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**E.mail:msamkzsm@yahoo.com**

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**1. Krugman (1994)**

**2. Lawrence E. Hinkle and Fabin Nsengiyumva**

$$IRER_{TN} = P_{Td} / P_{ND} \quad ( )$$

PND PTD

*IRER<sub>TN</sub>*

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**2. IRER<sub>TN</sub>** ( ) ( )



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$$GDP = (C_D + I_D - M_{VD}) + (X - M_{VX}) \quad ( )$$

$$\frac{(C_D + I_D)}{P_{Nd}} + \frac{C_D}{P_x} - \frac{M_{VD}}{P_x} = \frac{X - M_{VX}}{P_x} \quad (GDP)$$

$$\frac{(C_D + I_D - M_{VD})}{P_{Nd}} = \frac{X - M_{VX}}{P_x} \quad (M_v)$$

$$\frac{(C_D + I_D - M_{VD})}{M_v} = \frac{X - M_{VX}}{M_v} \quad (m_{vx})$$

$$m_{vd} = \frac{M_{VD}}{(C_D + I_D - M_{VD})} = m_{vx} = \frac{M_{VX}}{X} \quad ( )$$

$$m_{vx} = m_{vd} = \frac{M_v}{(M_v + GDP)} \quad ( )$$



$(P_{nd})$

$(P_{nd})$

$$GDP + M_V = C_D + I_D + X \quad (P_{nd}) \quad (C_D + I_D) \quad (P_{nd})$$

$$: \quad (GDP = (C_D + I_D - M_{VD}) + (X - M_{VX})) \quad (P_{nd})$$

$$C_D + I_D = GDP + M_V - X \quad ( )$$

$$C_D + I_D - M_{VD} = GDP - (X - M_{VX}) = GDP - (1 - m_{VX}) X \quad ( )$$

$$m_{VX} = M_V / (GDP + M_V)$$

$$P_{nd} \quad P_{nd}$$

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$$P_{nd} = [ (GDP + M_V - X) ] / [ (GDP + M_V - X) ] \quad ( )$$

$$P_{nd} = [GDP - X(1 - m_{VX})] / [GDP - X(1 - m_{VX})] \quad ( )$$

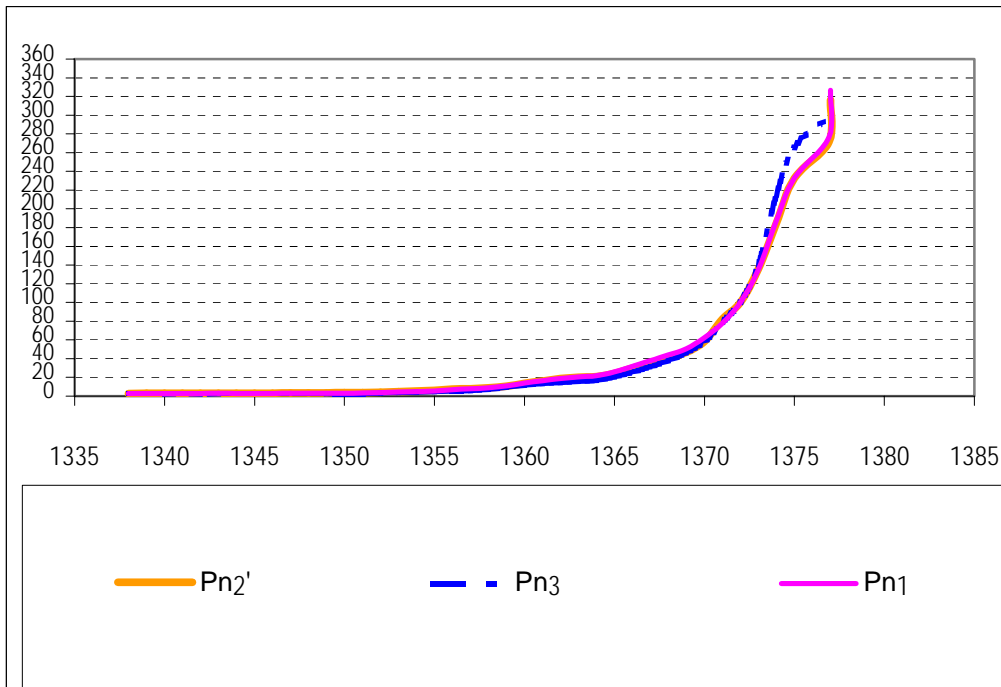
( )

