Macro Topics in Development and Transition - Handout No.3

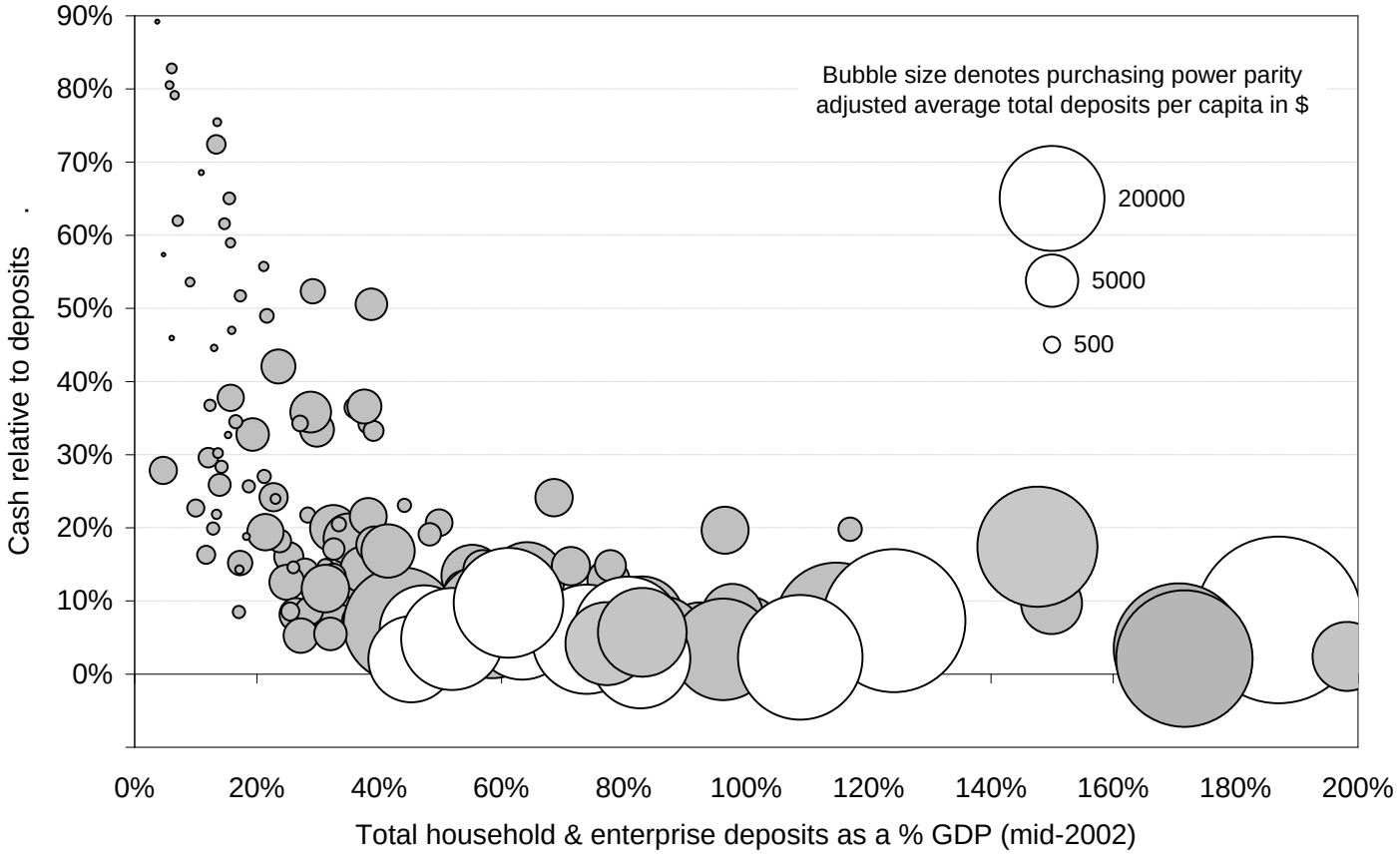
THIS TOPIC CONNECTS THE EARLIER DISCUSSION ABOUT THE CONSTRAINTS ON FISCAL FINANCING WITH SOME FORMAL CONSIDERATION OF THE MULTIPLICITY OF "HIDDEN" TAXES THAT ARE ENCOUNTERED IN DEVELOPING AND TRANSITION COUNTRIES.

Papers by Agenor (IMF Staff Papers 1990 and 1992) and Brian Pinto (JIE 1991 and WBER 1989) are particularly useful, as are the associated chapters in Agenor and Montiel (sections on parallel Forex and Credit markets and on the Credibility aspects of disinflation programmes).

