Inflación Objetivo en América Latina: ¿Hacia una Unión Monetaria?

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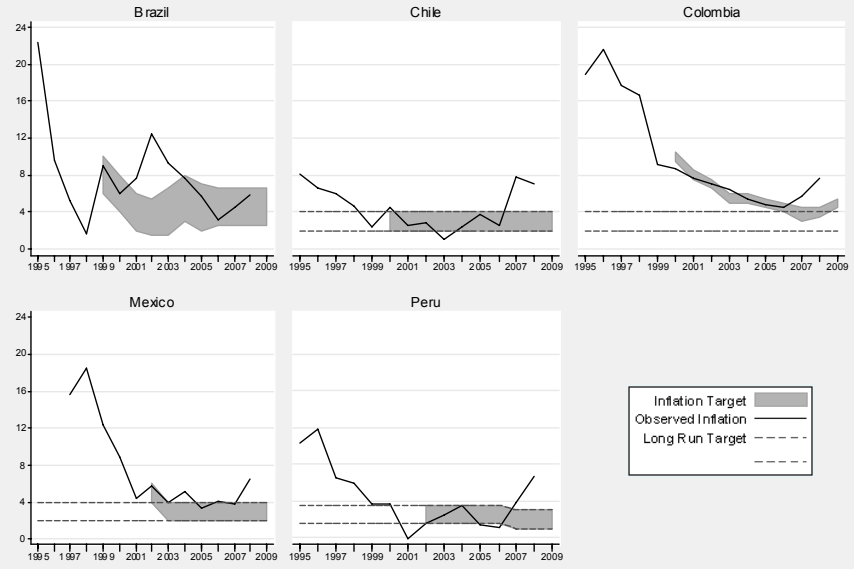
Motivación

- 5 de las principales economías tienen IO
- BC independientes con estrategias convergentes
- Inflación de un dígito desde 2000.
- ≈ ¾ del comercio y PIB en ALC, 380 millones de habitantes



Brazil has not announced an official long-run target
Mexico's inflation rates in 95 and 96 were 52% and 28%, respectively (not shown in the plot)

3 preguntas

Para los países IO de AL,

1. ¿Sería preferible formar una unión monetaria (LAMU)?
2. ¿Sería preferible dolarizar?
3. ¿Sería LAMU preferible a dolarizar?

→ Sí, Sí y probablemente

Estrategia:

- Modelo
- Evaluación empírica

Modelo 1

- Barro – Gordon con
  - IO
  - Unión vs autonomía

    ► Comparar bienestar

Modelo 2

- BC escoge π, para min L(), s.a. Curva de Phillips
- BC con preferencias ≠ a sociedad (IO)
- Orden
  - Público forma expectativas
  - Se revela el choque ε
  - BC escoge π

Modelo 3

- **Unión**: BC min

$$\mathcal{L}_u = \frac{\lambda}{2}(U_u - \overline{U_u})^2 + \frac{1}{2}(\pi_u - \pi^*)^2 + \frac{h}{2}(\pi_u - \pi_u^T)^2$$

- s.a.

$$U_u = -(\pi_u - \pi_u^e) + \varepsilon$$

Modelo 4

- **Unión**: BC min

$$\mathcal{L}_u = \frac{\lambda}{2}(U_u - \overline{U_u})^2 + \frac{1}{2}(\pi_u - \pi^*)^2 + \frac{h}{2}(\pi_u - \pi_u^T)^2$$

- s.a.

$$U_u = -(\pi_u - \pi_u^e) + \varepsilon$$

- Solución

$$\pi_u = \frac{-\lambda}{1+h}\overline{U_u} + \pi^* + \frac{h}{1+h}\Theta + \frac{\lambda}{1+\lambda+h}\varepsilon$$