$P_{nd}$

$P_{nd}$

$P_{nd}$

( = )



$Pn_2'$

$Pn_3$

$Pn_1$

$Pn'$

$PDS$

$Pn$

$Pn$

(P<sub>nd</sub>)

(P<sub>nd</sub>)

$$\begin{aligned} & \text{P}_{nd} (C_D + I_D) & \text{P}_{nd} \\ (\text{GDP}_V = C_D + I_D + X + M) & & (C_D + I_D - M_{VD}) \\ & : & (\text{GDP} = (C_D + I_D - M_{VD}) + (X - M_{VX})) \end{aligned}$$

$$C_D + I_D = \text{GDP} + M_V - X \quad ( )$$

$$C_D + I_D - M_{VD} = \text{GDP} - (X - M_{VX}) = \text{GDP} - (1 - m_{VX}) X \quad ( )$$

$$m_{VX} = M_V / (\text{GDP} + M_V)$$

P<sub>nd</sub> P<sub>nd</sub>

:

$$P_{nd} = \frac{(\text{GDP} + M_V - X)}{(\text{GDP} + M_V - X)} \quad ( )$$

$$P_{nd} = \frac{[\text{GDP} - X(1 - m_{VX})]}{[\text{GDP} - X(1 - m_{VX})]} \quad ( )$$

P<sub>nd</sub>

P<sub>nd</sub>

( )

Pn



$$P_x = \frac{X}{X} \quad ( )$$

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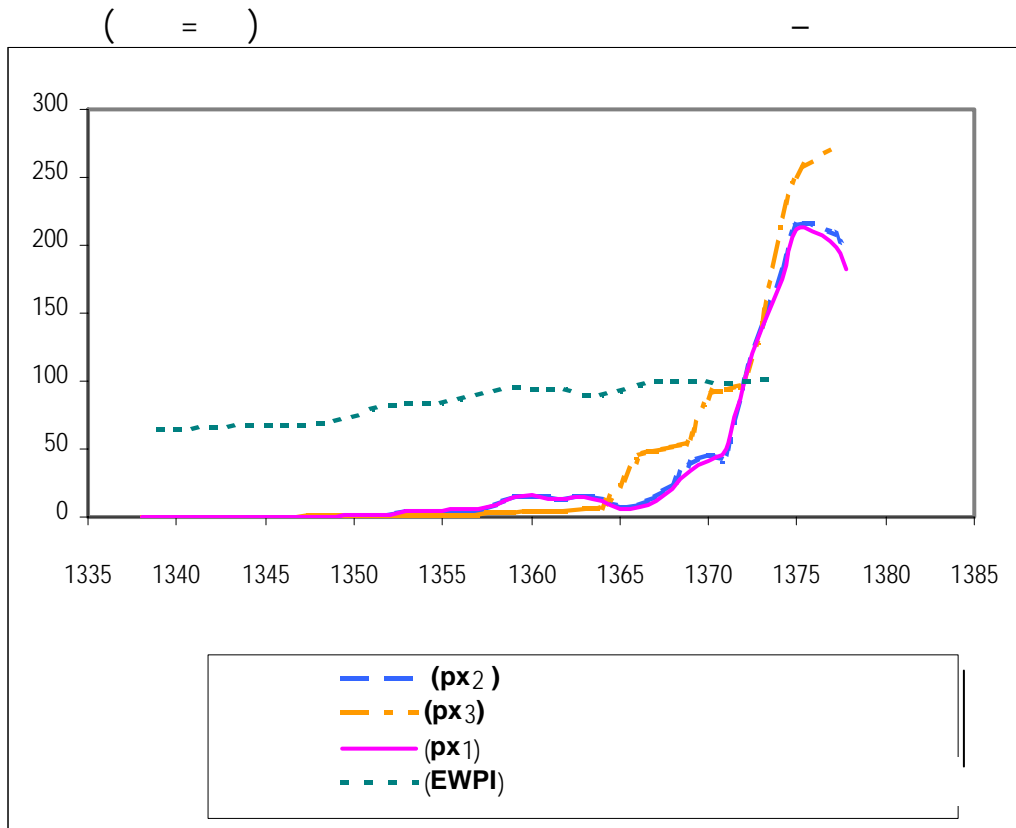
$$P_x = \frac{[X \quad M_{vx}]}{[X \quad M_{vx}]} \quad P_x$$

