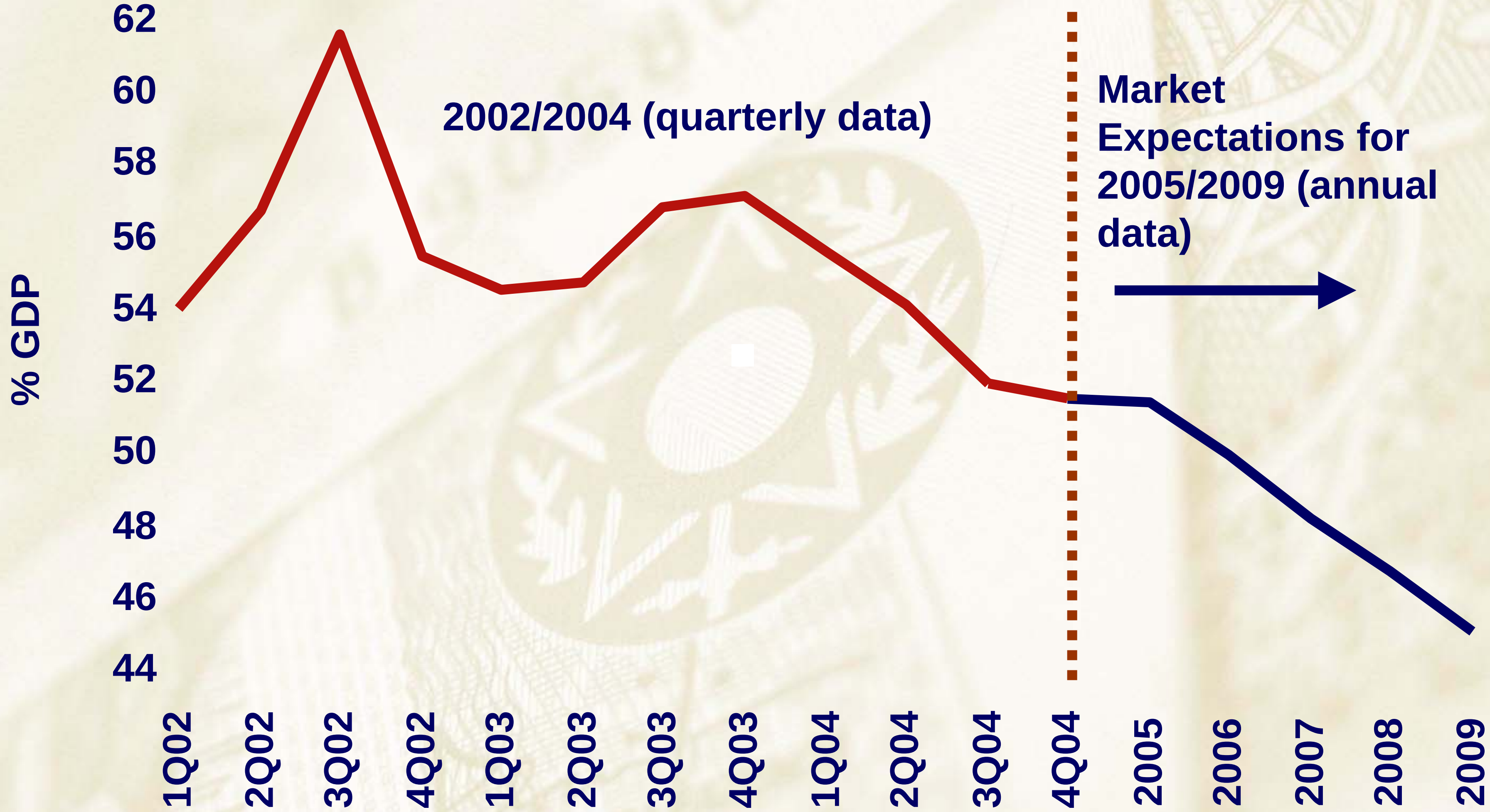
# Debt Dynamics/GDP

| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 Mar |
|---|---|---|---|---|---|---|---|
| Net Debt/GDP Increase | 7.0% | 0.1% | 3.9% | 2.9% | 1.7% | -5.6% | -0.8% |
| 1. Primary Surplus | -2.9% | -3.3% | -3.5% | -3.3% | -4.1% | -4.4% | -1.5% |
| 2. Nominal Interest | 8.2% | 6.8% | 6.9% | 7.2% | 9.1% | 6.9% | 2.0% |
| 3. Fx-Linked Domestic debt | 3.8% | 0.8% | 1.5% | 4.8% | -1.4% | -0.2% | 0.0% |
| 4. External debt | 2.8% | 0.8% | 1.5% | 4.4% | -1.6% | -0.3% | -0.1% |
| 5. Hidden liabilities | 1.3% | 0.8% | 1.5% | 0.9% | 0.0% | 0.4% | 0.0% |
| 6. Privatizations | -0.8% | -1.8% | -0.1% | -0.2% | 0.0% | 0.0% | 0.0% |
| 7. GDP Growfh effect | -5.3% | -3.9% | -3.9% | -11.0% | -0.3% | -7.9% | -1.3% |
| | | | | | | | |
| Memo: | | | | | | | |
| Debt dynamic (1+2+7) | 0.0% | -0.4% | -0.5% | -7.1% | 4.7% | -5.4% | -0.8% |
| Currency (3+4) | 6.6% | 1.6% | 3.0% | 9.2% | -3.0% | -0.5% | -0.1% |
| Hidden liabilities (5+6) | 0.5% | -1.0% | 1.4% | 0.7% | 0.0% | 0.4% | 0.0% |