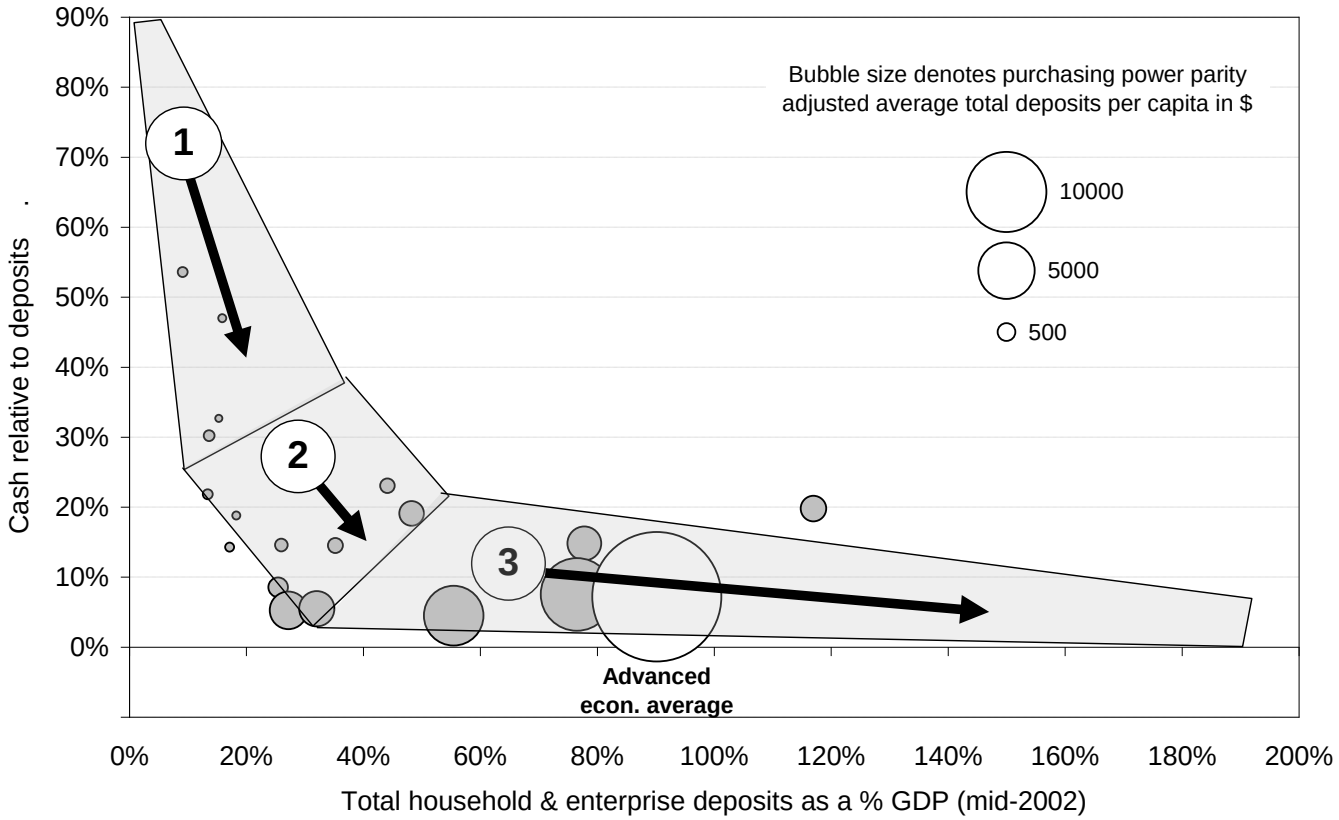
Earlier Results Include

- If the ER is FIXED and Financial Markets are THIN, Fiscal Deficits in LDCs easily get reflected in involuntary Foreign Borrowing/Decline in Foreign Reserves
- If the ER is FLEXIBLE and Financial Markets are THIN, Fiscal Deficits in LDCs easily get reflected in INFLATION
- The FIRST of these two cases easily dissolves into the SECOND in cases where (a) Foreign Reserves are Low and (b) Monetary Depth is Low
- In these cases, the First Generation Crisis Models (Krugman) easily provide the analytical explanation of what happens.