$$P_x = \frac{[(m_{vx})X]}{m_{vx} = M_v / (GDP + M_v)} \quad ( )$$

$$m_{vi} = ( \quad + \quad ) / (GDP + \quad + \quad )$$

$$P_x = X_C (m_{vi}) / X_R (m_{vi}) \quad ( )$$

$$P_x = X_C m_{vi} X_R$$



$$m vx = MV / (GDP + MV)$$

$$X ( m vx )$$

MV

Px

mv

$$DPn(1-mv)/GDP(1-mv)$$

$$EWPI_t = \prod_{i=1}^n WPI_{it}^{ai}$$

WPI<sub>it</sub>

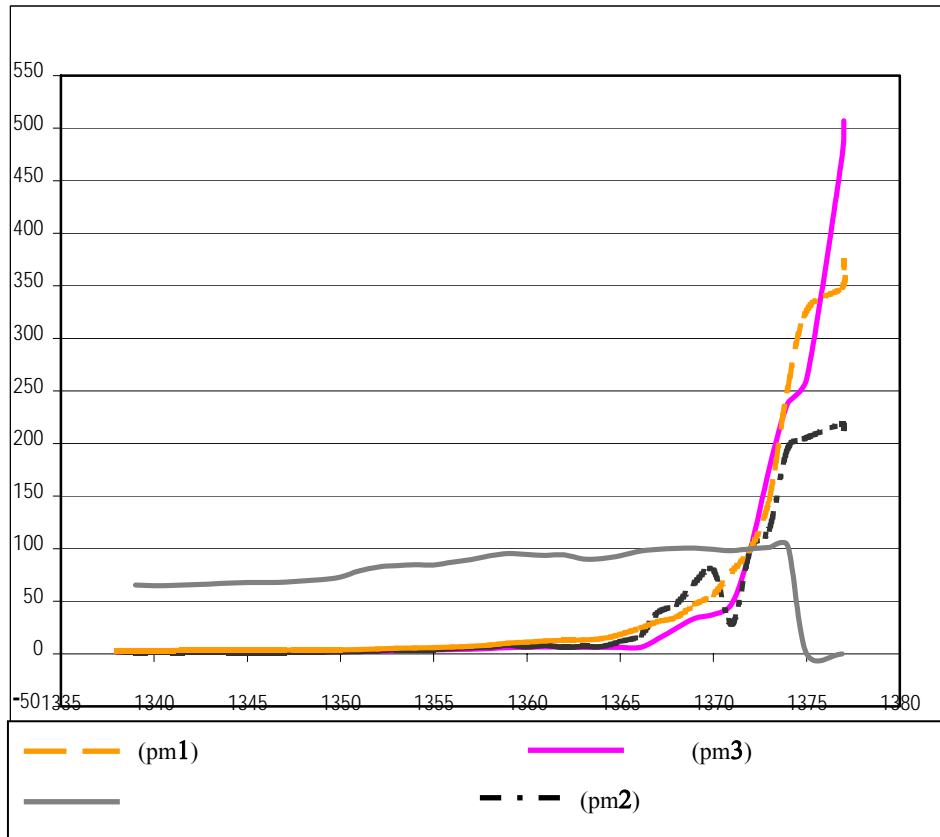
ai

$$P_M = \frac{M}{M} \quad ( )$$

$$P_M = \frac{[M - M_v]}{[M - M_v]}$$

$$PM = \frac{[M_c \quad M I]}{(M = M C + M I + M V) [M c - M I]}$$

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$$\frac{(M - (M_i + M_k)) / ((M - (M_i + M_k)) / P_m (1 - smc))}{M}$$

smc

(Pm )