# Market Expectations for the Net Debt/GDP Ratio in Selected Months



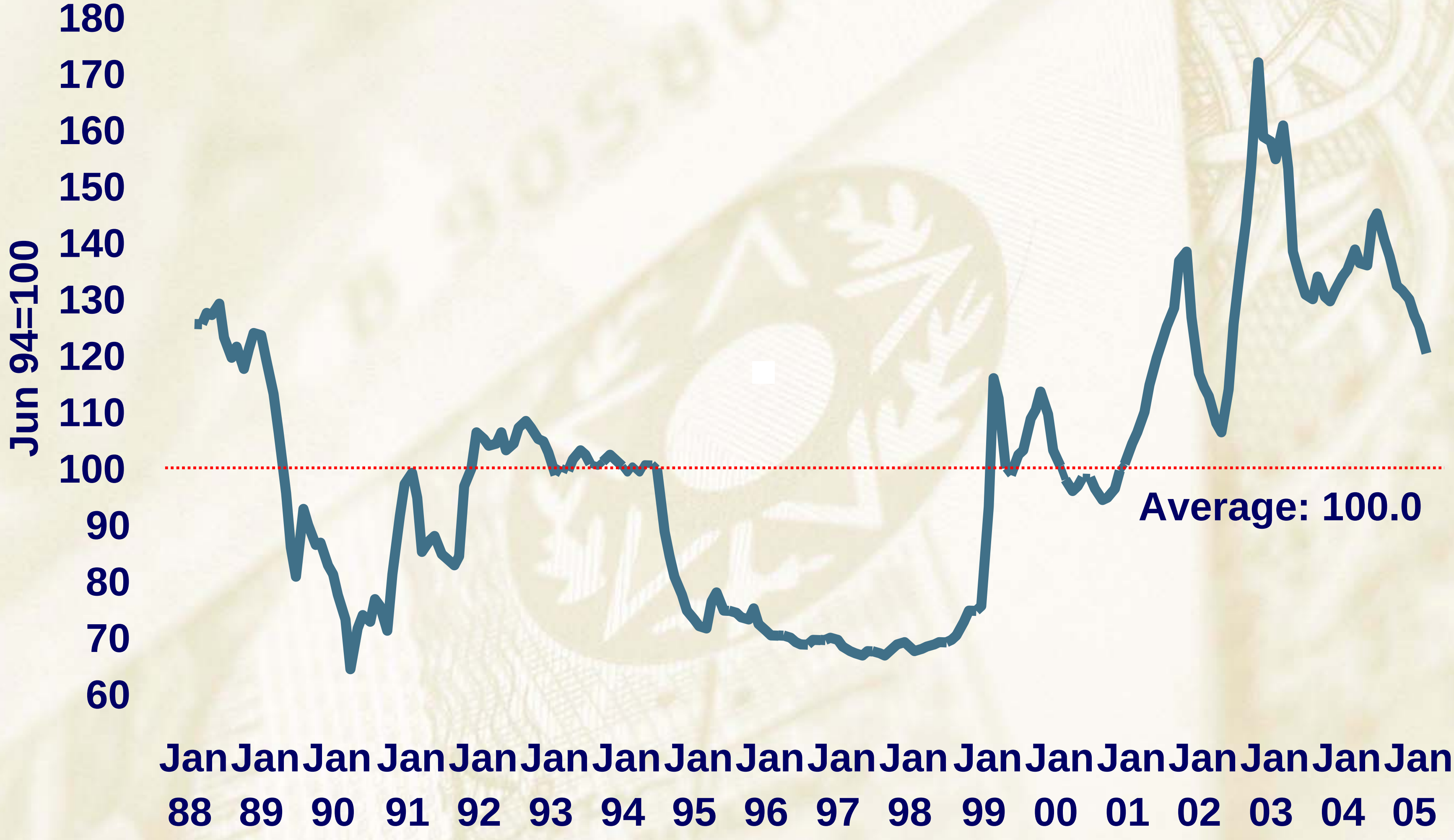
# Public Sector Net Debt: Trend



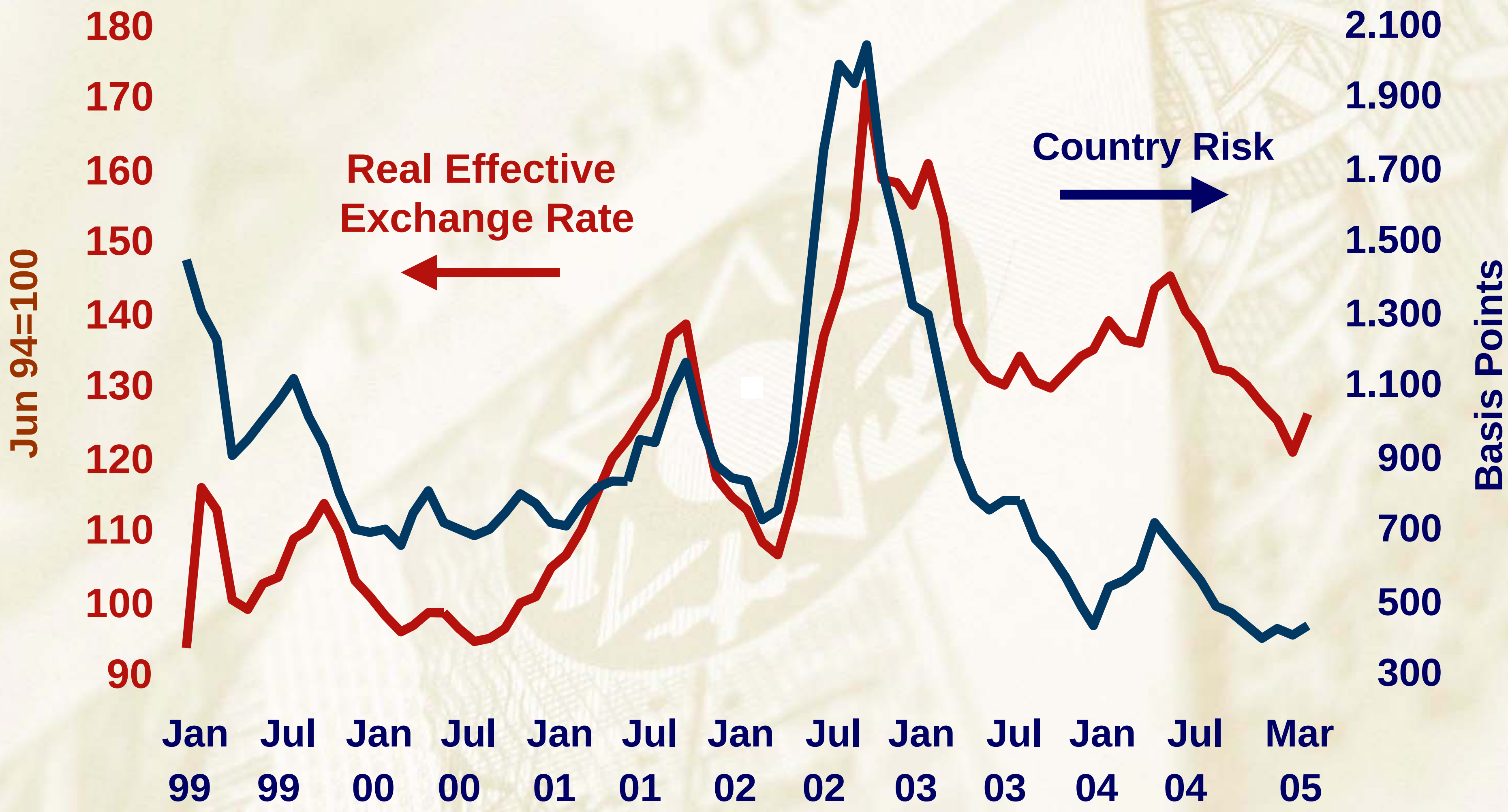
# 3. Foreign Exchange Rate Trends

# Nominal Exchange Rate (1998-2005)

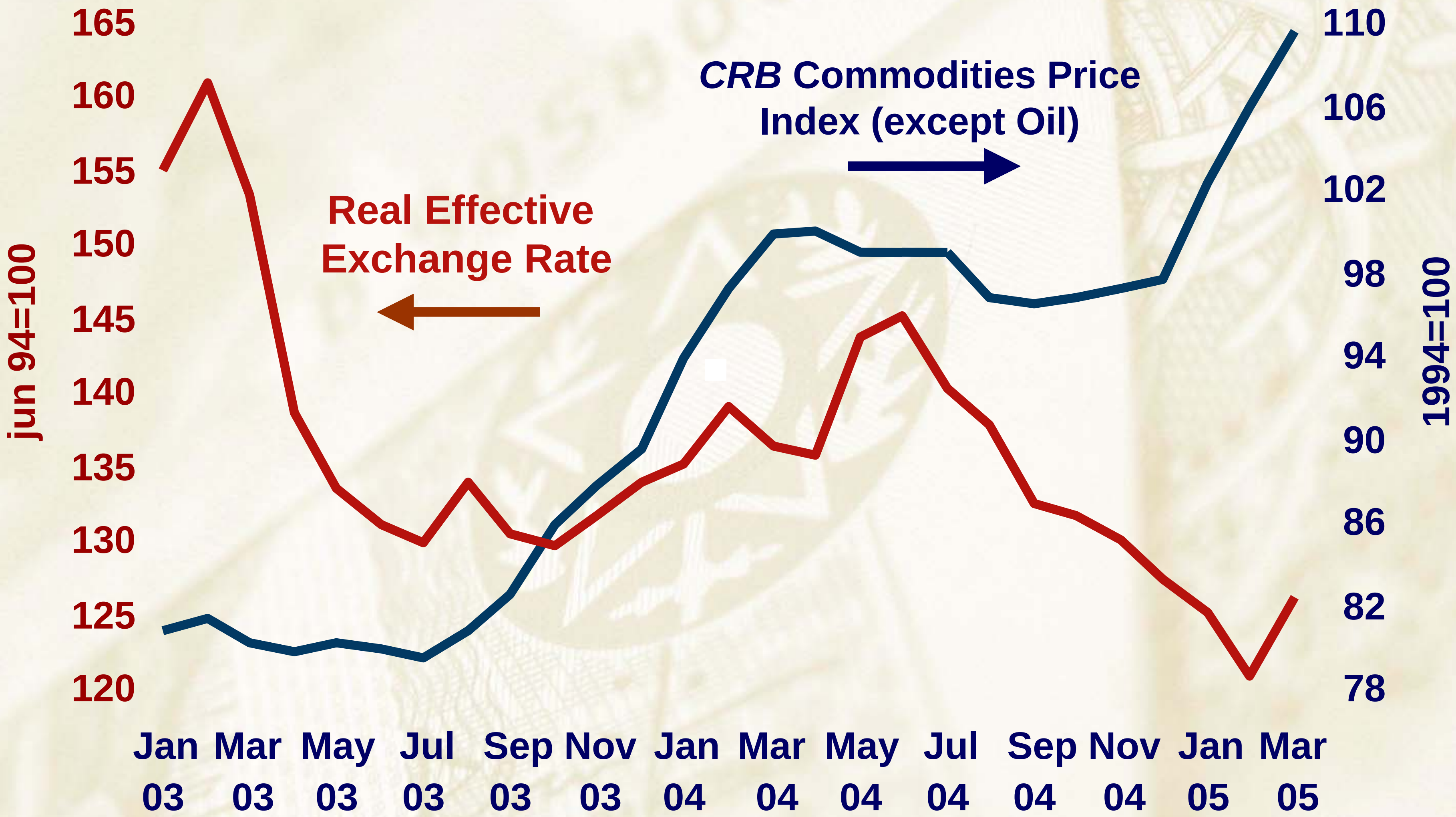
# Real Effective Exchange Rate (1988-2005)



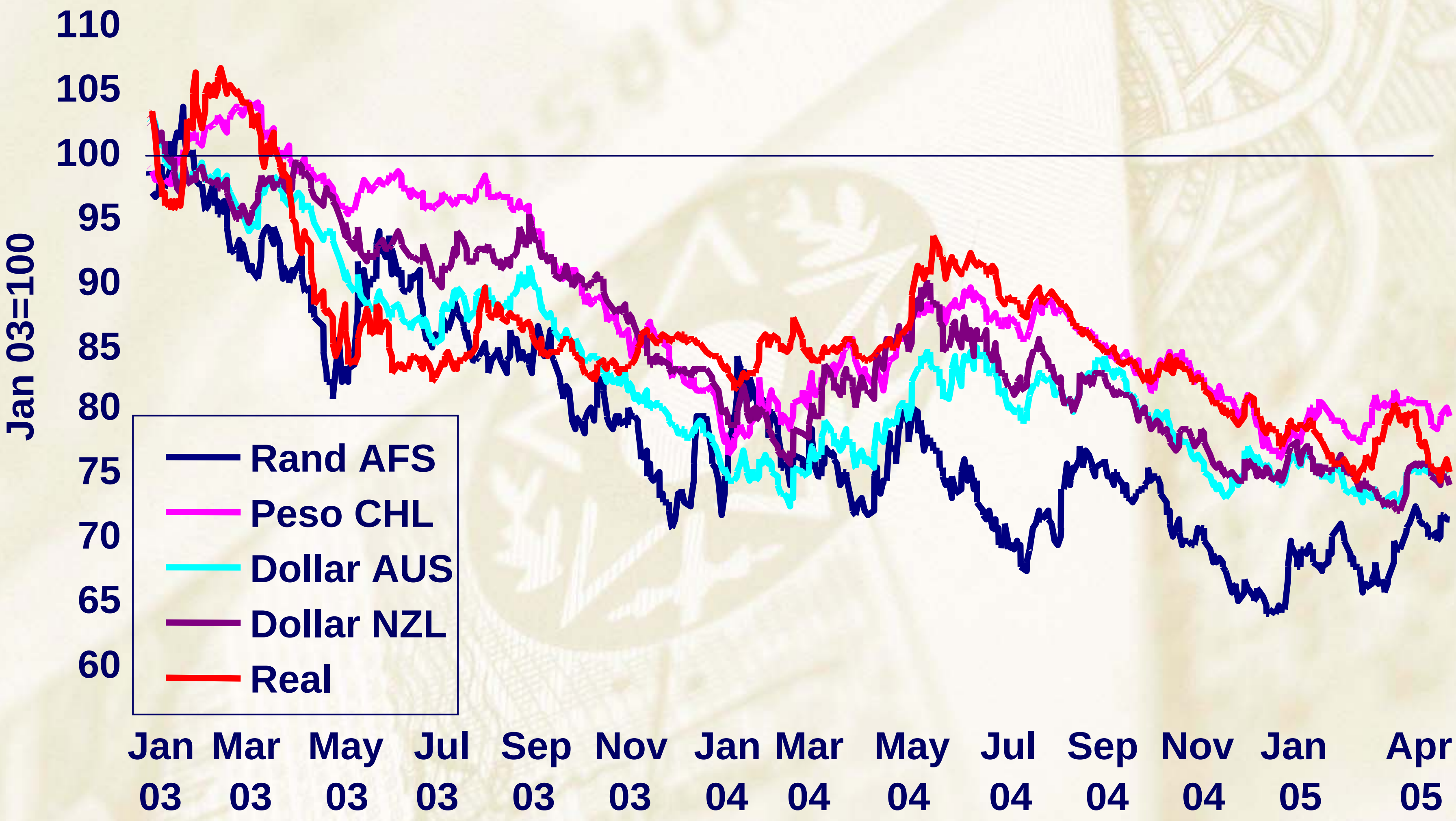
# Exchange Rate x Country Risk (1999-2005)



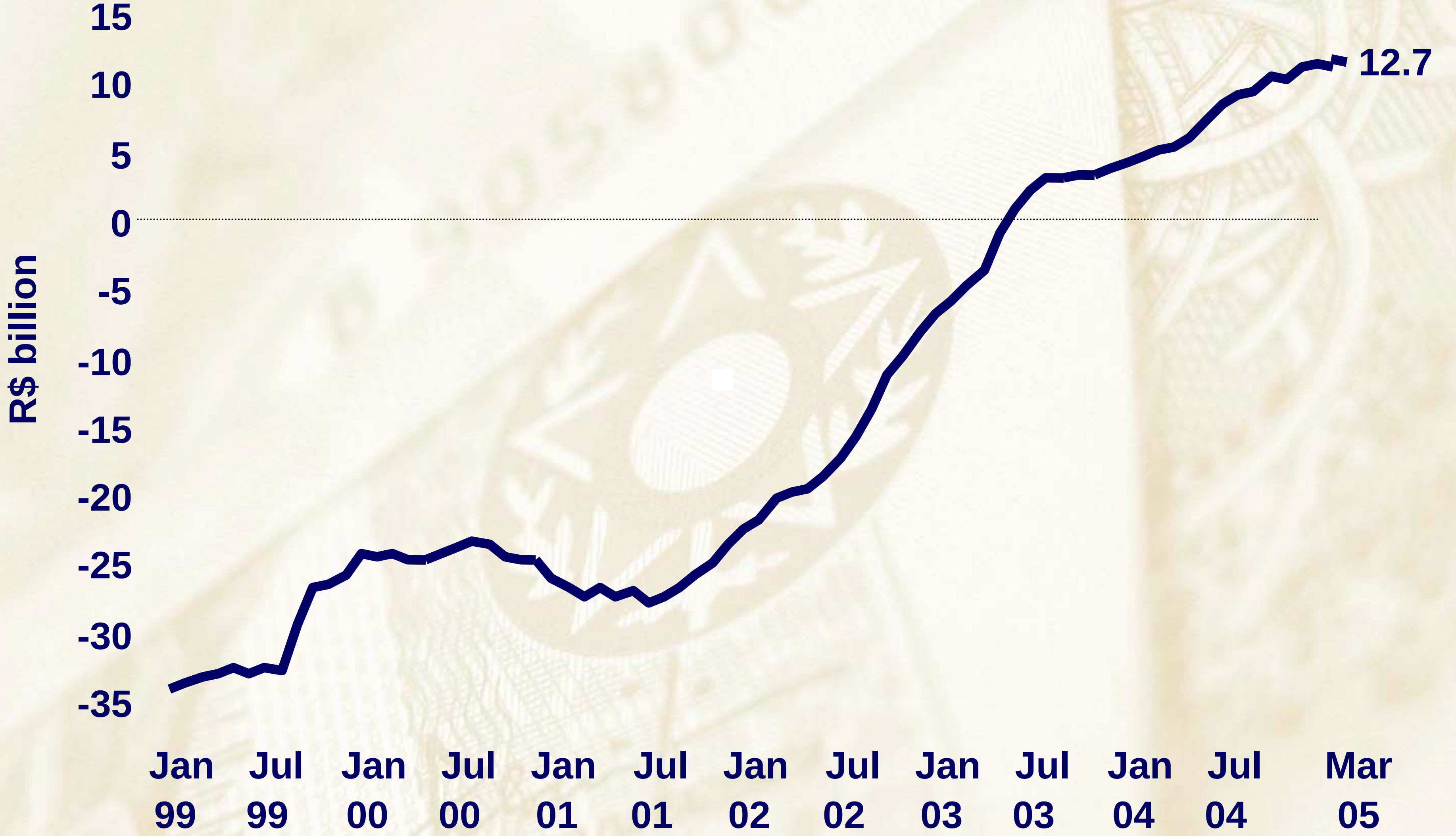
# Exchange Rate x Commodities Prices (2003-2005)