  – Con $\Theta = \pi_u^T - \pi^*$

Modelo 5

- **Unión**: Bienestar para país j (socieded)
  – Se evalúa en función

$$\mathcal{L}_j = \frac{\lambda_j}{2}(U_j - \overline{U_j})^2 + \frac{1}{2}(\pi_u - \pi^*)^2$$

  – Con curva de Phillips

$$U_j = -(\pi_u - \pi_u^e) + \varepsilon_j$$

Modelo 6

- **Autarquía**: BC min

$$\mathcal{L}_j = \frac{\lambda_j}{2}(U_j - \overline{U_j})^2 + \frac{1}{2}(\pi_j - \pi^*)^2 + \frac{h_j}{2}(\pi_j - \pi_j^T)^2$$

- s.a.

$$U_j = -(\pi_u - \pi_u^e) + \varepsilon_j$$

Modelo 8

- Comparación:

$$\begin{aligned} E\mathcal{L}_j^{mem} - E\mathcal{L}_j^{aut} &= \frac{1}{2}\left[\left(\frac{\lambda}{1+h}\right)^2 \overline{U_u}^2 - \left(\frac{\lambda_j}{1+h_j}\right)^2 \overline{U_j}^2\right] \\ &+ \frac{(1+\lambda_j)}{2}\left[\left(\frac{\lambda}{1+\lambda+h}\right)^2 \sigma_\varepsilon^2 - \left(\frac{\lambda_j}{1+\lambda_j+h_j}\right)^2 \sigma_{\varepsilon_j}^2\right] \\ &+ \frac{1}{2}\left[-2\lambda_j\left(\frac{\lambda}{1+\lambda+h}\sigma_{\varepsilon\varepsilon_j} - \frac{\lambda_j}{1+\lambda_j+h_j}\sigma_{\varepsilon_j}^2\right)\right] \\ &+ \frac{1}{2}\left[\left(\frac{h\Theta}{1+h}\right)^2 - \left(\frac{h_j\Theta_j}{1+h_j}\right)^2 - 2\left(\frac{\lambda h\Theta\overline{U}}{(1+h)^2} - \frac{\lambda_j h_j \Theta_j \overline{U_j}}{(1+h_j)^2}\right)\right] \end{aligned}$$

Modelo 9

- Comparación 1: ≠ en preferencias
  $\overline{U_j} \neq \overline{U_u};\ \lambda_j = \lambda,\ h_j = h.$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\underbrace{\frac{1}{2}\left(\frac{\lambda}{1+h}\right)^2\left(\overline{U_u}^2 - \overline{U_j}^2\right)}_{<0 \text{ si } \left|\overline{U_j}\right| > \left|\overline{U_u}\right|}$$

Modelo 10

- Comparación 2: ≠ en preferencias
  $\lambda_j \neq \lambda;\ \overline{U_j} = \overline{U_u},\ h_j = h.$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\frac{1}{2}\left(\frac{\overline{U_u}}{1+h}\right)(\lambda^2 - \lambda_j^2) + \frac{\sigma^2}{2}\left(\frac{\lambda}{1+\lambda+h} - \frac{\lambda_j}{1+\lambda_j+h}\right)\left(\frac{(1+\lambda_j)\lambda}{1+\lambda+h} - \lambda_j - \frac{\lambda_j h}{1+\lambda_j+h}\right)$$

Modelo 10

- Comparación 2: ≠ en preferencias
  $\lambda_j \neq \lambda;\ \overline{U_j} = \overline{U_u},\ h_j = h.$
- Entonces, $E\Delta\mathcal{L}_j$ es

< 0 $\left\{ \begin{array}{l} \frac{1}{2}\left(\frac{\overline{U_u}}{1+h}\right)(\lambda^2 - \lambda_j^2) \\ \quad + \frac{\sigma^2}{2}\left(\frac{\lambda}{1+\lambda+h} - \frac{\lambda_j}{1+\lambda_j+h}\right)\left(\frac{(1+\lambda_j)\lambda}{1+\lambda+h} - \lambda_j - \frac{\lambda_j h}{1+\lambda_j+h}\right) \end{array} \right.$