World-Wide Money and Use of Cash



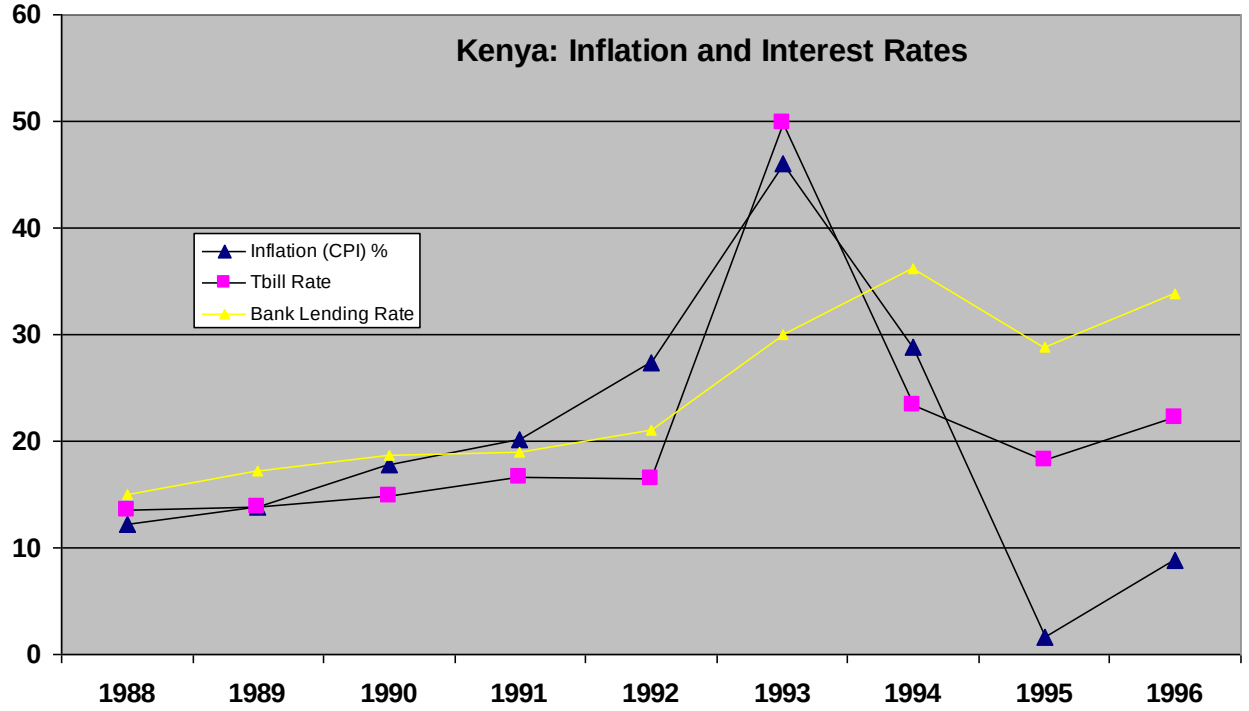
Africa - Money and Use of Cash



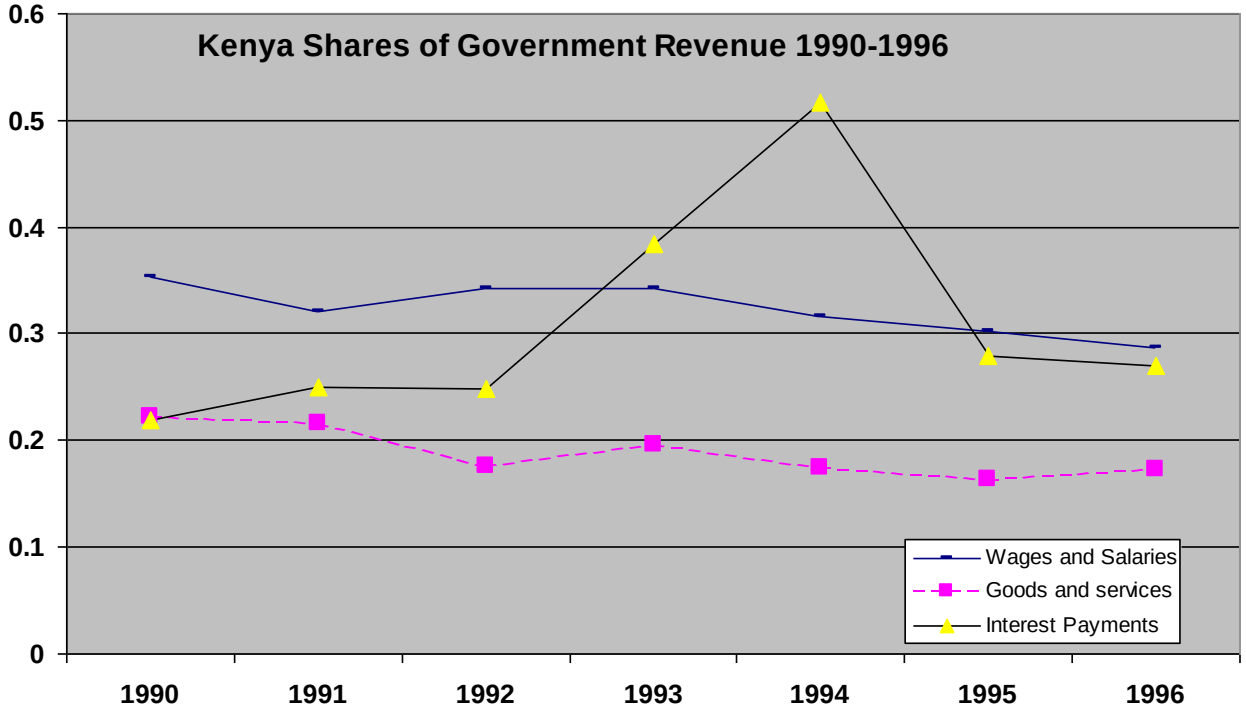
Continued

- Government Borrowing (Domestic or External) provides a POSSIBLE Escape from these traps
- However, this will depend on (a) the VOLUME of such borrowing that is possible and (b) the TERMS (interest rates and maturities) of the borrowing.
- Much LDC Borrowing in practice is either (a) INVOLUNTARY (e.g. forced sales of securities to local banks) or (b) LIMITED in Volumes or (c) HIGH COST with SHORT MATURITIES
- In these cases we CANNOT take it for granted that increased borrowing (for any given Fiscal Deficit) will result in a REDUCTION of long-term INFLATION (c.f. Sargent and Wallace). Nonetheless it is often the maintained assumption of the international organiastions (IMF) that this inverse relationship will apply (see counter examples discussed in lectures.

Example: Kenya - Interest rates and Inflation 1988-1996



Example: Kenya's Liberalisation in 1991



Continued – Exotic Alternatives to Borrowing

- LDC Governments have made extensive use of a wide range of "hidden" alternatives to explicit borrowing to finance their deficits (see Handout 3 for the List)
- Careful analysis of such alternatives (e.g. dual exchange rates) shows that they invariably (a) create an economic/structural inefficiency and (b) help to suppress the short-term inflation rate below the rate otherwise necessary.
- It follows that reforms to remove the STRUCTURAL INEFFICIENCY will almost always INCREASE the Inflation Rate unless the Fiscal Deficit is simultaneously reduced. (see the further example of a tax levied on commercial banks on the next two slides.

SOME ECONOMICS OF HIDDEN TAXES/SUBSIDIES

COMMON EXAMPLES:

- **DUAL EXCHANGE RATES –A TAX ON THOSE SELLING AT THE MORE APPRECIATED RATE**
- **TOLERANCE OF LOSSES IN STATE-OWNED ENTERPRISES – REQUIRES HIGHER CONVENTIONAL OR INFLATION TAXES ON OTHER AGENTS**
- **TOLERANCE OF NON-PAYMENT BY BUDGET ORGANISATIONS OR STATE-OWNED ENTERPRISES – A TAX ON THOSE WHO DO NOT GET PAID IN TIMELY FASHION**
- **HIGH UN-REMUNERATED RESERVE REQUIREMENTS IN BANKS – A TAX ON THE DEPOSITORS AND BORROWERS**
- **LOAN LOSSES IN BANKS ASSOCIATED WITH DIRECTED LOANS TO STATE ENTERPRISES – AGAIN A TAX ON DEPOSITORS/LENDERS**
- **PRICE CONTROLS ON CERTAIN "ESSENTIAL" GOODS – A TAX ON THOSE SUPPLYING THOSE GOODS**

STANDARD STRUCTURE OF THE PROBLEM WHICH ARISES

ALLOCATIVE EFFICIENCY PROBLEMS – TOO MUCH OR TOO LITTLE BEING PRODUCED OF SUBSIDISED OR TAXED GOODS

BROADER MACRO EFFECTS ASSOCIATED WITH METHODS OF BUDGET FINANCE; PORTFOLIO CHOICES FOR PRIVATE AGENTS ETC.