# Exchange Rates: Commodity Exporters

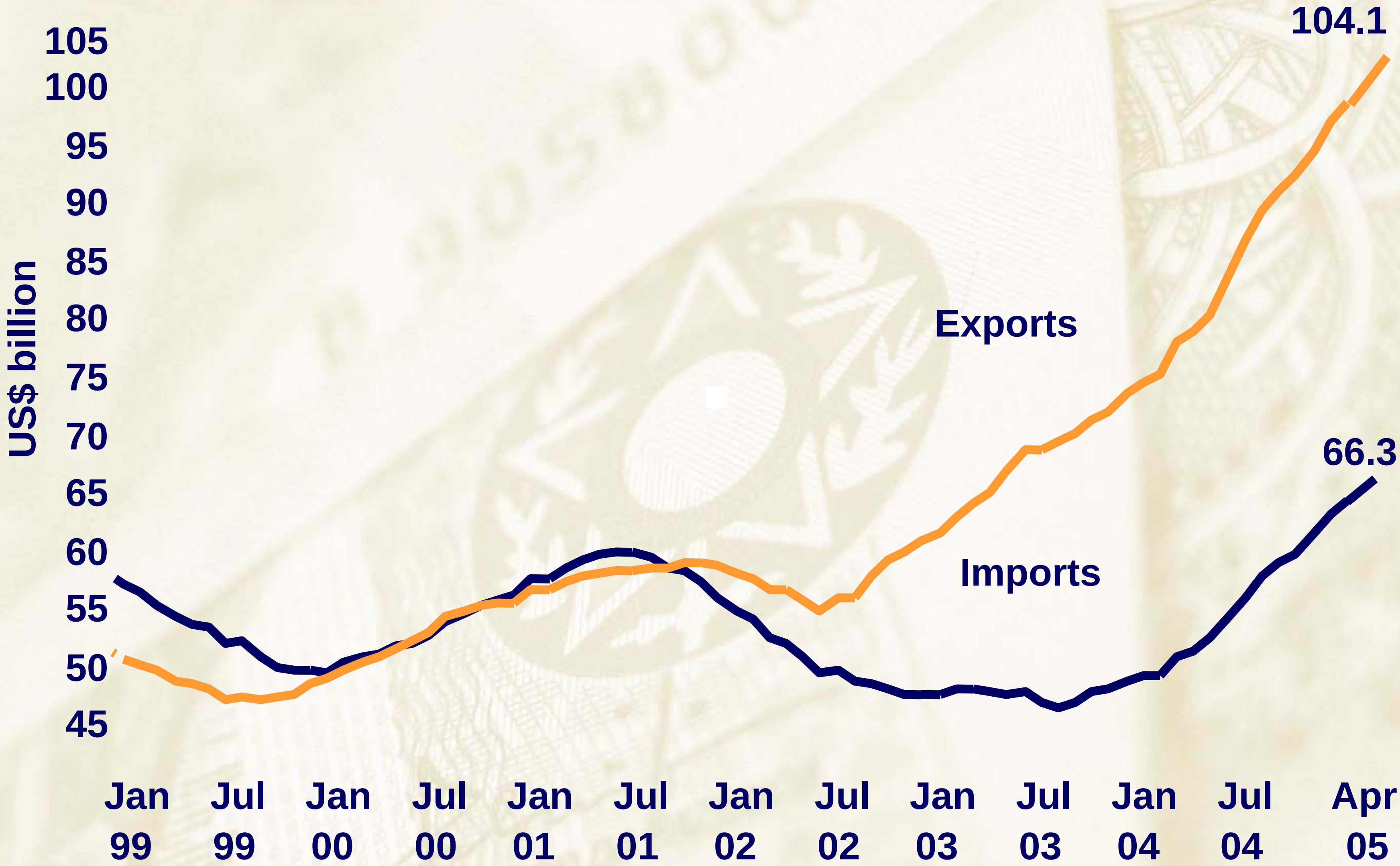


# Current Account (1999-2005)

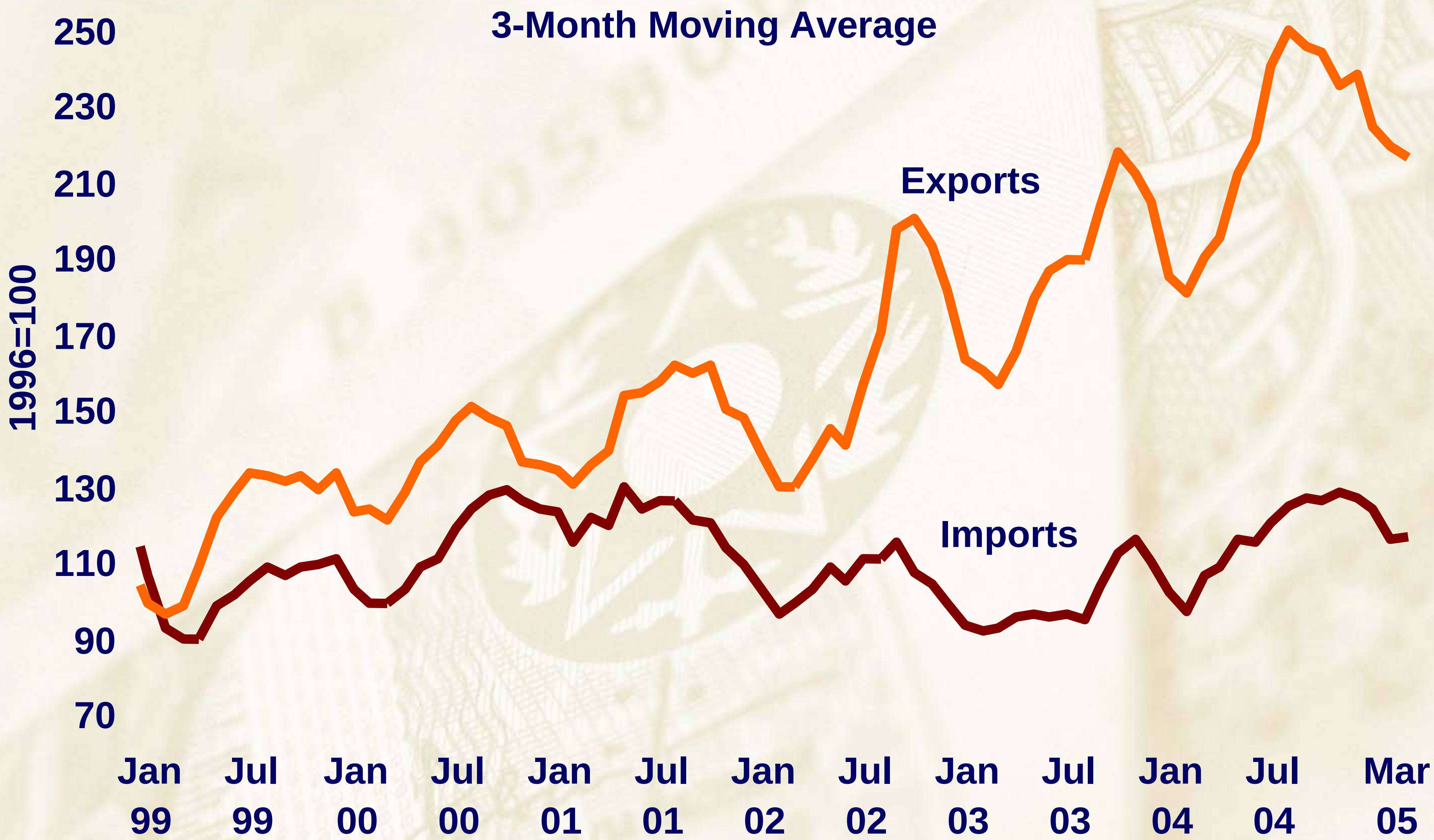


# Trade Balance (1999-2005)

# Exports and Imports (1999-2005)



# Exports and Imports Volume



# Trade Balance: Prices and Volumes

US$ billion

| | Exports | Imports | Balance |
|---|---|---|---|
| 2002 | 60.4 | 47.2 | 13.1 |
| 2003 | 73.1 | 48.3 | 24.8 |
| Var. % | 21.1% | 2.2% | 89.1% |
| Var. % Prices | 4.7% | 6.1% | |
| Var. % Volume | 15.7% | -3.7% | |
| 2003 | 73.1 | 48.3 | 24.8 |
| 2004 | 96.5 | 62.7 | 33.7 |
| Var. % | 32.0% | 30.0% | 35.9% |
| Var. % Prices | 10.7% | 10.1% | |
| Var. % Volume | 19.2% | 18.1% | |

# Exports: Prices and Volumes

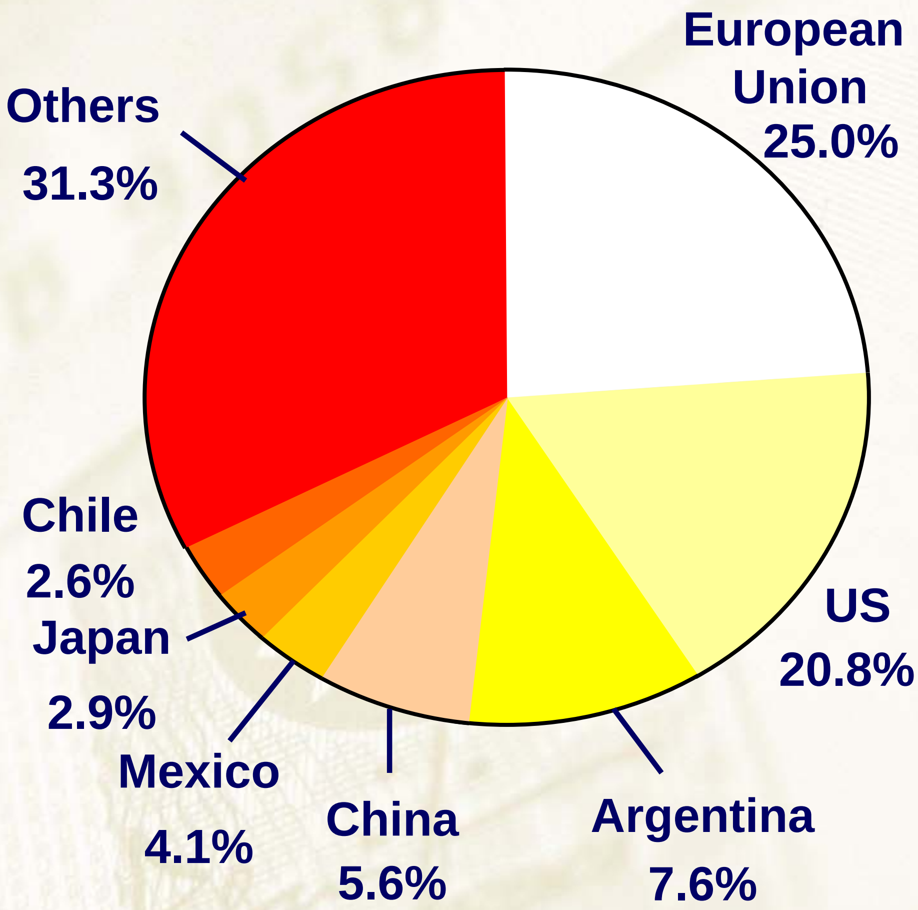
US$ billion

| | Basics | Semi-Manuf. | Manufactured |
|---|---|---|---|
| 2002 | 17.0 | 9.0 | 33.0 |
| 2003 | 21.2 | 10.9 | 39.7 |
| Var. % | 24.9% | 22.1% | 20.2% |
| Var. % Prices | 10.5% | 11.3% | -0.6% |
| Var. % Volume | 13.1% | 9.7% | 20.9% |
| 2003 | 21.2 | 10.9 | 39.7 |
| 2004 | 28.5 | 13.4 | 52.9 |
| Var. % | 34.7% | 22.7% | 33.5% |
| Var. % Prices | 18.3% | 14.5% | 5.9% |
| Var. % Volume | 13.8% | 7.2% | 26.1% |