(Pm )

ai

(Pm )

$$EWPI_t = \prod_{i=1}^n WPI_{it}^{a_i}$$

$P_M \quad P_M$

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$P_t$

$P_t' \quad P_t' \quad P_t' \quad .$

$P_t'$

$P_t'$

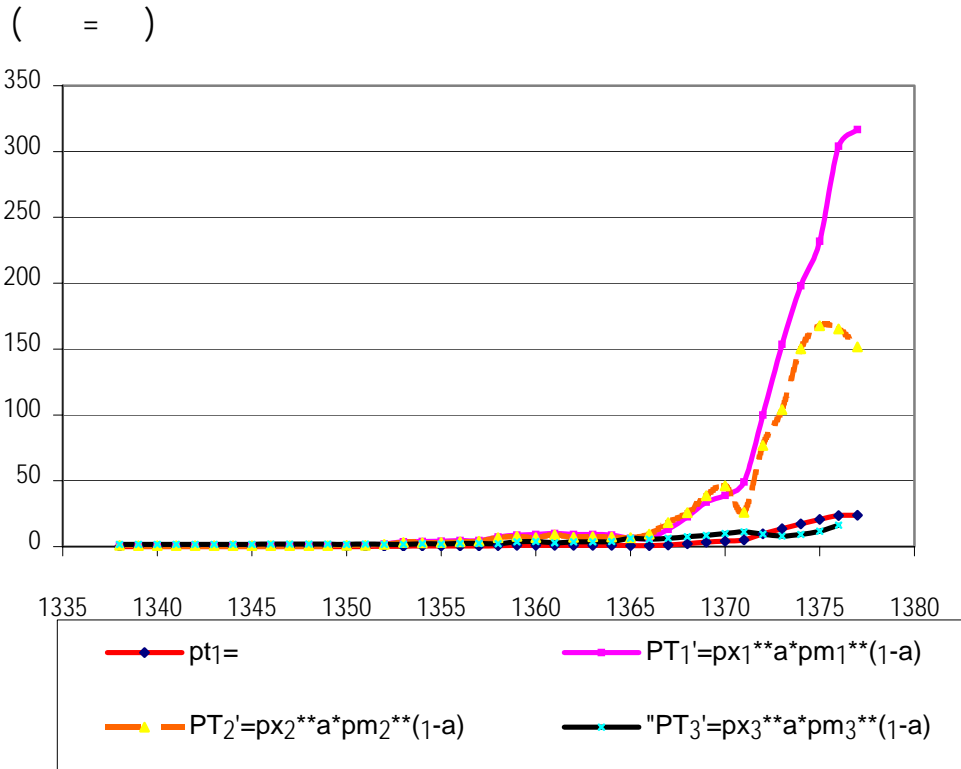
GDP

$P_x \quad P_m$

$P_t'$

Pt1



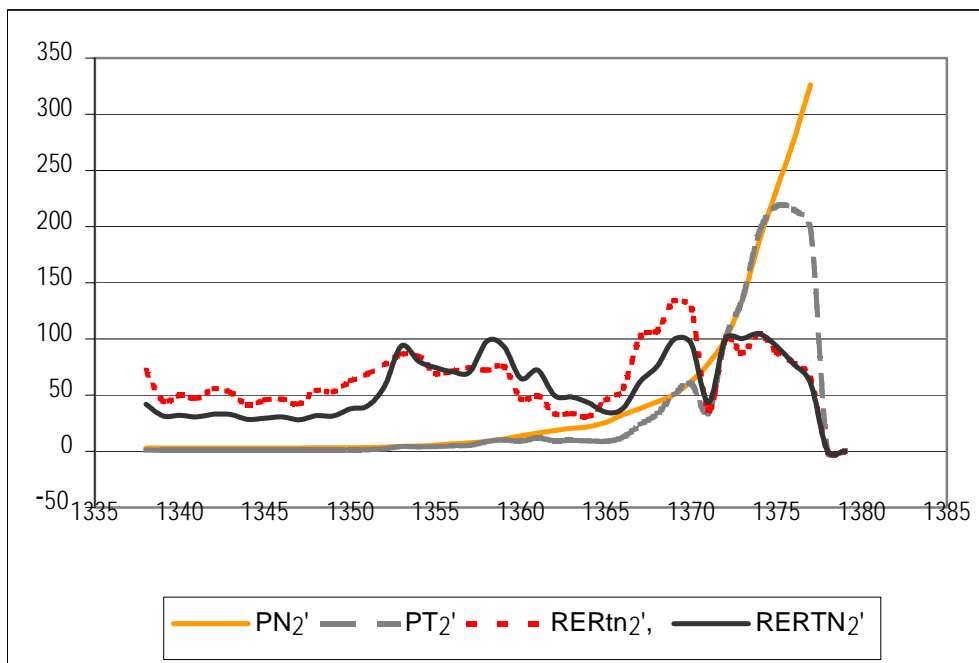


RERTN '