SIGNIFICANT MACROECONOMIC CONSEQUENCES WHEN THE (APPARENTLY NARROW) REFORM OF THE SPECIFIC INEFFICIENCY IS ADDRESSED

Example One: Taxing Banks

Model from McKinnon, Mathieson in Princeton papers,1982

Model uses three Eqs. Govt Deficit; Banking Sector Balance; and a Zero Profit (for banks) Condition

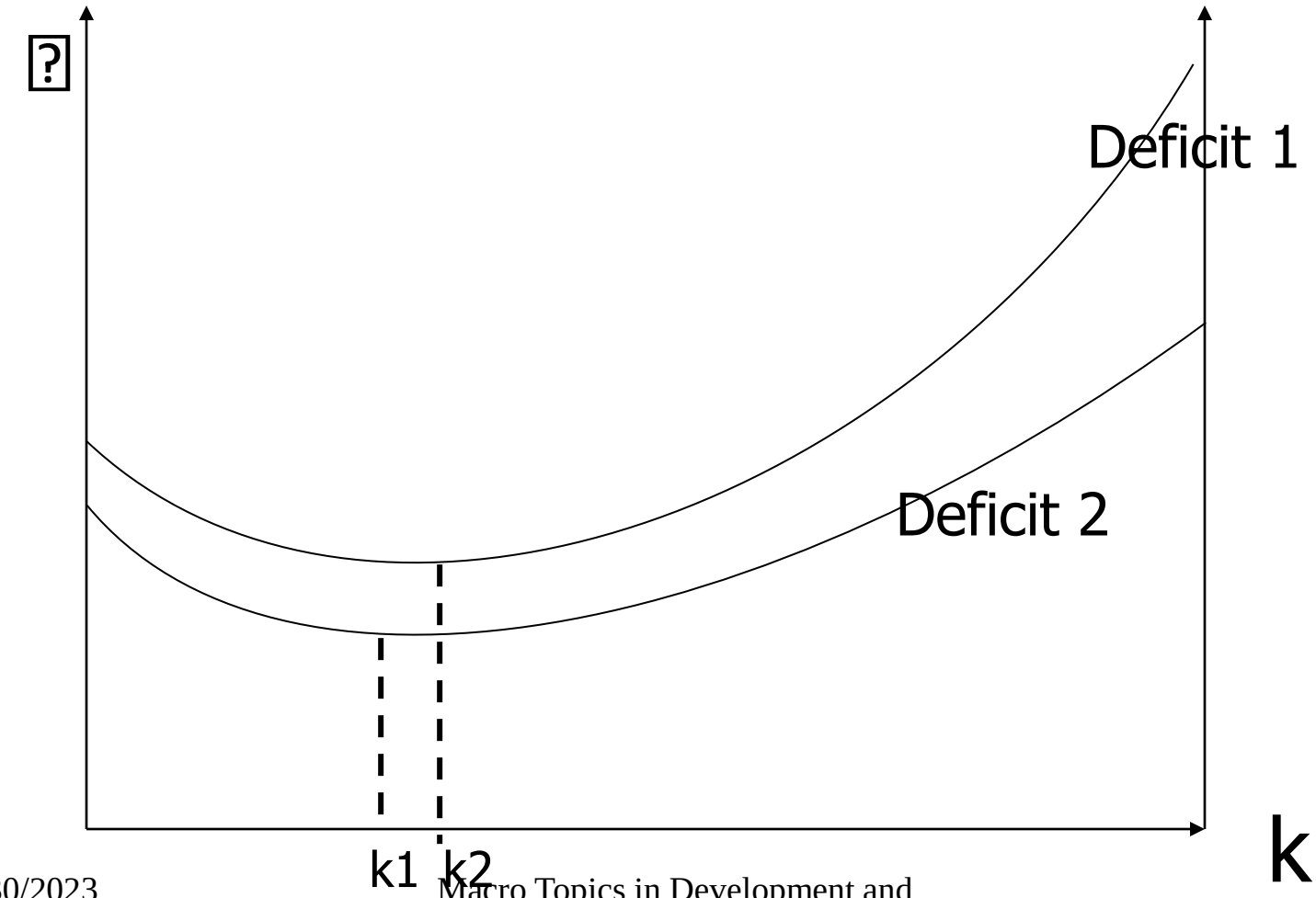
$$D = [kq(\pi, i_d) + f(\pi, i_d)].(\pi + \gamma).....[1]$$