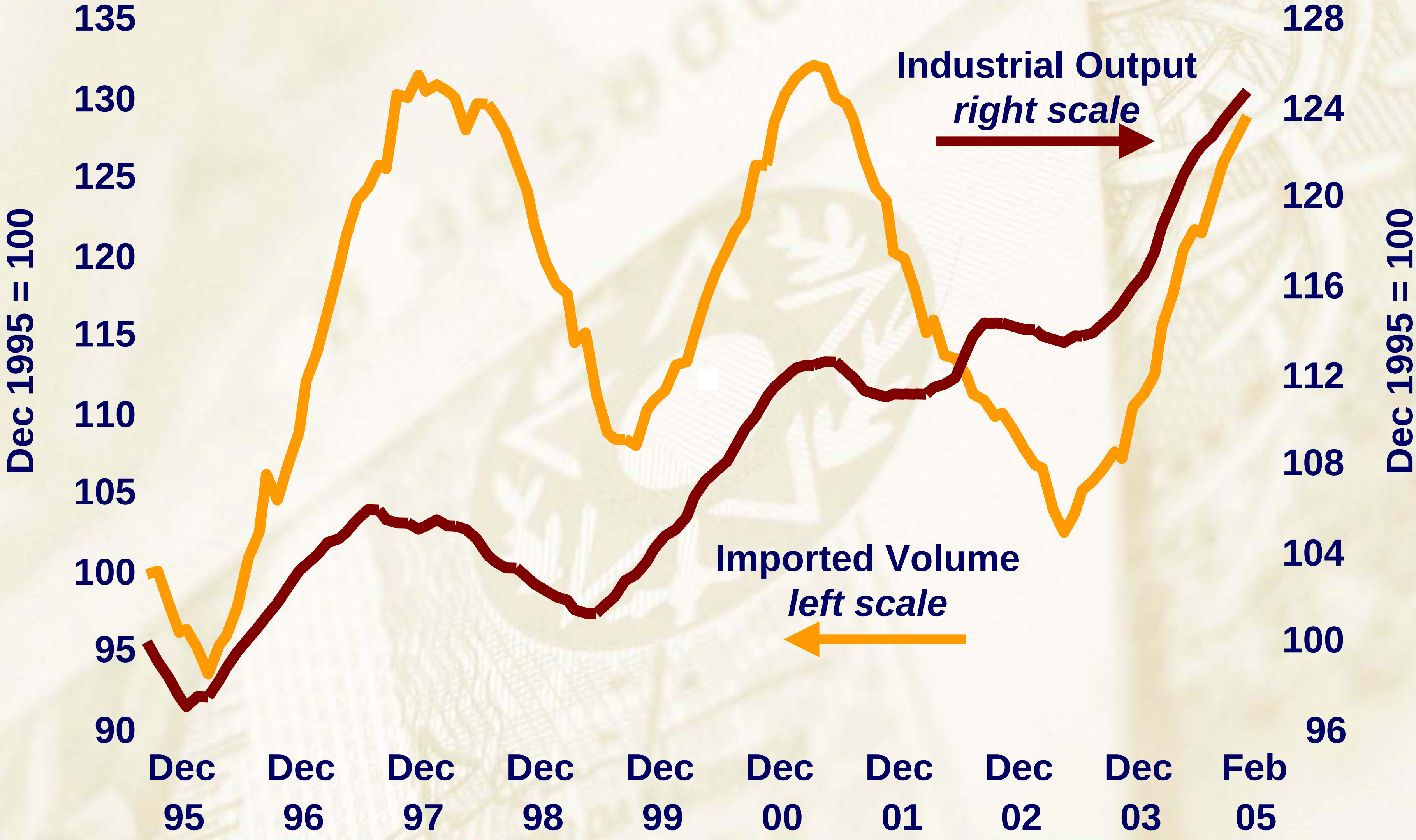
# Exports Product Diversification: 2004

| Total exports | | | | Marginal exports | | | |
|---|---|---|---|---|---|---|---|
| | US$ mn | % | % change | | US$ mn | % | % change |
| Transport equipment | 16 090 | 17 | 52 | Transport equipment | 5 478 | 23 | 52 |
| Metals | 10 335 | 11 | 42 | Metals | 3 039 | 13 | 42 |
| Soy | 10 071 | 10 | 24 | Meats | 2 089 | 9 | 51 |
| Meats | 6 176 | 6 | 51 | Soy | 1 944 | 8 | 24 |
| Chemicals | 6 032 | 6 | 25 | Mechanical | 1 777 | 8 | 46 |
| Oil & derivatives | 5 753 | 6 | 18 | Ore | 1 616 | 7 | 44 |
| Mechanical | 5 627 | 6 | 46 | Chemicals | 1 207 | 5 | 25 |
| Ore | 5 254 | 5 | 44 | Wood | 978 | 4 | 47 |
| Shoes & leather | 3 352 | 3 | 20 | Oil & derivatives | 866 | 4 | 18 |
| Electronics | 3 133 | 3 | 5 | Shoes & leather | 554 | 2 | 20 |
| Wood | 3 054 | 3 | 47 | Coffee | 519 | 2 | 34 |
| Paper & pulp | 2 919 | 3 | 3 | Sugar | 509 | 2 | 24 |
| Sugar | 2 649 | 3 | 24 | Textiles | 434 | 2 | 26 |
| Textiles | 2 087 | 2 | 26 | Tobacco | 340 | 1 | 31 |
| Coffee | 2 033 | 2 | 34 | Electronics | 138 | 1 | 5 |
| Tobacco | 1 428 | 1 | 31 | Paper & pulp | 80 | 0 | 3 |
| Orange juice | 791 | 1 | -13 | Orange juice | - 119 | -1 | -13 |
| Other | 9 692 | 10 | 25 | Other | 1 939 | 8 | 25 |
| **Total** | **96 474** | **100** | **32** | **Total** | **23 390** | **100** | **32** |

# Exports Market Diversification: 2004

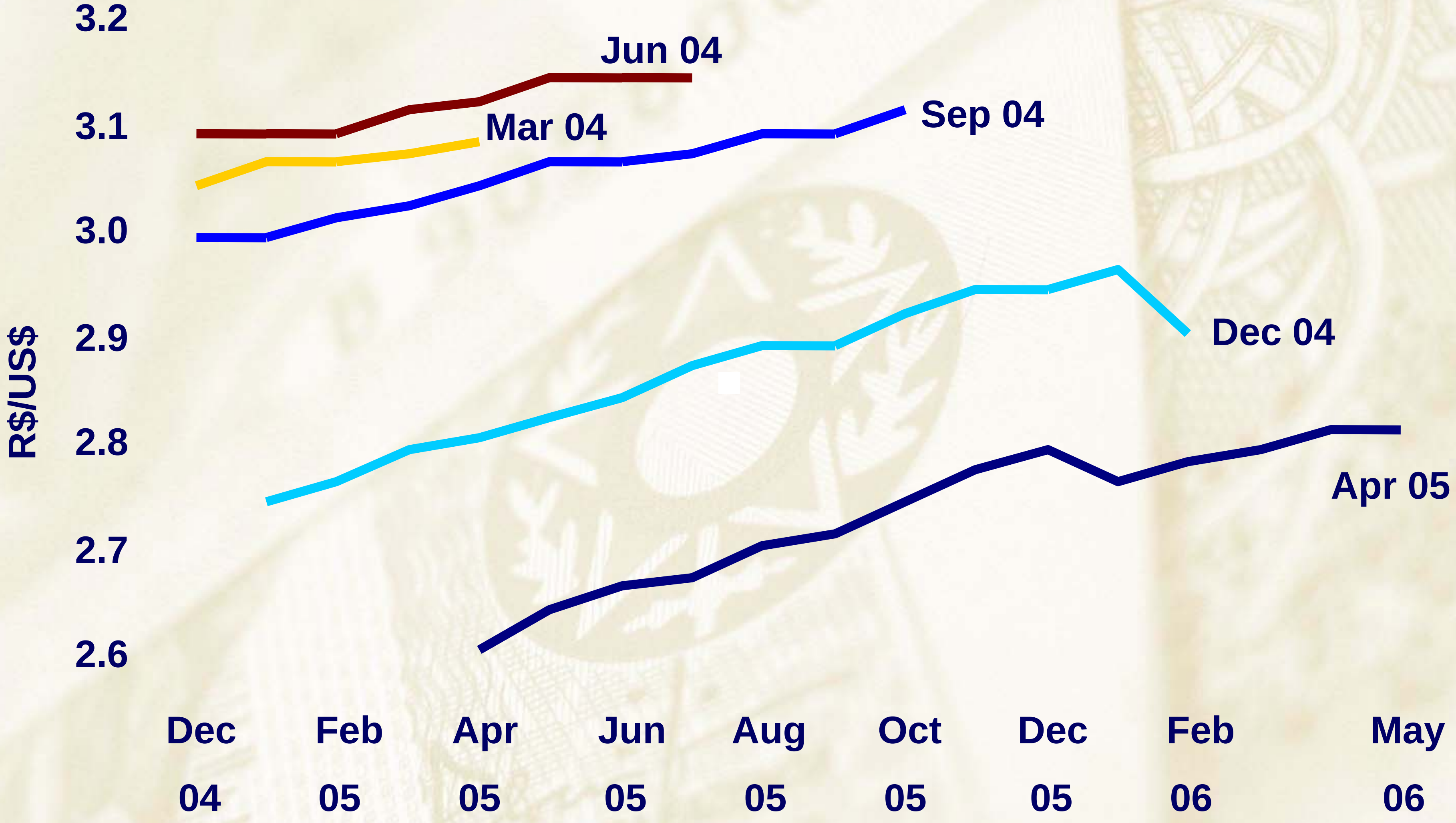


# Imports Substitution



# Foreign Direct Investment (1999-2005)

# Market Expectations for the Exchange Rate in Selected Months



# 4. Strengthening Resilience to shocks

# BoP: Opportunity to Accumulate Reserves

US$ billion

| | 2003 | 2004 | 2005* |
|---|---|---|---|
| Current account | 5.5 | 14.4 | 6.7 |
| Financial account (net) | 1.1 | -10.6 | 5.6 |
| Foreign direct investment | 10.1 | 18.2 | 16.0 |
| Foreign portfolio investment | 3.2 | 2.2 | 4.0 |
| Medium- and long-term loans | -3.9 | -13. 5 | -10.0 |
| Trade credit | -4.8 | -2.3 | -1.1 |
| Brazilian investment abroad | -2.2 | -13.4 | -4.0 |
| Others | -1.4 | -1.8 | 0.6 |
| Financial gap | 6.6 | 3.9 | 12.3 |
| Net BCB acquisitions in the Fx market | -1.6 | -5.3 | -10.2 |
| Banks: asset changes | -5.0 | 1.4 | -2.0 |

* BCB Projection

# International Reserves Accumulation

➢ **<u>Objective</u>:**

**To consolidate Balance of Payments sustainability**

➢ **<u>Context</u>:**

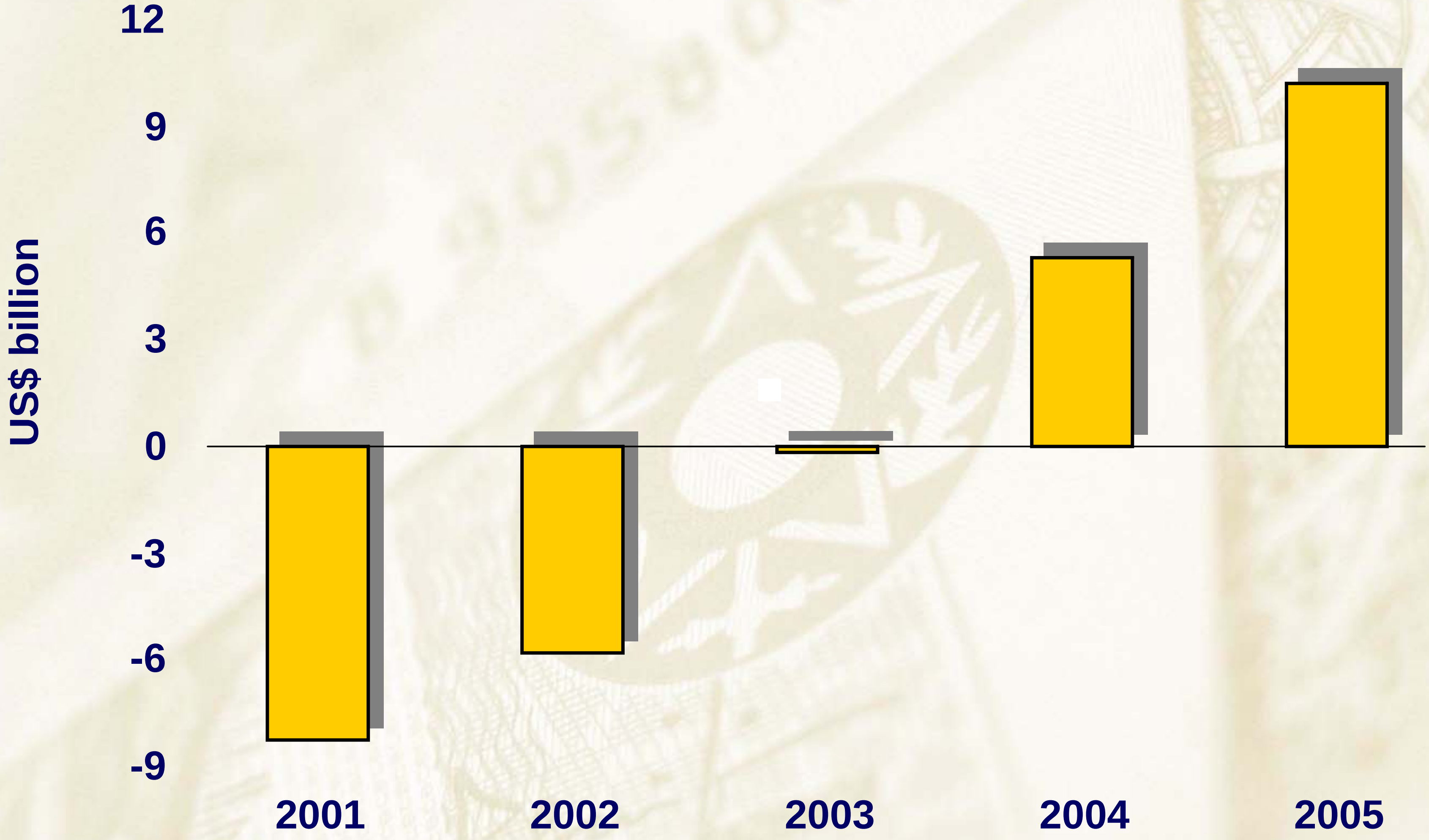
**Inflation targeting regime with floating exchange rate.**

➢ **<u>Guidelines</u>:**

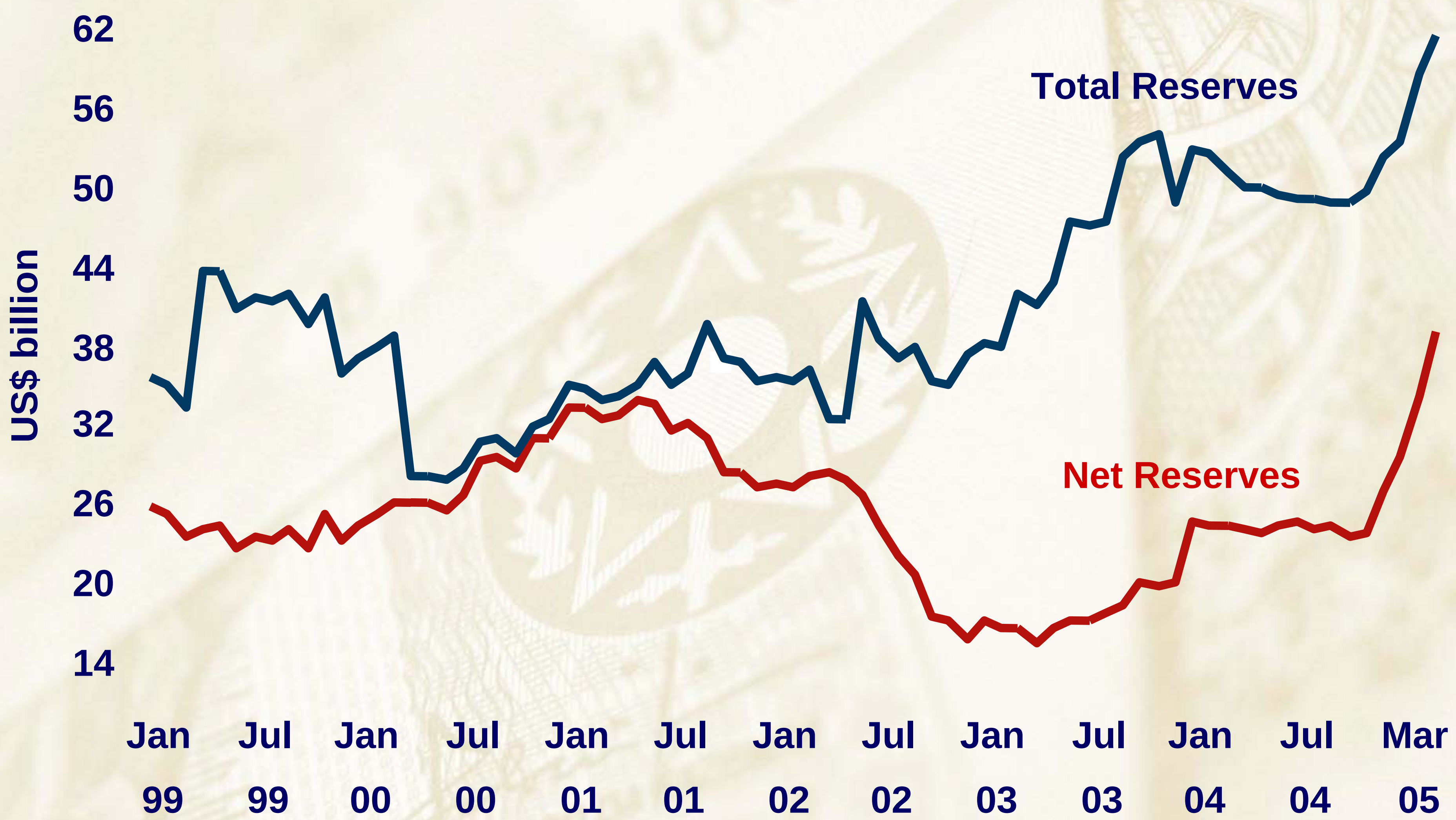
✓ **acquisitions driven by liquidity conditions in the market at each moment**