> 0 si $\lambda < \lambda_j$

Modelo 11

- Comparación 3: ≠ en preferencias
  $\text{Let } h_j \neq h;\ \overline{U_j} = \overline{U_u},\ \lambda_j = \lambda.$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\frac{\lambda^2\overline{U_u^2}}{2}\left(\frac{1}{(1+h)^2} - \frac{1}{(1+h_j)^2}\right) + \frac{\sigma^2\lambda}{2}\left(\frac{1}{1+\lambda+h} - \frac{1}{1+\lambda+h_j}\right)\left(\frac{-h}{1+\lambda+h} - \frac{h_j}{1+\lambda+h_j}\right)$$

Modelo 11

- Comparación 3: ≠ en preferencias
  $\text{Let } h_j \neq h;\ \overline{U_j} = \overline{U_u},\ \lambda_j = \lambda$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$< 0 \left\{ \frac{\lambda^2 \overline{U_u^2}}{2}\left(\frac{1}{(1+h)^2} - \frac{1}{(1+h_j)^2}\right) + \frac{\sigma^2\lambda}{2}\left(\frac{1}{1+\lambda+h} - \frac{1}{1+\lambda+h_j}\right)\left(\frac{-h}{1+\lambda+h} - \frac{h_j}{1+\lambda+h_j}\right) \right.$$

> 0 si $h_j < h$

Modelo 12

- Comparación 4: ≠ en choques
  $\rho = 1$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\frac{1}{2}\left(\frac{\lambda}{1+\lambda+h}\right)^2 \left((1+\lambda)(\sigma_\epsilon - \sigma_{\varepsilon_j})^2 + 2h(\sigma_{\varepsilon_j}^2 - \sigma_\varepsilon \sigma_{\varepsilon_j})\right)$$

Modelo 12

- Comparación 4: ≠ en choques con $\rho = 1$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\frac{1}{2}\left(\frac{\lambda}{1+\lambda+h}\right)^2 \underbrace{\left((1+\lambda)(\sigma_\epsilon - \sigma_{\varepsilon_j})^2\right.}_{>0} + \underbrace{\left.2h(\sigma^2_{\varepsilon_j} - \sigma_\varepsilon \sigma_{\varepsilon_j})\right)}_{<0 \text{ si } \sigma_\varepsilon > \sigma_{\varepsilon_j}}$$

Modelo 13

- Comparación 5: ≠ en choques $\sigma_\varepsilon = \sigma_{\varepsilon_j} = \sigma, \text{ but } \rho \neq 1$
- Entonces, $E\Delta\mathcal{L}_j$ es

$$\frac{\lambda^2}{1+\lambda+h}\sigma^2(1-\rho)$$

Modelo 14

- Unión conviene si
  - Choques (ciclos) correlacionados
  - Varianza similar (o menor con IO)
  - Altos incentivos a la inflación