$$h(\pi, i_l) = 1 - k.q(\pi, i_d).....[2]$$

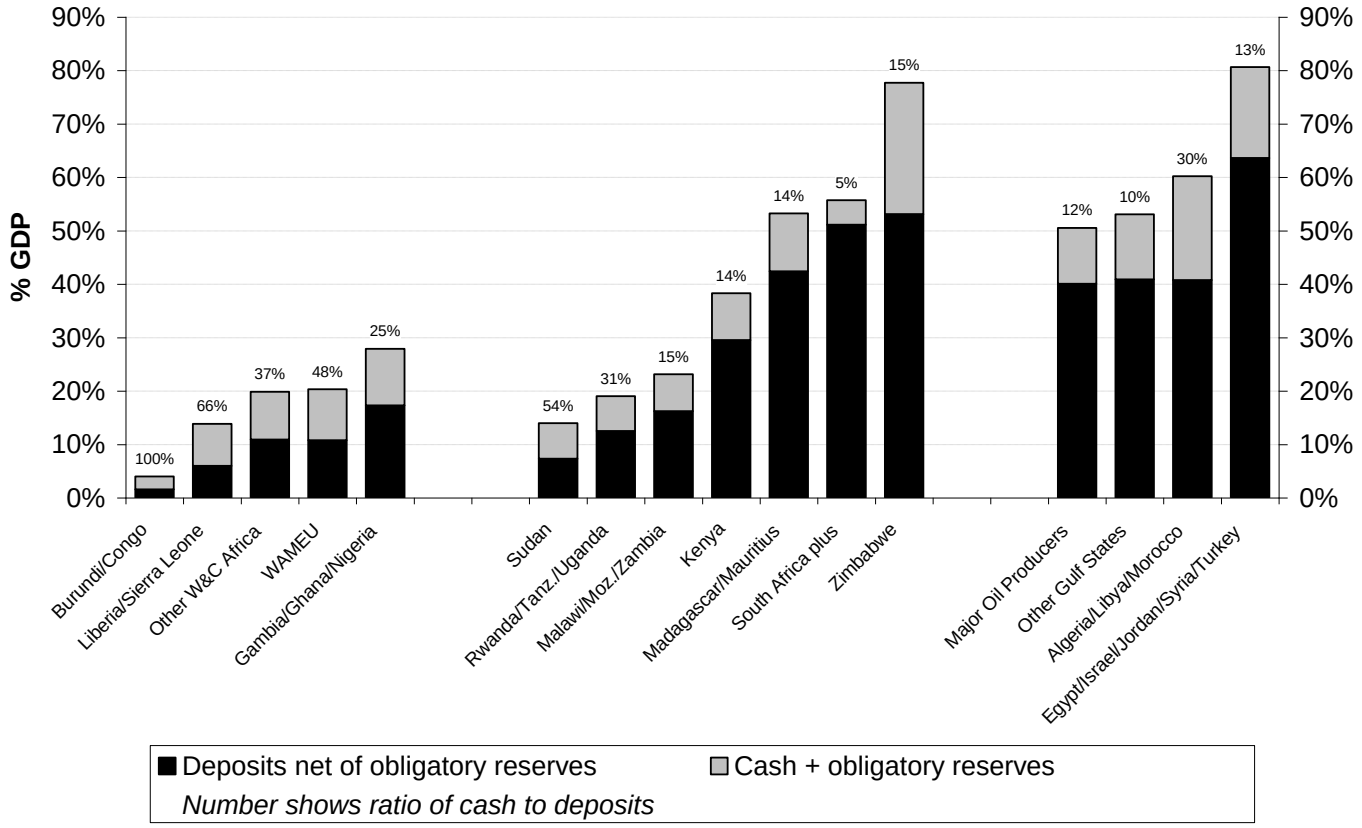
$$i_d = i_l(1-k).....[3]$$

Note the inefficiency here arises from the INABILITY of banks to use their mobilised resources productively (an effect that can also come from (a) excessive bad loan positions and (b) excessive investment in fancy bank buildings)

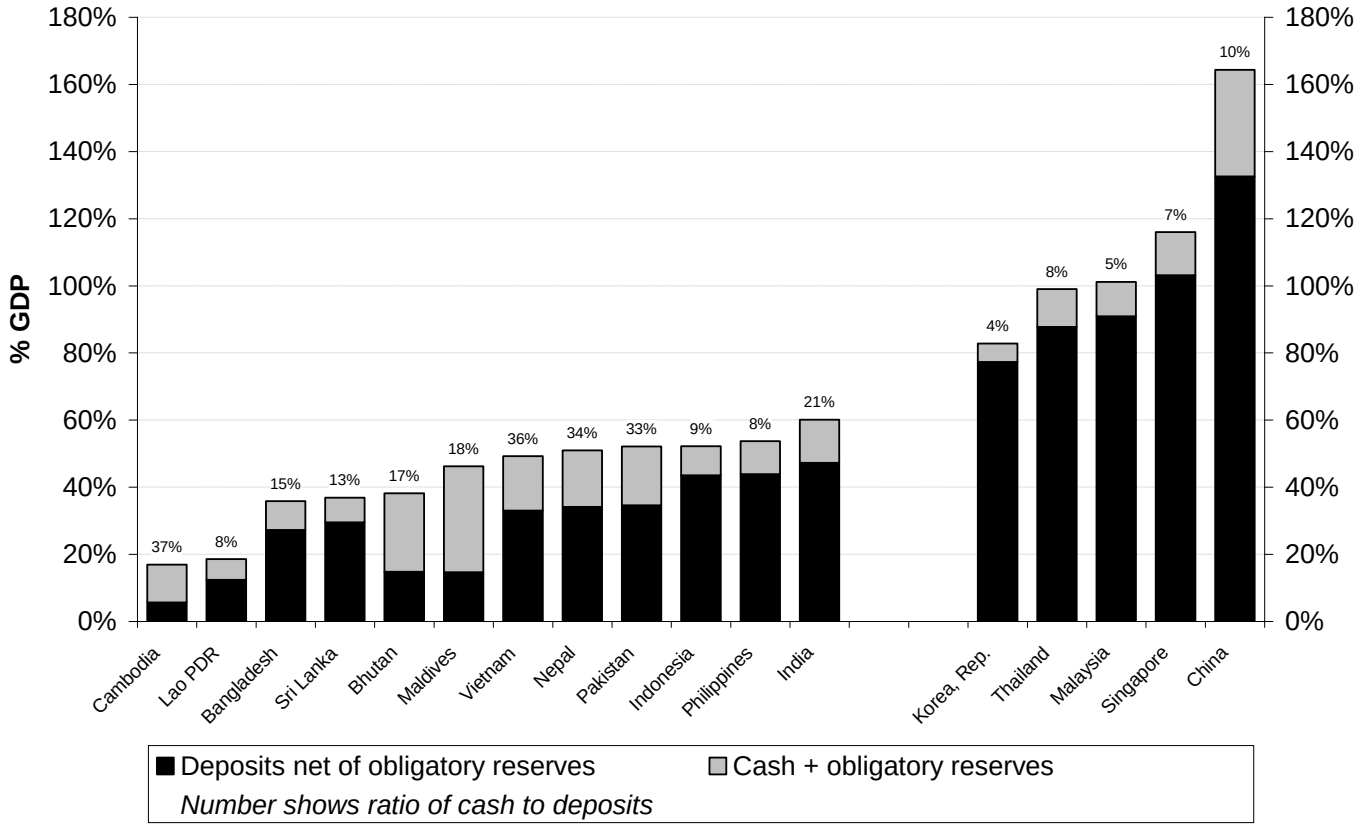
Solution



Africa- How Much is Available to Lend?