✓ **aims at neither adding volatility to the market nor interfering with the exchange rate fluctuation**

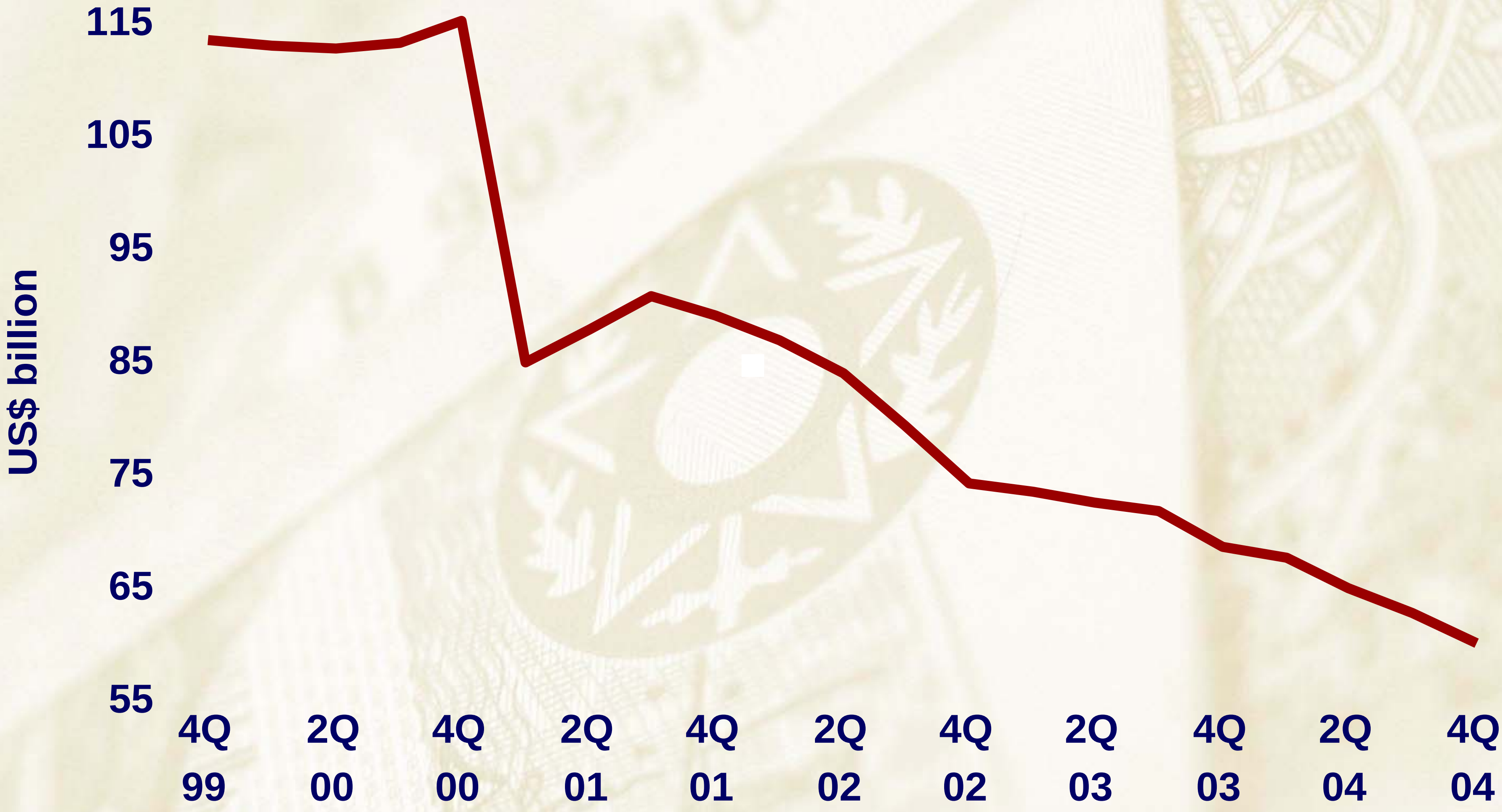
# Net BCB Acquisitions in the Fx Market



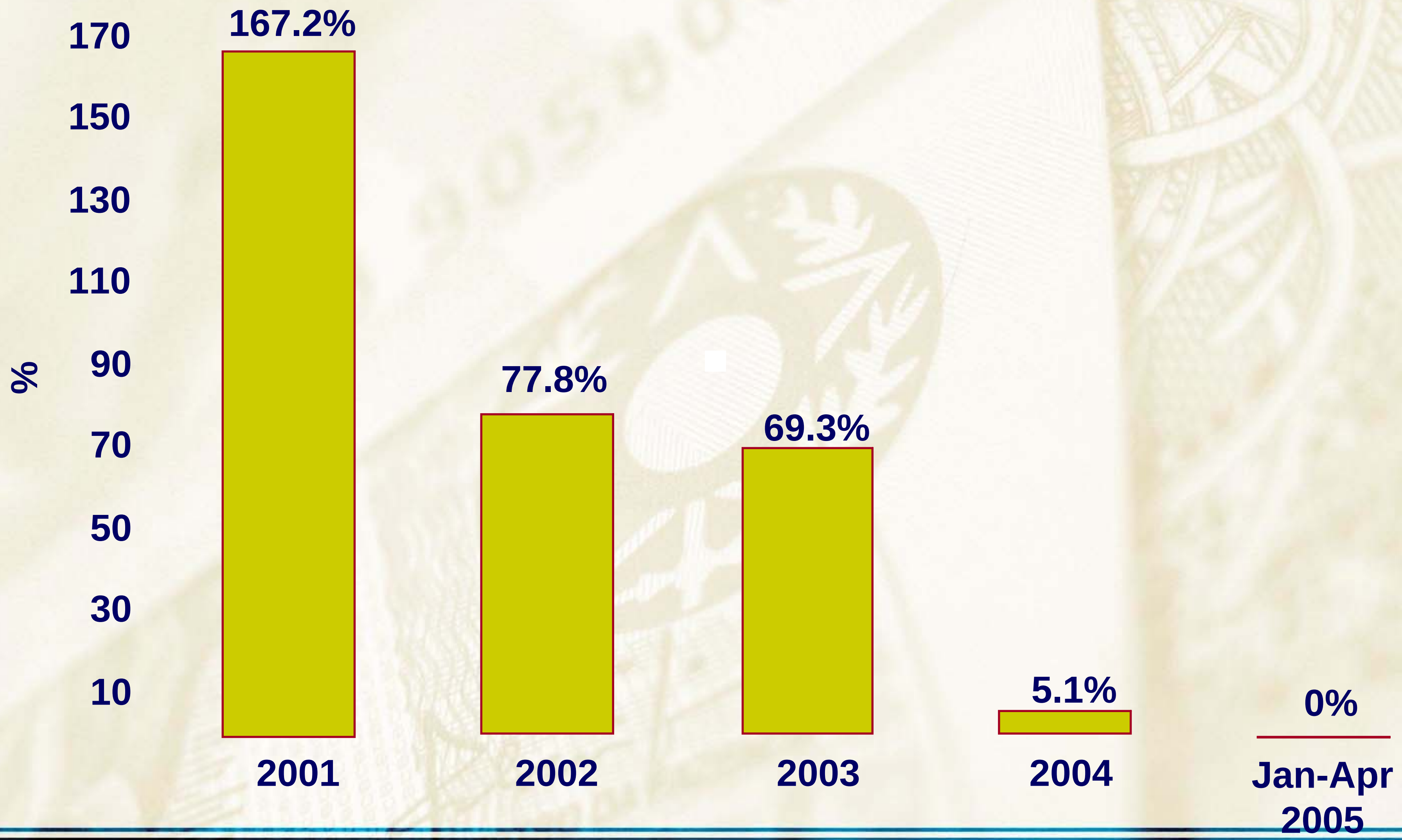
# International Reserves



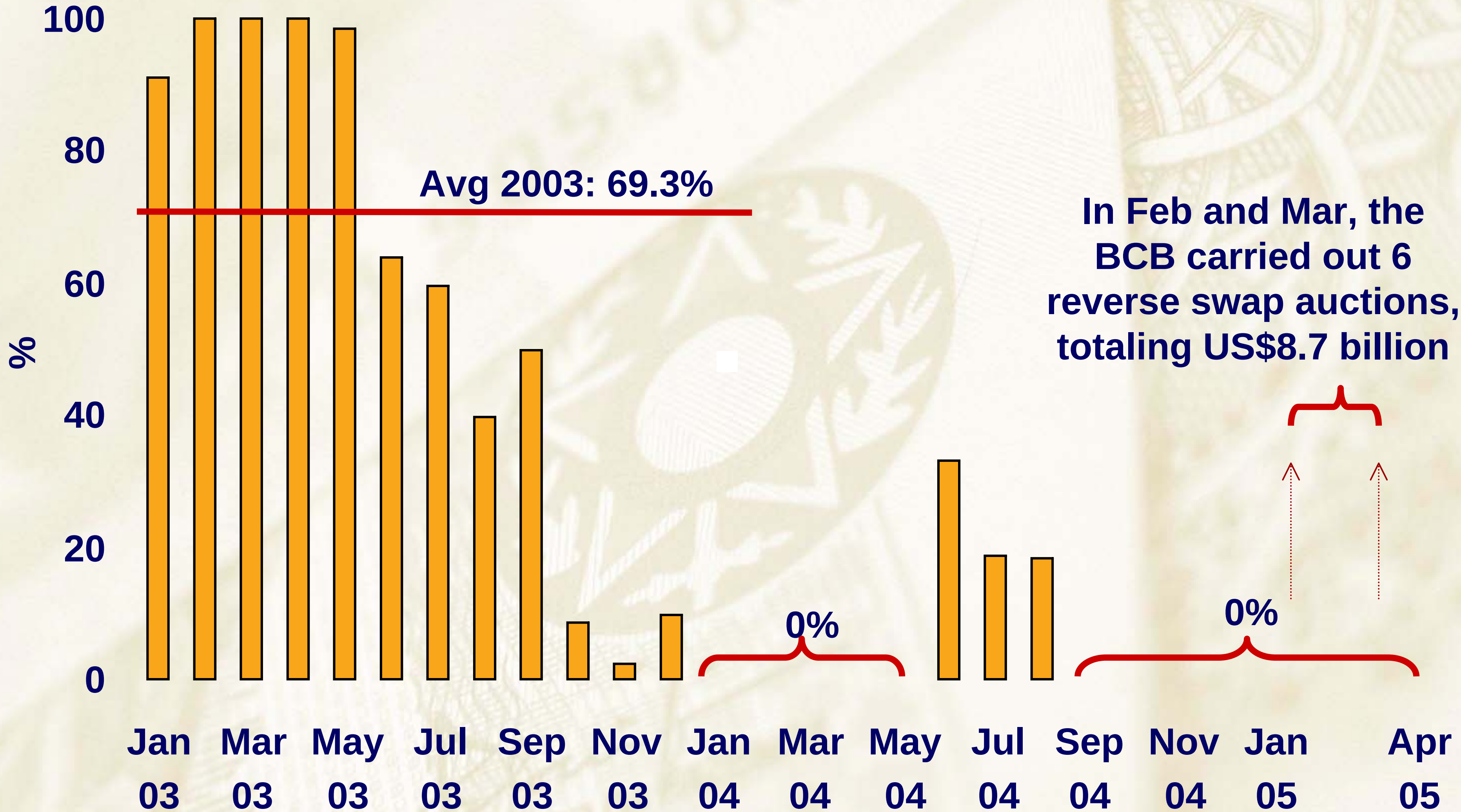
# Private Sector Net External Debt (1999-2005)