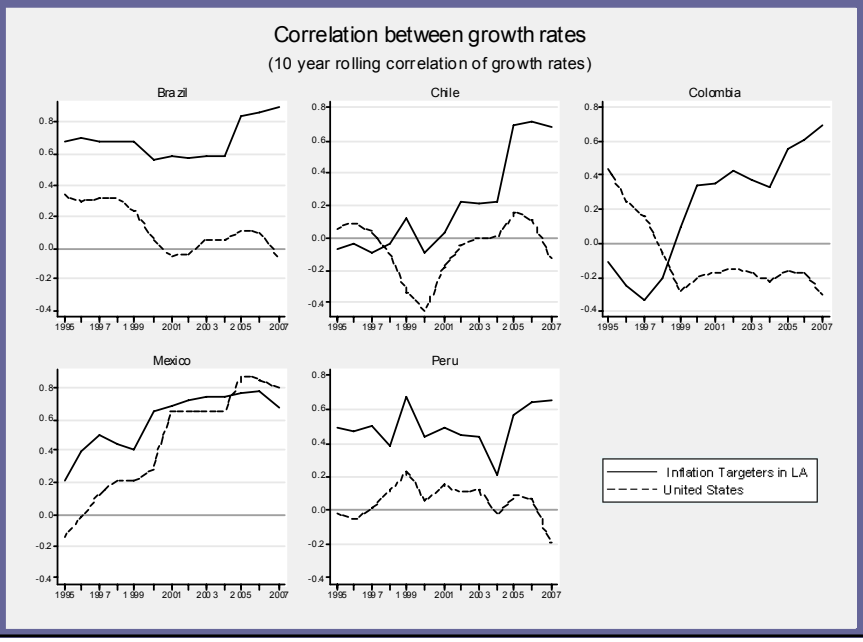
Evidencia I: Credibilidad

	Central Bank Independence Indexes**			Average Inflation 2000-2007	Credibility Index
	GMT	Cukierman Index	Modified Cukierman		
Brazil	10	0,47	0,50	7,16%	0,61
Chile	14	0,84	0,85	3,27%	0,89
Colombia	10	0,78	0,83	5,95%	0,81
Mexico	13	0,75	0,81	4,34%	0,84
Peru	13	0,86	0,86	1,99%	0,93
Average IT in LAC	12,0	0,74	0,77	4,54%	0,81
Average non- IT in LAC*	10,6	0,71	0,69	9,53%	0,64

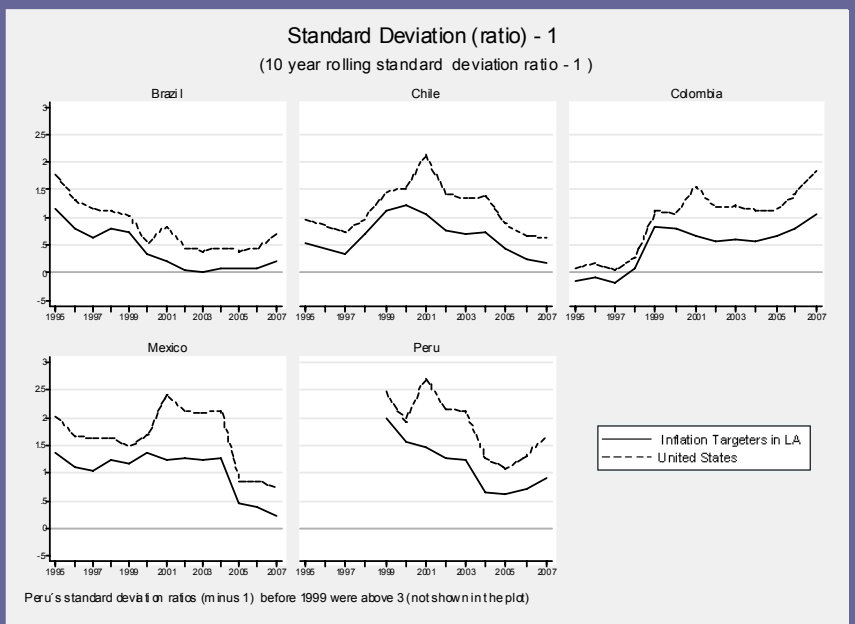
* Countries included are: Argentina, Bolivia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, Uruguay, Venezuela

** Source: Any Link Between Legal Central Bank Independence and Inflation? Evidence from Latin America and the Caribbean. Luis I. Jácome and Francisco Vásquez. IMF Working Paper. 2005.

Evidencia II: Correlación



Evidencia III: Varianza relativa



Peru´s standard deviation ratios (minus 1) before 1999 were above 3 (not shown in the plot)

Evidencia IV: Señoriaje

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$$S_1 = \sum_{t=0}^{\infty} \left(\frac{1}{1+i}\right)^t i\left[(1+g)(1+\pi)\right]^t B_0$$

Present discounted value of seignorage income forgone as a % of GDP. Estimates based on 2007 data.