RERTn ' PT2'/ PN2'  
RERTN '

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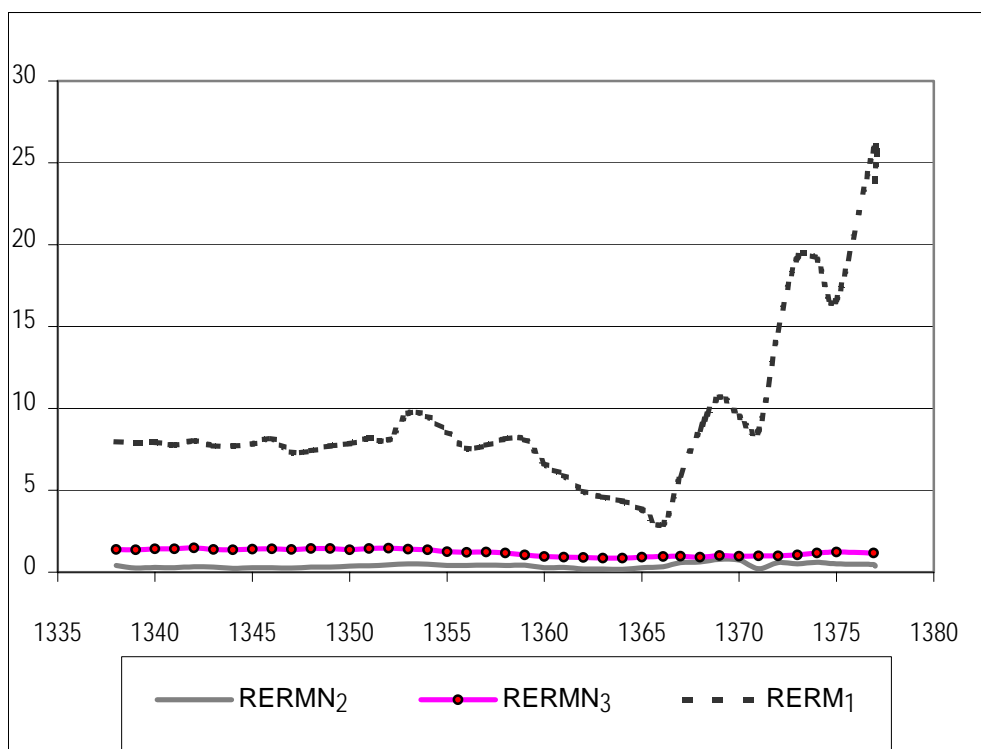
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WPI-CPI

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$$RERMn1 = PM1/Pn1$$

$$RERMn3 = PM3/Pn3 \quad RERMn2 = PM2/Pn2$$

PM1

PM2 .