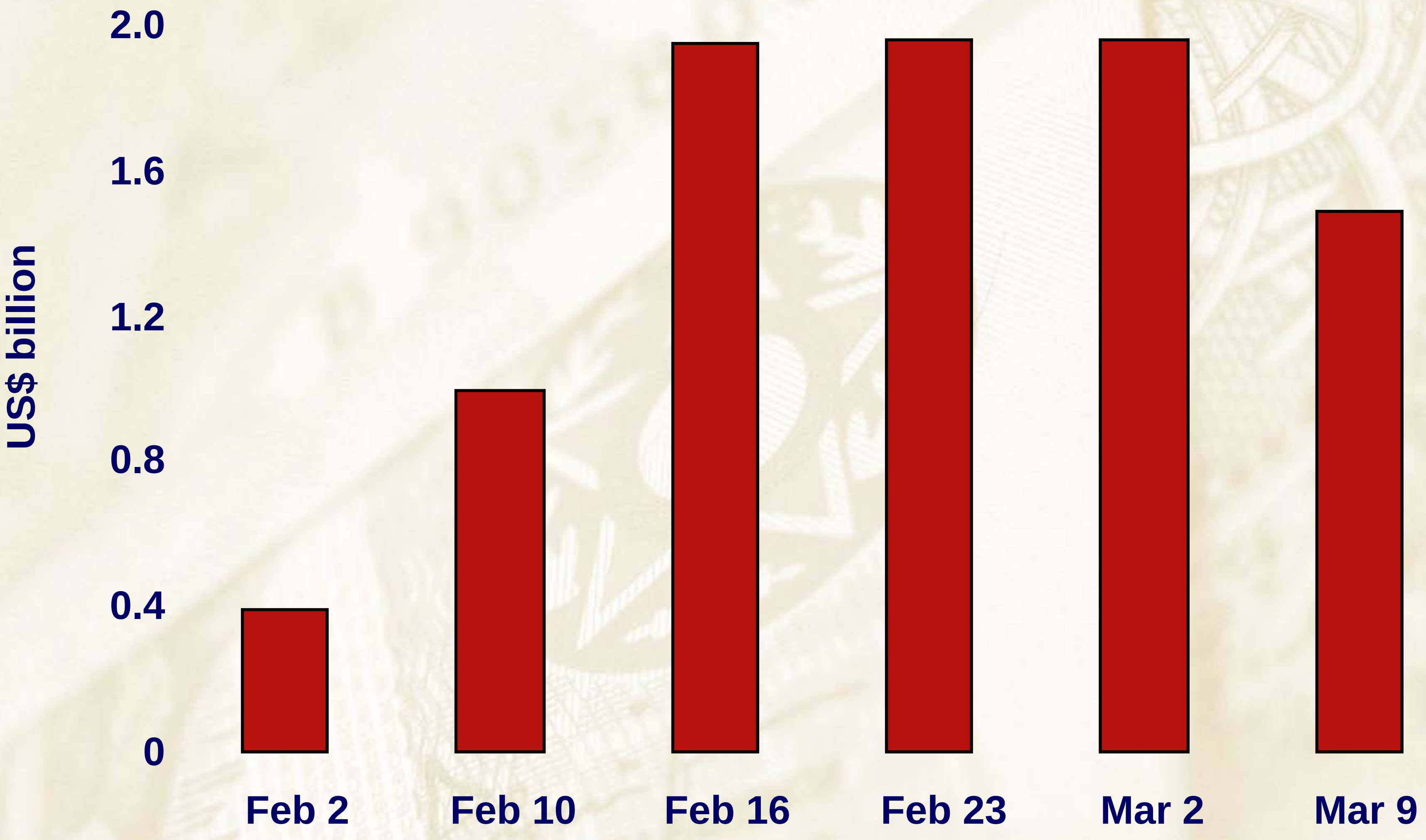
# Domestic Fx-Linked Debt Rollover Rates