Asia - How Much is Available to Lend?



EXAMPLE 2 – MULTIPLE EXCHANGE RATES

THIS ISSUE HAS THREE ASPECTS

THE "REAL ECONOMY"

- **WHAT ARE THE ECONOMIC INEFFICIENCIES ASSOCIATED WITH DUAL EXCHANGE RATES. HOW WOULD PRODUCTION CHOICES CHANGE IN RESPONSE TO UNIFICATION?**
- **THE MONETARY ECONOMY.**

  HOW DOES UNIFICATION IMPACT MONEY DEMAND AND THE TOTAL FINANCING AVAILABLE FOR THE BUDGET?
- **MACROECONOMIC PROBLEMS OF UNIFICATION**

The Policy Problem

Countries that have unified Dual Exchange Rates have seen large surges of Inflation (e.g. Sierre Leone 1986 when Inflation jumped from 70% to 200%)

Why? Theoretical Answer is in Pinto, *Journal of International Economics*,1991 and *World Bank Economic Review*, 1989

CONTEXT

THIS IS AN ISSUE THAT IS RELEVANT IN COUNTRIES WHERE ALL OR SOME OF THE FOLLOWING FEATURES ARE PRESENT

- **THE ECONOMY IN QUESTION HAS LOW OR ZERO FOREIGN RESERVES AND SO NEEDS TO RATION FOREX**

- **THE RATIONING CREATES AN EXCESS DEMAND FOR FOREX AND SO ENCOURAGES THE EMERGENCE OF AT LEAST ONE BLACK/PARALLEL MARKET**

- **BECAUSE OF THIS EXPORTERS FACE AT LEAST <u>TWO</u> DIFFERENT LOCAL CURRENCY PRICES FOR THEIR EXPORTS**

Continued

THE GOVERNMENT PURCHASES AT LEAST SOME OF ITS IMPORTS AT THE "OFFICIAL" RATE AND TO THAT EXTENT BENEFITS FROM THE EXPORT PROCEEDS WHICH ARE SOLD AT THAT RATE. EXPORTERS REQUIRED TO SELL AT THAT RATE CAN ARE "TAXED" IN A VERY REAL SENSE.

ALLOCATIVE INEFFICIENCIES ARE THEREBY CREATED – i.e. LEGAL EXPORTS ARE DISCOURAGED IN FAVOUR OF (a) SMUGGLED EXPORTS AND (b) PRODUCTION OF NON-TRADED GOODS

CONTINUED

- **THE SCARCITY OF "OFFICIAL" FOREX MEANS THAT AT THE MARGIN THE PRICING OF IMPORTS IS CONDITIONED BY THE PARALLEL EXCHANGE RATE. OFFICIAL POLICY RE. THE EXCHANGE RATE WILL HAVE LITTLE EFFECT ON DOMESTIC PRICING (NOTWITHSTANDING THE CLAIMS THAT POLITICIANS MAY MAKE)**

- **AN "OFFICIAL" DEVALUATION IS LIKELY TO HAVE AN INTRA MARGINAL EFFECT WORKING THROUGH INCOME DISTRIBUTION RATHER THAN THE NORMAL TEXTBOOK EFFECTS ON TRADE VOLUMES ETC.**

- **EQUALLY THE EFFECTIVE RETURN ON HOLDING FOREX IN ASSET PORTFOLIOS WILL BE MOTIVATED MORE BY THE PARALLEL THAN BY THE OFFICIAL EXCHANGE RATE.**

Monetary Component of Model

Assume that $\overset{*}{R} = 0,$ then $\overset{*}{\mathrm{M}} = \overset{*}{\mathrm{D}} = S(g-t)$ [6]

Define $$\overset{*}{M} = S(g-t) \qquad [1]$$

Or $$\frac{\overset{*}{M}}{S} = \mathrm{g} - \mathrm{t}$$

Re-write the left hand side as

$$\frac{\overset{*}{M}}{M} \cdot \frac{M}{b} \cdot \frac{b}{S} = g - t \qquad [2]$$

The three components are nominal money growth, the real money base (evaluated by reference to the black market rate) and the black-market premium. Note how this amends the normal definition of inflation tax revenues

Continued

Defining b/S = □ and dividing [2] by □ gives

$$\frac{\overset{*}{M}}{M}\frac{M}{b} = \frac{g}{\phi} - \frac{t}{\phi} \qquad [2']$$

Or

$$\frac{g}{\phi} = \frac{t}{\phi} + \frac{\overset{*}{M}}{M}\frac{M}{b} \qquad [3]$$

We see from this that when b>e (□>1) hidden taxes arise

Hidden Revenues

These are

$$g(1-\frac{1}{\phi}) = g - \frac{t}{\phi} - \frac{m\overset{*}{S}}{\phi} \qquad [4]$$

The components on the RH side are conventional taxes evaluated using "b" i.e. tS/b; and the inflation tax also evaluated using "b" i.e.

$$\frac{M}{S}.\frac{\overset{*}{S}}{S}.\frac{S}{b} \qquad \text{and} \qquad M/S = m$$

Note for the case where □ =2

- HALF of all government expenditures financed from the hidden export tax
- CONVENTIONAL tax revenues have only half their apparent spending power
- INFLATION TAX FINANCING yields only half the spending power it does when "S" is the equilibrium E.R.

How Big in Reality?

- African Examples from Ghura and Grennes show that values near to or in excess of 2 have not been unusual (e.g. 2.8 Tanzania; 5.0 Ghana; 2.02 Zimbabwe etc.)
- Suriname in late 1980s = 10 plus!

More on the ER and Fiscal Deficits (*from Agenor notes*)

Nominal exchange rate depreciation can exert direct effects on the **fiscal deficit** through two channels:

- by affecting the domestic-currency value of **foreign exchange receipts** by the government and foreign exchange outlays;
- by affecting the revenue derived from **ad valorem** taxes on **imports**.