PM

GDP

Pn1

Pn3

$GDP_n - (1 - m_{vi})X_n / GDP_r - (1 - m_{vi})X_r$

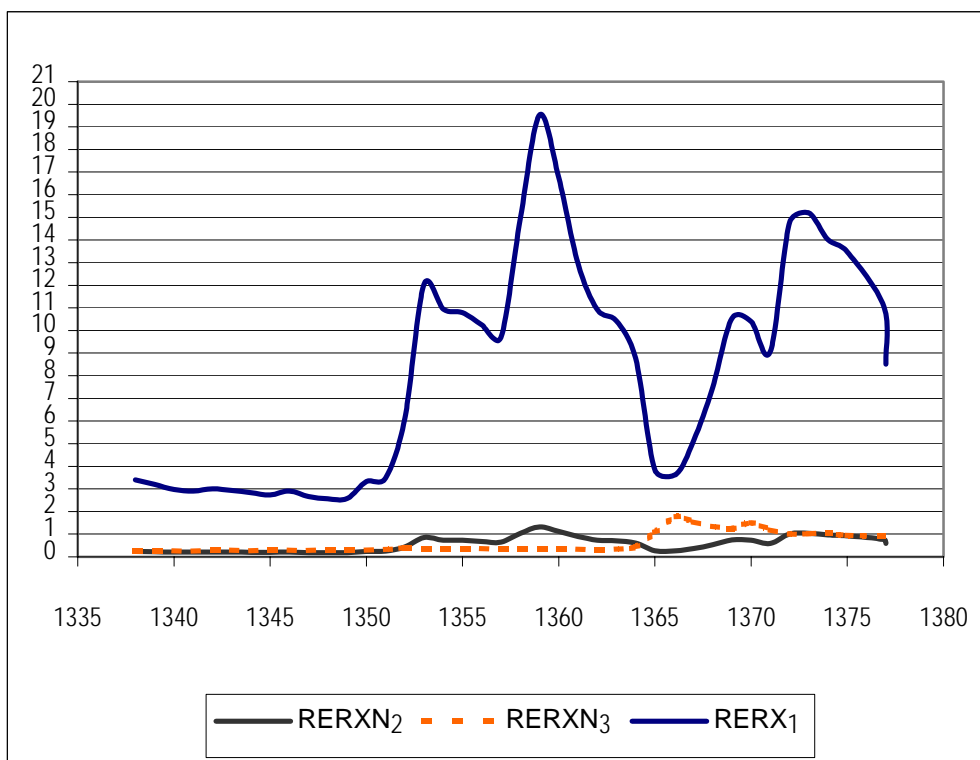
RERMn1

RERMn3 RERMn2

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RERMn1

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$$RERX_{n1} = PX1/P_{n1}$$

$$RERX_{n3} = PX3/P_{n3} \quad RERX_{n2} = PX2/P_{n2}$$

PX1

PX2

P<sub>n1</sub>

PX

GDP

$$[GDP_r - (1 - mvi)X_r] / [GDP_n - (1 - mvi)X_n]$$

P<sub>n3</sub>

RERX<sub>n1</sub>

$$RERX_{n3} \quad RERX_{n2}$$

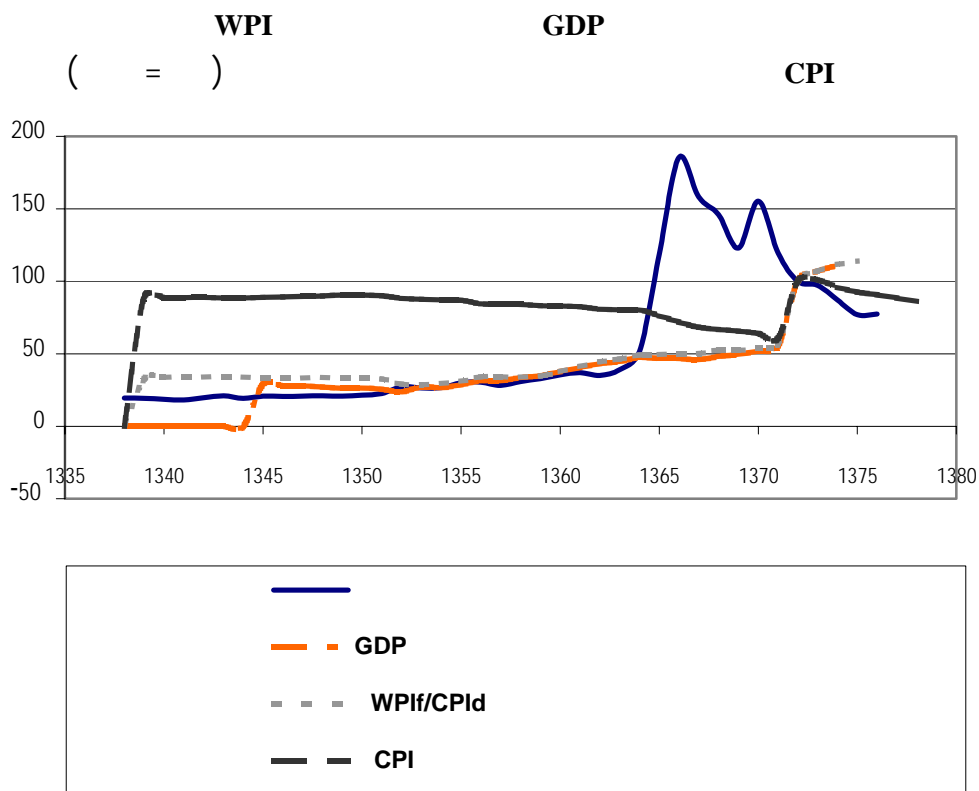
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RERX<sub>n1</sub>

$$P_{Xd} / P_{Md}$$

$$P^*_{Xd} / P^*_{Md}$$

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EWPI<sub>f</sub> / CPI<sub>d</sub>

GDP

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ADF

ADF

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ADF

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<i>ADF</i>	*	<i>ADF</i>	
/	$\Delta \text{LREER}_{\text{OF}}$	/	$\text{REER}_{\text{O}}$