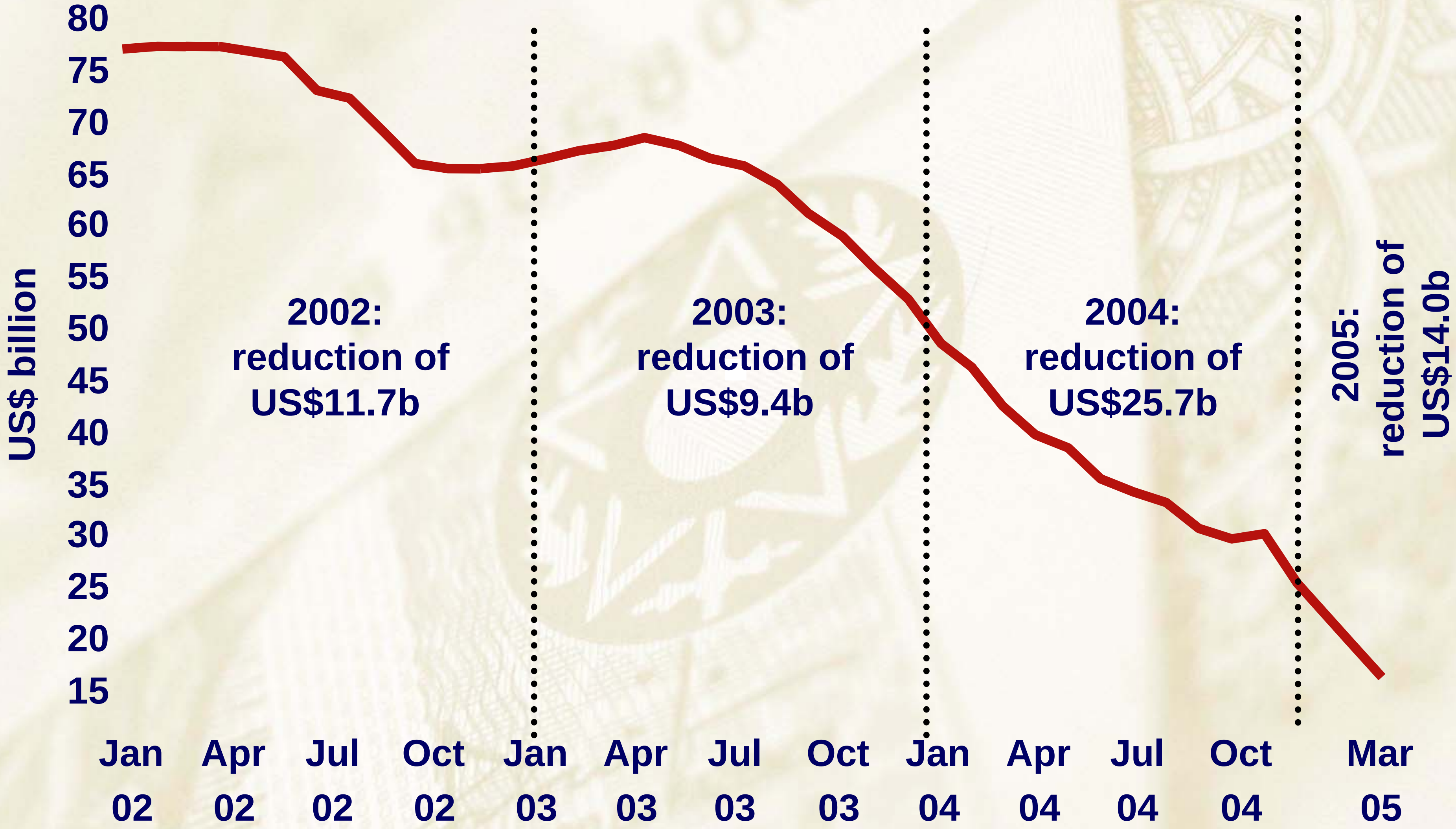
# Rollover Rate of the FX-linked Debt



# Reverse Swap Auctions in US$

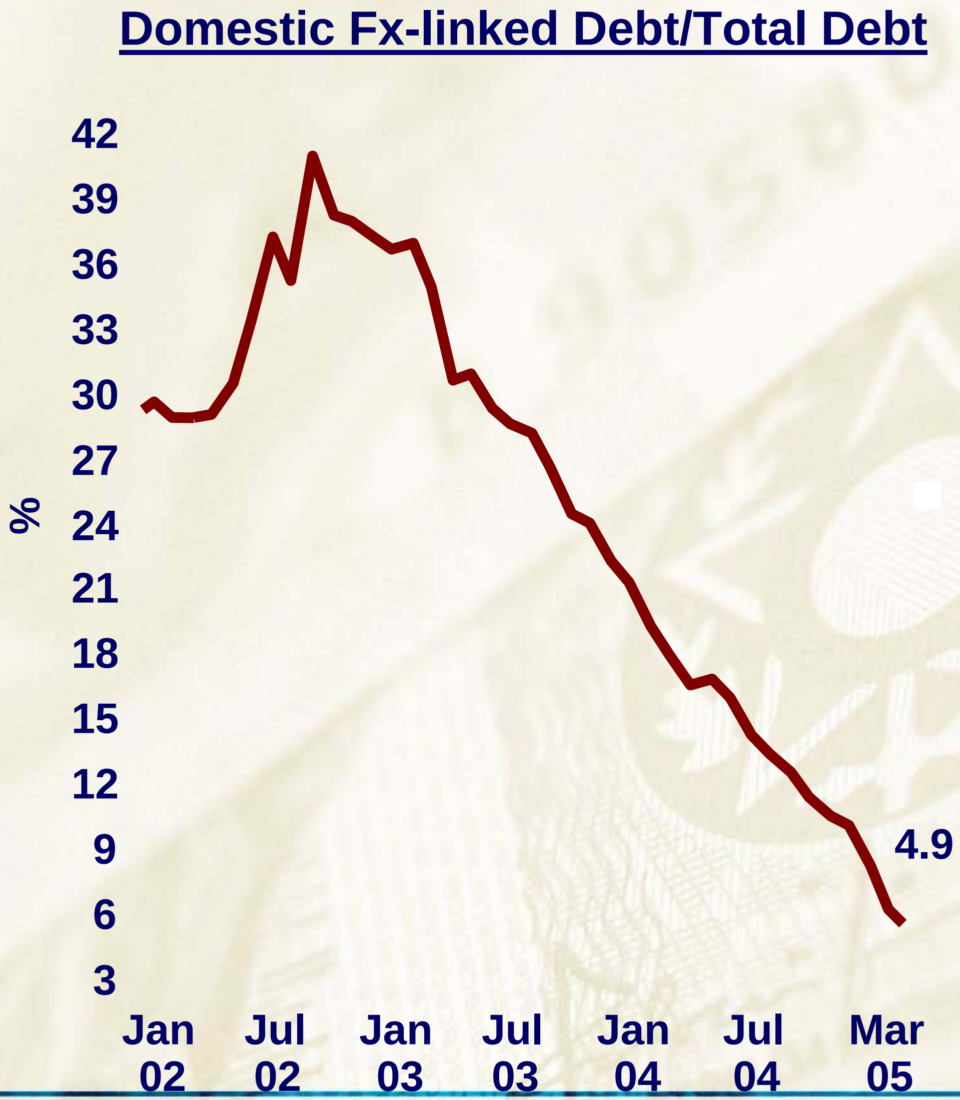


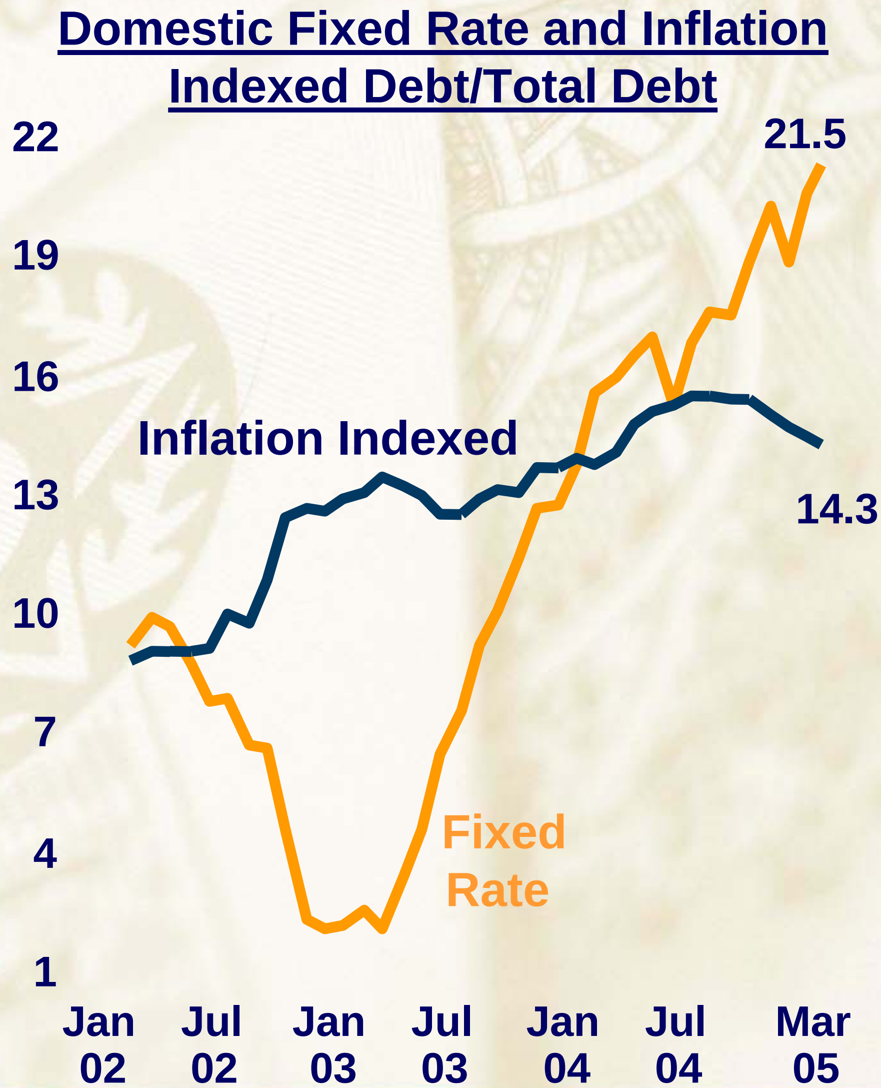
# Domestic Fx-Linked Debt in US$



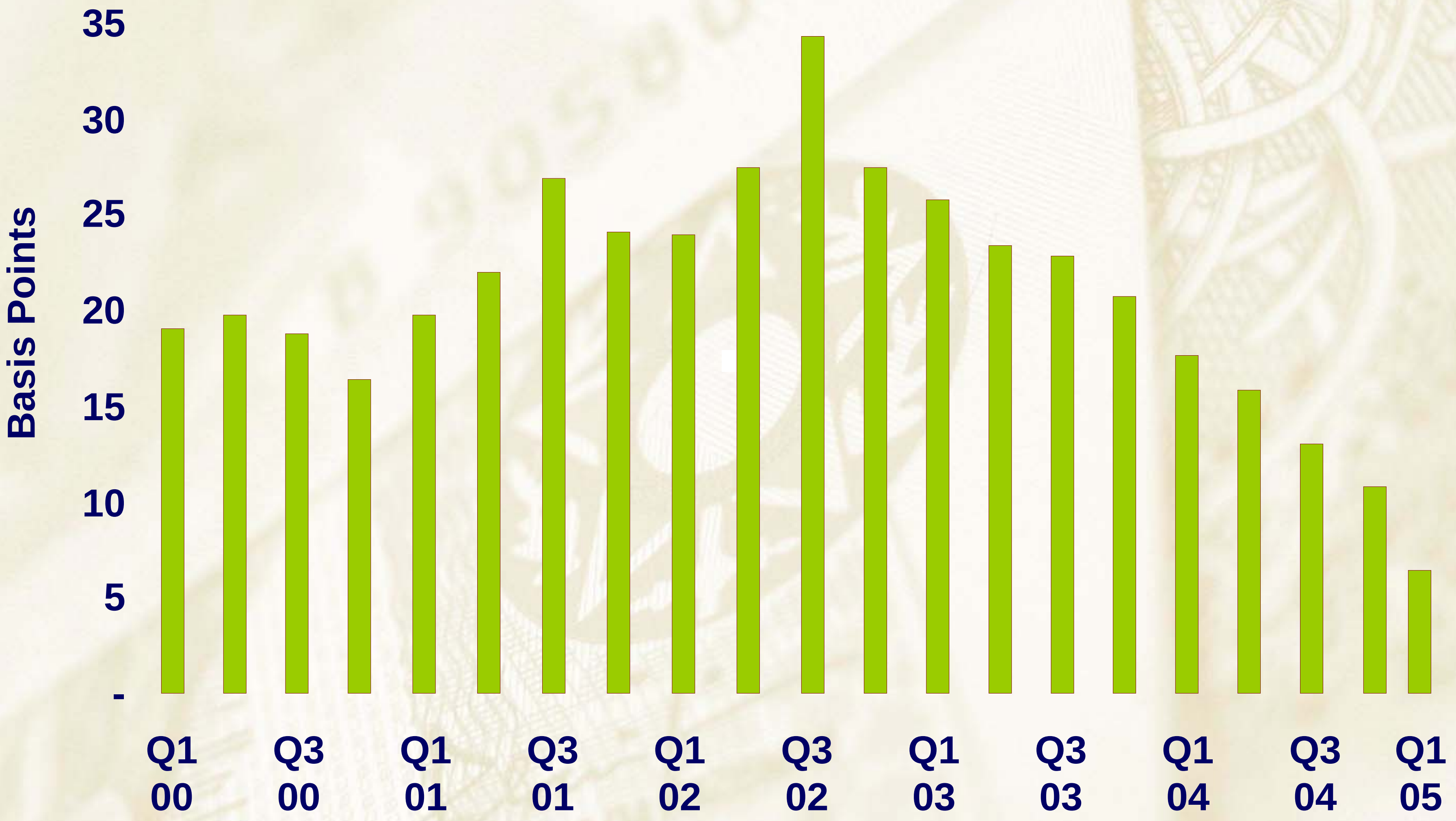
# Domestic Fx-Linked Debt: Accumulated Reduction since Dec/2002

# Domestic Debt

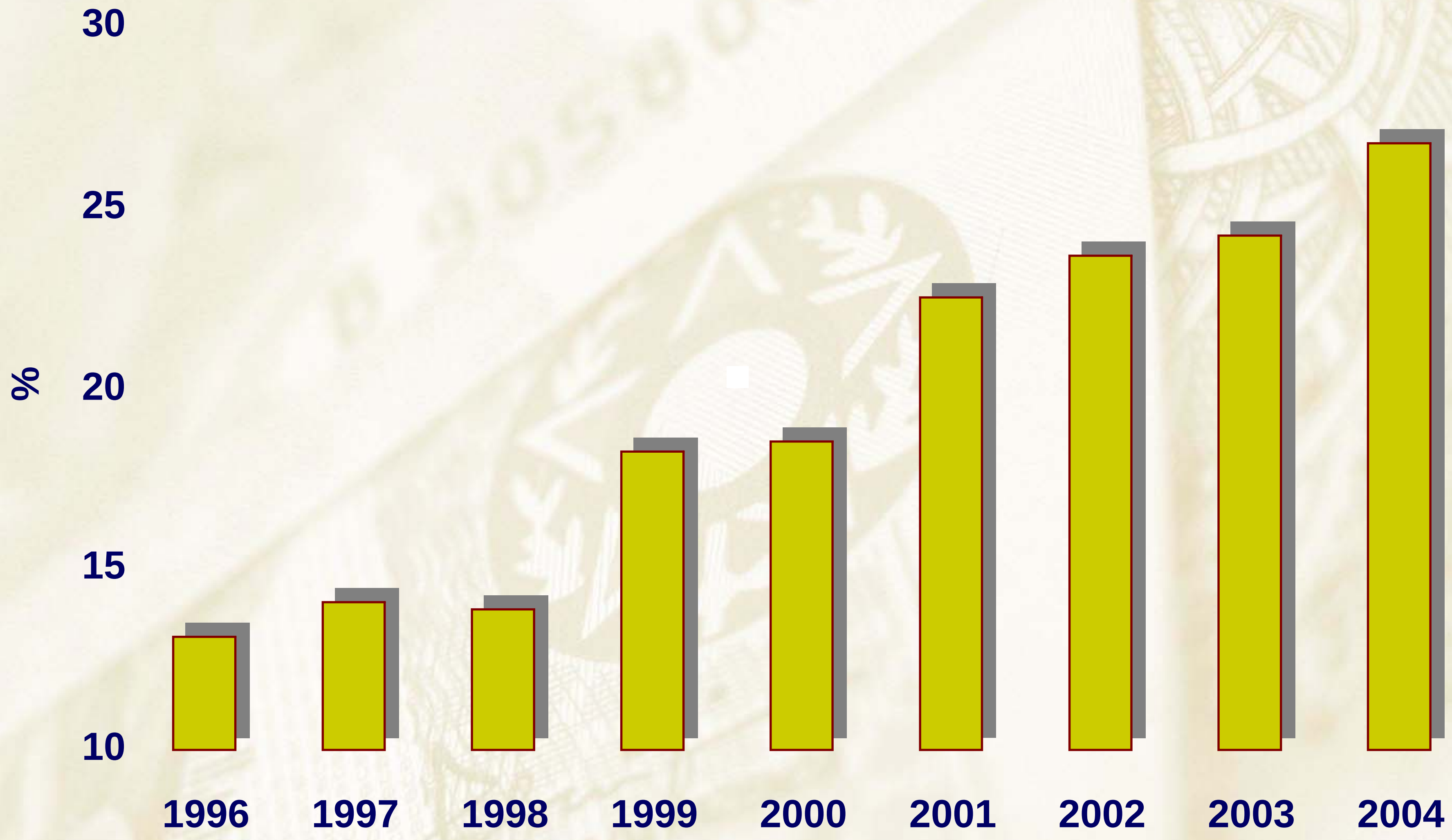


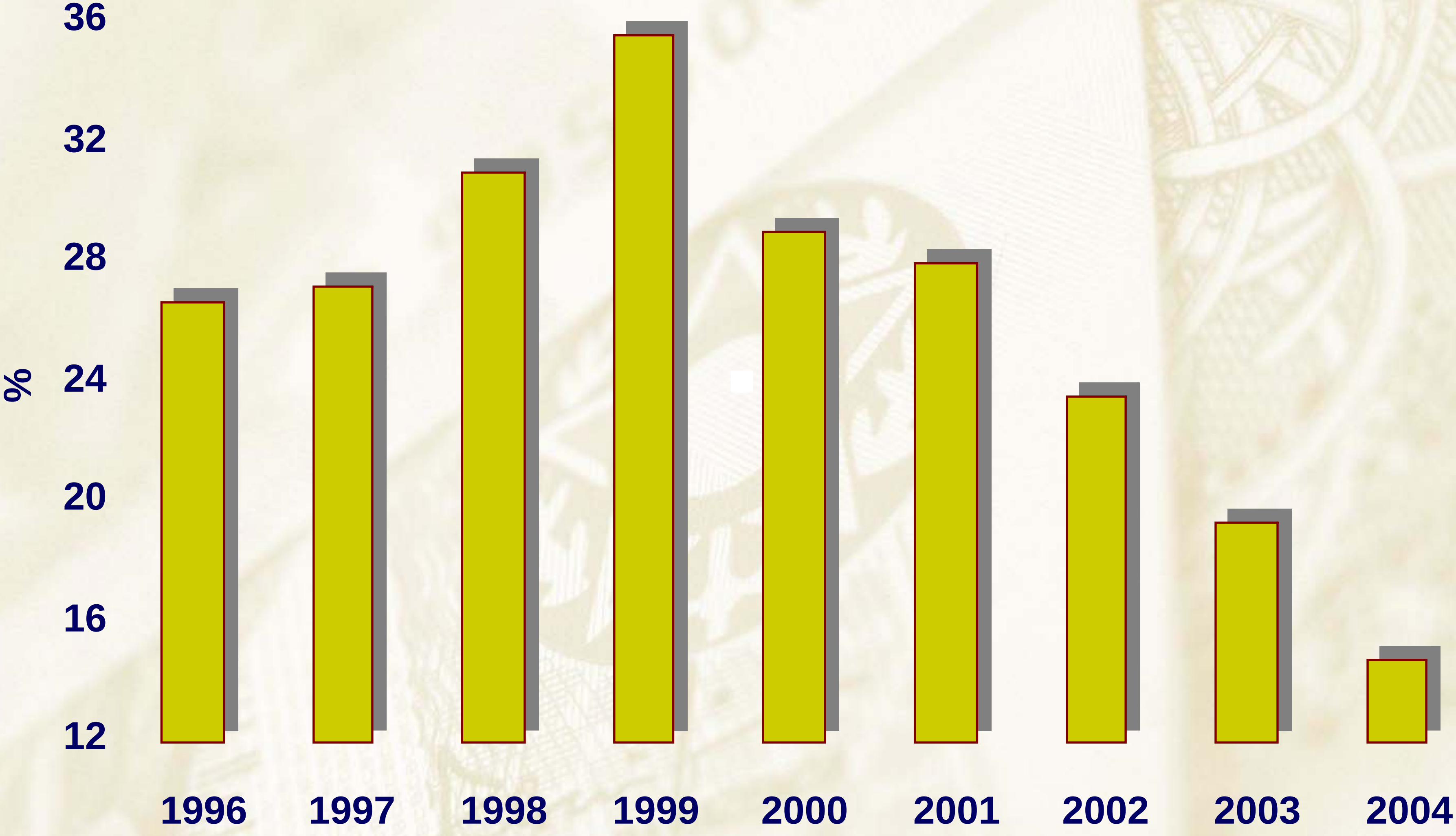
# Impact of 1% Fx Change in the Net Debt/GDP Ratio