Since depreciation raises the prices of **import-competing goods** and **exportables**, it may exert pressure on wages due to its effect on the **cost of living**.

Continued……

This is likely to occur in a setting in which indexation mechanisms are pervasive.

Example: a country facing a sharp deterioration in competitiveness and a large current account deficit and policymakers decide to devalue the exchange rate.

Devaluation will increase both the domestic-currency price of imported **final goods** as well as **imported inputs.** This puts upward pressure on domestic prices.

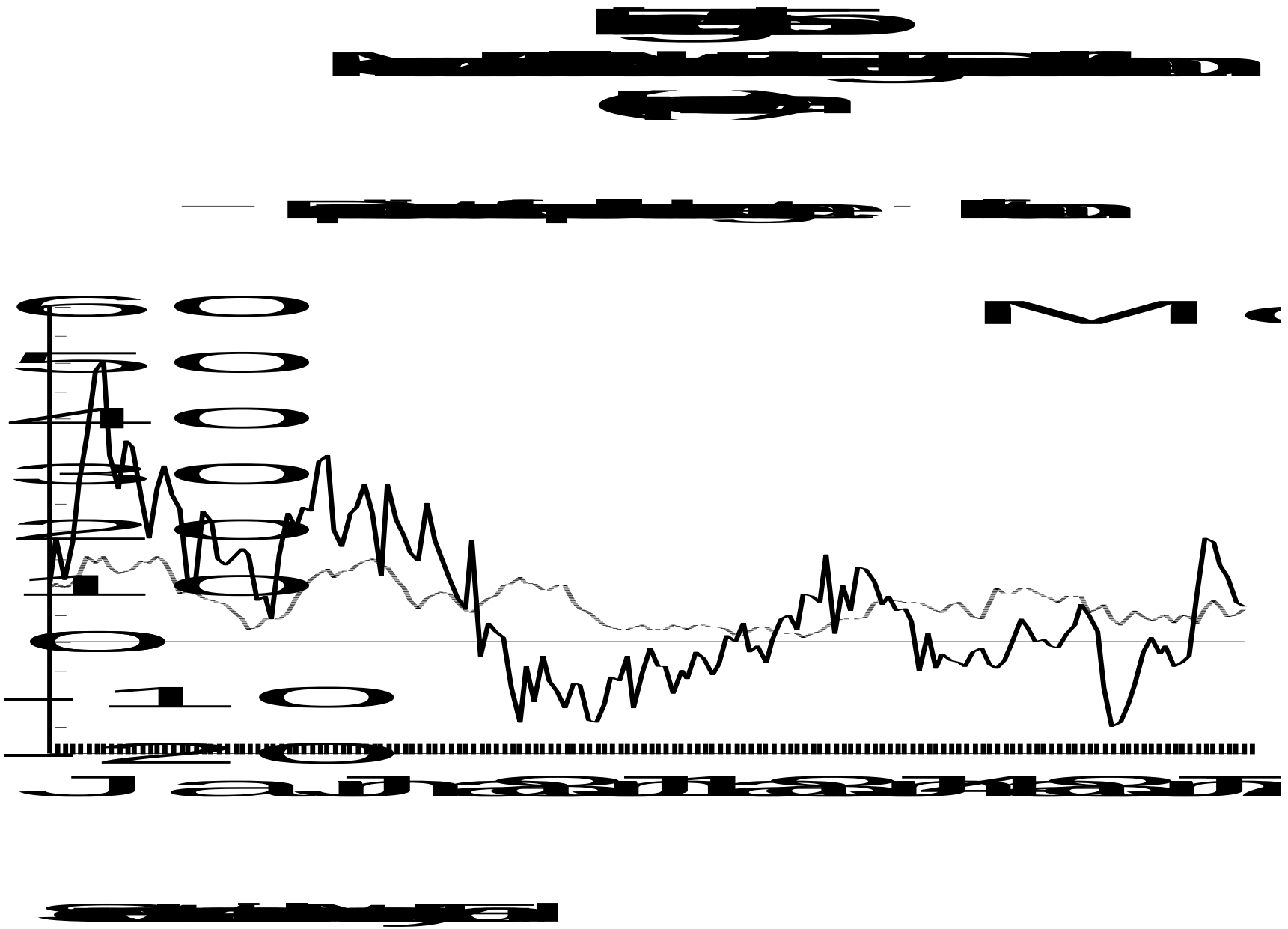
Increase in prices can be large enough to outweigh the effect of the initial devaluation on competitiveness--- thereby prompting policymakers to devalue again.