/	$\Delta \text{LREER}_{\text{FR}}$	/	$\text{REER}_{\text{R}}$
/	$\Delta \text{RER}_{\text{MN}}$	/	$\text{RER}_{\text{MN1}}$
/	$\Delta \text{RER}_{\text{MN}}$	/	$\text{RER}_{\text{MN}}$
/	$\Delta \text{RER}_{\text{MN}}$	/	$\text{RER}_{\text{MN}}$
/	$\Delta \text{RER}_{\text{TN1}}$	/	$\text{RER}_{\text{TN1}}$
	$\Delta \text{RER}_{\text{TN}}$	/	$\text{RER}_{\text{TN}}$
/	$\Delta \text{RER}_{\text{TN3}}$	/	$\text{RER}_{\text{TN}}$
/	$\Delta \text{TOT}$	/	$\text{TOT}$
/	$\Delta \text{RER}_{\text{xN1}}$	/	$\text{RER}_{\text{xN1}}$
/	$\text{RER}_{\text{xN2}}$	/	$\text{RER}_{\text{xN2}}$
	$\Delta$		
/	$\Delta \text{RER}_{\text{xN}}$	/	$\text{RER}_{\text{xN}}$
/	$\Delta \text{RER}_{\text{TN1}'}$	/	$\text{RER}_{\text{TN1}'}$
	$\Delta \text{RER}_{\text{TN}'}$	/	$\text{RER}_{\text{TN}'}$
/	$\Delta \text{RER}_{\text{TN}'}$	/	$\text{RER}_{\text{TN}'}$
/	$\Delta \text{RER}_{\text{TNcpi}}$	/	$\text{RER}_{\text{TNcpi}}$

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