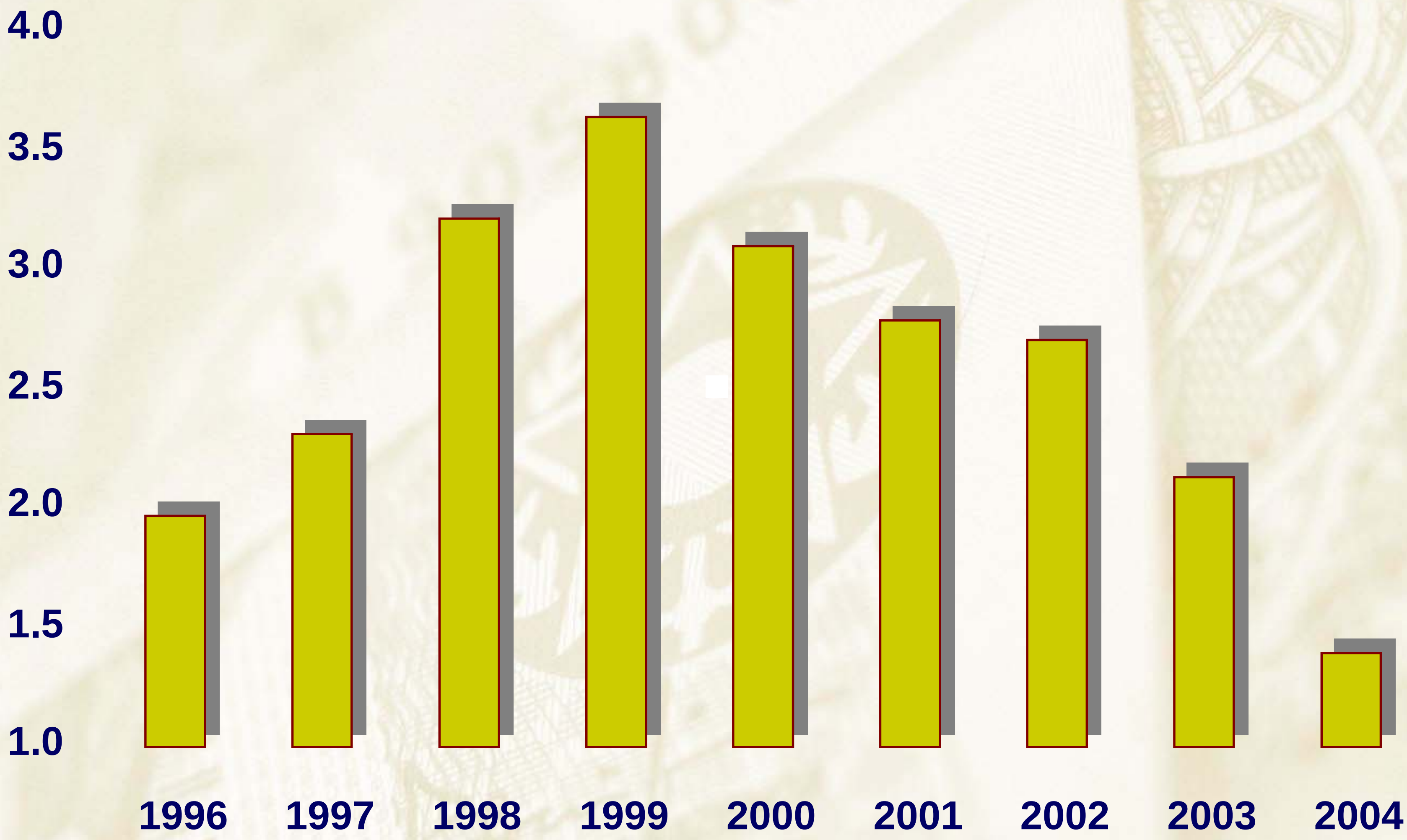
# Total External Trade/GDP



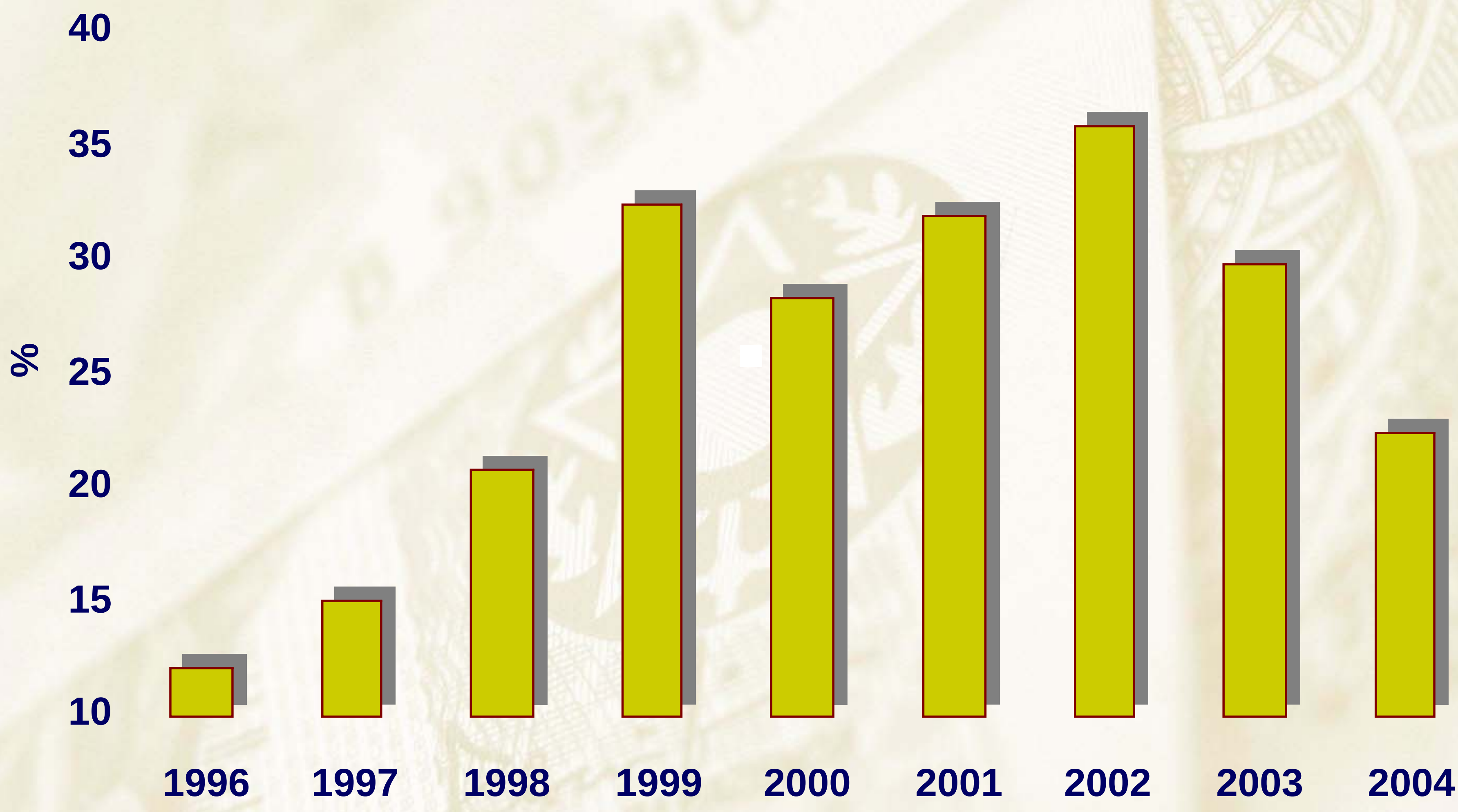
# Interest Payments/Exports



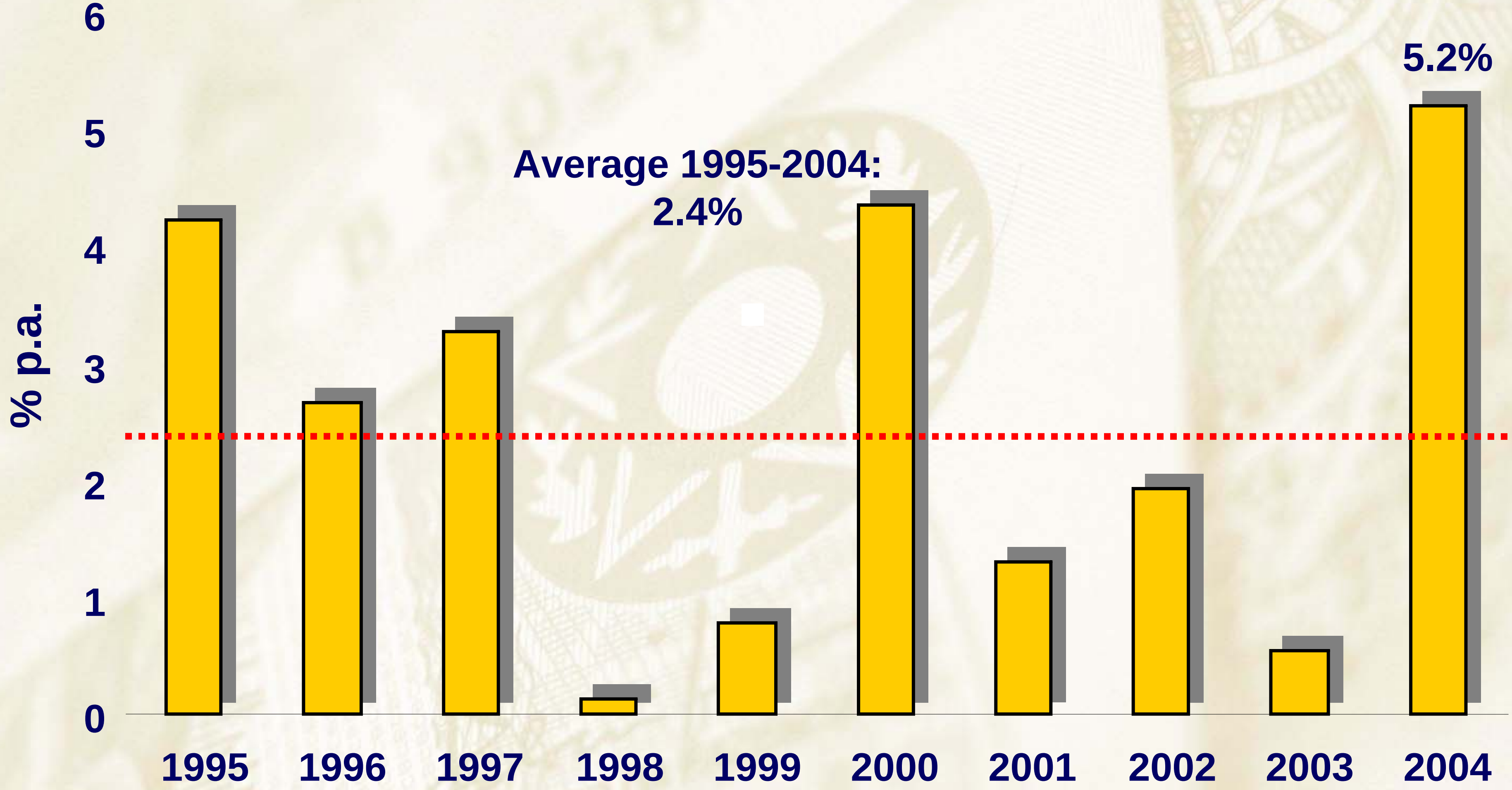
# Net External Debt/Exports



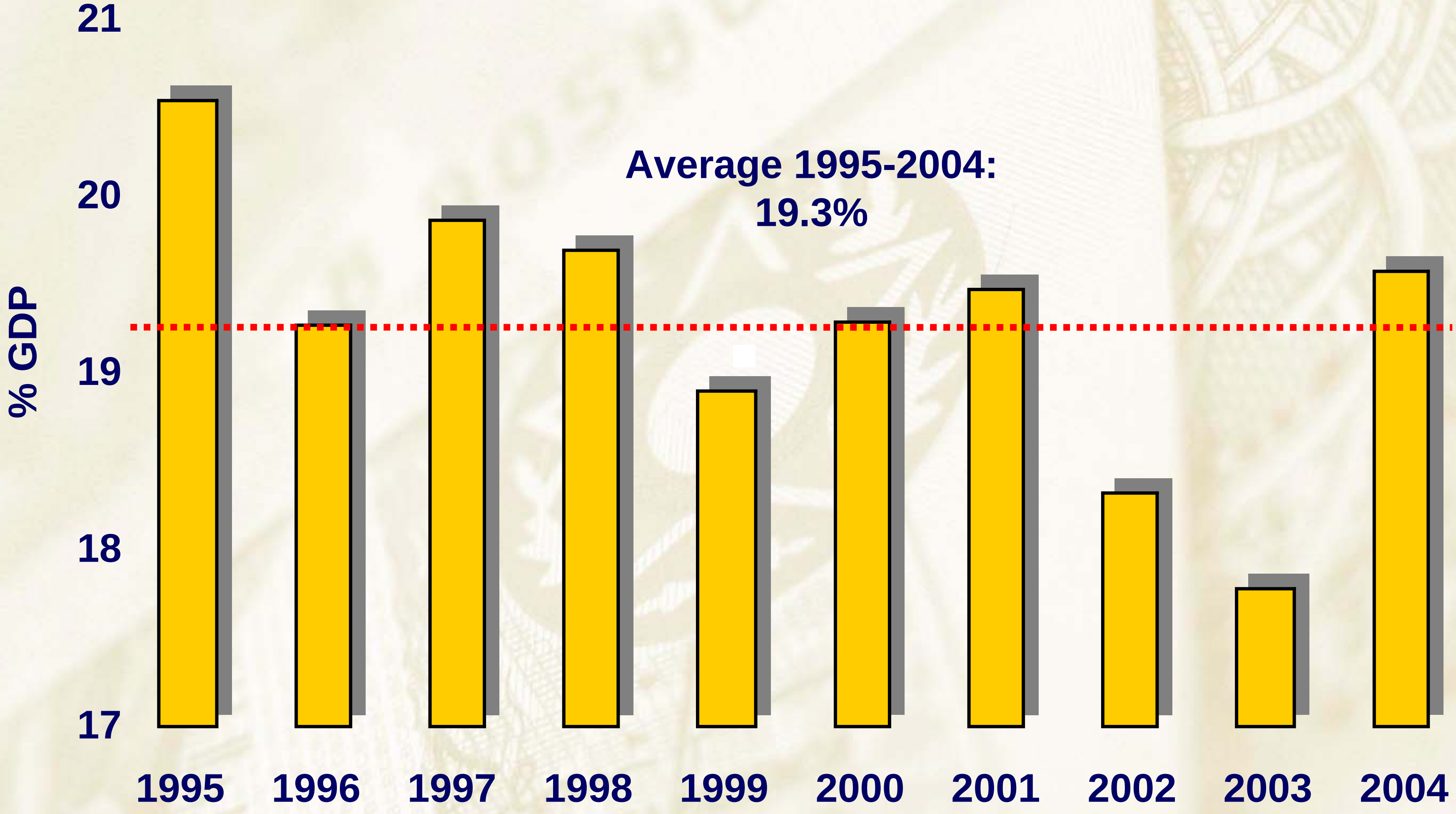
# Net External Debt/GDP



# GDP Growth (1995-2004)



# Investment/GDP Ratio (1995-2004)



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