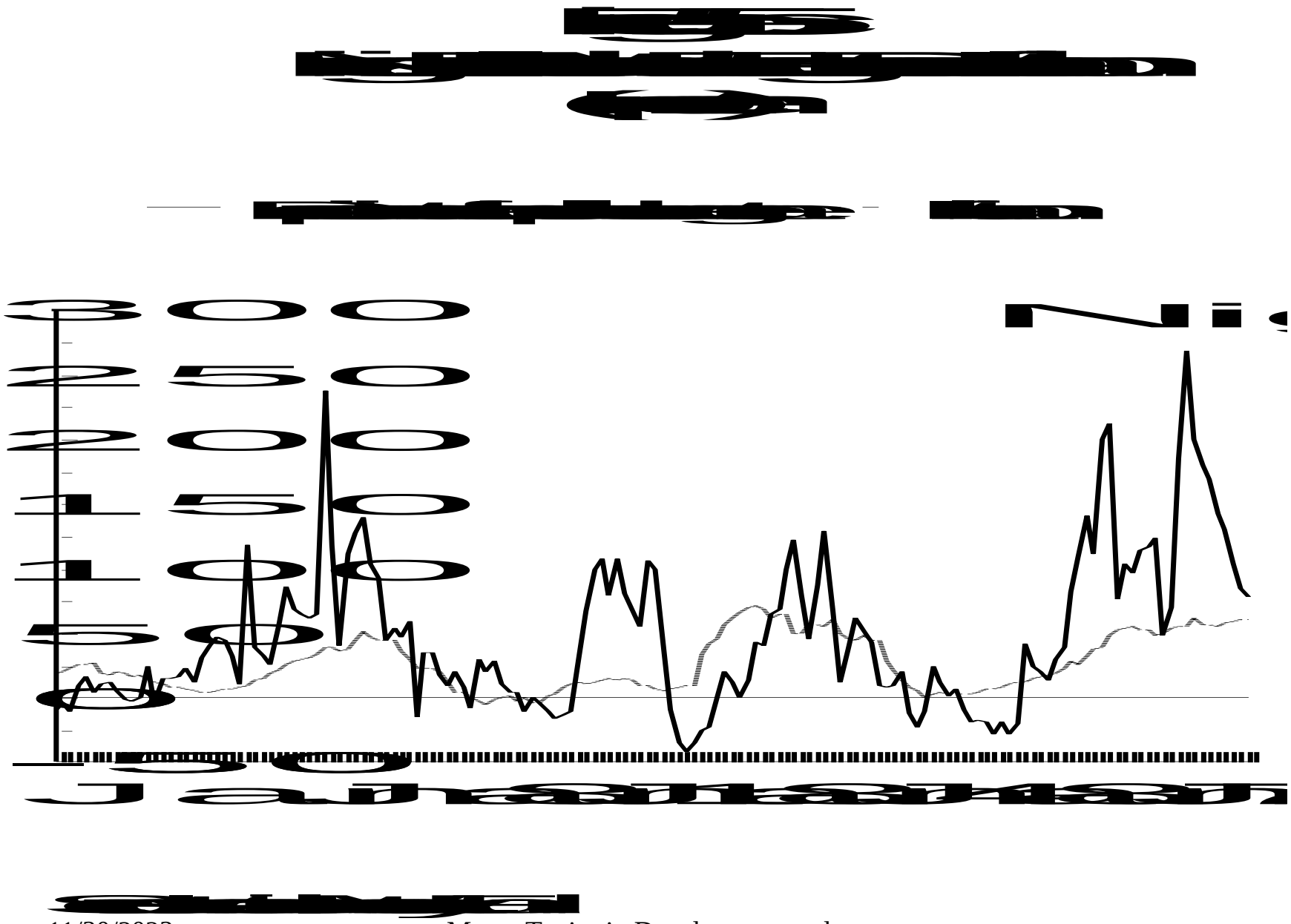
Continued……

The process can therefore turn into a **devaluation-inflation spiral**.
If wages are indexed on the cost of living, they will increase also, putting further upward pressure on prices of domestic goods.
Evidence: Onis and Ozmucur (1990) for Turkey; Alba and Papell (1998) for Malaysia, the Philippines, and Singapore.
Similar process can be seen in countries where the official exchange rate is fixed but the **parallel market for foreign exchange** is large.
Deterioration in external accounts leads agents to expect a devaluation of the official exchange rate to restore competitiveness.

Continued……

Such expectations will be translated immediately into a depreciation of the parallel exchange rate.
Because the parallel rate measures the **marginal cost** of foreign exchange, domestic prices will tend to increase.
This increase in prices will further erode competitiveness, leading agents to expect an even larger devaluation of the official exchange rate.
Figure 5.5: although parallel exchange rates display a higher degree of variability than prices, the correlation is positive in the case of Morocco and Nigeria during the 1980s and early 1990s.





Agenor notes Continued

When the government is directly involved in controlling exports of commodity, there may be:

- a direct effect of changes in the **terms of trade** on the budget;
- an indirect effect through taxes on corporate profits and domestic sales.

In addition any reduction in government revenue due to a negative shock can cause new pressures for monetizing the fiscal deficit.**Even an improvement** in the terms of trade may lead to higher inflation in the future:

1. if government spending has increased sharply in response to temporary **commodity price booms** and
2. if such increases are difficult to reverse when commodity prices fall.

The Real Income Aspects

See Pinto Paper

Example 3: Using a Net Worth Concept of the Fiscal Deficit

This second example illustrates the distortions that can arise if we focus on

(1) A government that maximises its OWN inter-termporal utility and

(2) Net Worth as the relevant concept to define the "deficit"

Main Source in W Easterly, 1999, *Economic Policy* April 1999

Topics in Development and Transition

- This Topic explores the dangers of a conventional approach to Fiscal Adjustment by examining a simple inter-tempral model of Government Utility Maximisation
- It shows that these approaches are essentially about restricting Government LIABILITIES
- But responses to such restrictions may result in perverse results for Long Term Growth and Living Standards

Papers by W Easterly, *When is Fiscal Adjustment and Illusion?* World Bank Policy Research paper 1998/99. Blejer and Cheasty, "How to Measure the Public Deficit" IMF 1993

Government ASSETS

- Physical Capital such as Buildings
- Equity in State Enterprises
- PV of Future Tax Revenues
- PV of Future Seignorage

Most Assets are associated with an ANNUAL RETURN ("r") to Govt.

Examples:

- Roads - higher user charges or higher revenues from fuel taxes
- Schools - higher future income from improved human capital or higher user charges

Some of these returnd are REVENUE in a conventional sense - others are not

Aspects of the Asset Returns

- Think of "returns" from the viewpoint of those in charge of government not as "social returns" in the normal sense
- PV of new projects yields a potential return that may not be immediately captured in today's user charges
- Return to Govt. is a part of the Return to Society that can be taxed
- Infrastructure Projects can give return via improved levels of economic activity leading to better tax compliance
- Even Prestige - white elephant projects - can give Return/Utility to the "Government"
- Even "bad" projects yielding corruption rents to government have a "return" in this narrow sense

Government Liabilities

- Standard Domestic and External Debt
- Future Social Service Obligations
- Contingent (off-balance-sheet) elements e.g. bail-outs of insolvent banks
- Arrears of payments to Civil Servants and to the National Pension Fund