	Baseline	Sensitivity analysis									
	π=3%, r=5%, g=4%	π=2%	π=4%	π=5%	r=4.5%	r=5.5%	r=6.5%	g=2%	g=3%	g=4.5%	average (2)-(10)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Brazil	83%	72%	94%	105%	155%	59%	40%	28%	42%	166%	85%
Chile	88%	77%	100%	111%	164%	63%	43%	29%	44%	176%	90%
Colombia	78%	68%	88%	98%	145%	55%	37%	26%	39%	155%	79%
Mexico	43%	38%	49%	55%	81%	31%	21%	14%	22%	87%	44%
Peru	114%	99%	129%	143%	213%	81%	55%	38%	57%	228%	116%
Average	81%	71%	92%	102%	152%	58%	39%	27%	41%	163%	83%

Evidencia V: Comercio

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		Trade (% of GDP)	% of trade with the US	% of trade with other IT in LA	Effects (% of GDP) of dollarizing		Effects (% of GDP) of "LAMU"	
					On Trade	On GDP	On Trade	On GDP
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Brazil	1990	12%	23%	4%	[3% 5%]	[1% 2%]	[1% 1%]	[0% 0%]
	1995	13%	21%	5%	[3% 6%]	[1% 2%]	[1% 1%]	[0% 0%]
	2000	18%	24%	6%	[5% 8%]	[2% 3%]	[1% 2%]	[0% 1%]
	2005	22%	19%	7%	[5% 8%]	[2% 3%]	[2% 3%]	[1% 1%]
	2007	21%	16%	7%	[4% 7%]	[1% 2%]	[2% 3%]	[1% 1%]
Chile	1990	49%	18%	10%	[11% 18%]	[4% 6%]	[6% 10%]	[2% 3%]
	1995	43%	19%	13%	[10% 17%]	[3% 6%]	[7% 11%]	[2% 4%]
	2000	46%	18%	14%	[10% 17%]	[3% 6%]	[8% 13%]	[3% 4%]
	2005	58%	16%	15%	[11% 19%]	[4% 6%]	[11% 18%]	[4% 6%]
	2007	66%	14%	15%	[11% 19%]	[4% 6%]	[12% 19%]	[4% 6%]
Colombia	1990	31%	40%	7%	[15% 25%]	[5% 8%]	[2% 4%]	[1% 1%]
	1995	26%	35%	9%	[11% 18%]	[4% 6%]	[3% 5%]	[1% 2%]
	2000	30%	42%	10%	[15% 25%]	[5% 8%]	[4% 6%]	[1% 2%]
	2005	34%	35%	13%	[15% 24%]	[5% 8%]	[5% 9%]	[2% 3%]
	2007	37%	31%	14%	[13% 22%]	[4% 7%]	[6% 10%]	[2% 3%]
Mexico	1990	21%	69%	2%	[18% 29%]	[6% 10%]	[0% 1%]	[0% 0%]
	1995	53%	79%	2%	[50% 84%]	[17% 28%]	[1% 2%]	[0% 1%]
	2000	59%	81%	1%	[57% 95%]	[19% 32%]	[1% 2%]	[0% 1%]
	2005	57%	69%	3%	[47% 79%]	[16% 26%]	[2% 3%]	[1% 1%]
	2007	62%	66%	3%	[49% 81%]	[16% 27%]	[2% 4%]	[1% 1%]
Peru	1990	23%	25%	13%	[7% 11%]	[2% 4%]	[3% 6%]	[1% 2%]
	1995	24%	22%	16%	[6% 11%]	[2% 4%]	[5% 8%]	[2% 3%]
	2000	27%	26%	15%	[8% 14%]	[3% 5%]	[5% 8%]	[2% 3%]
	2005	37%	25%	17%	[11% 19%]	[4% 6%]	[8% 13%]	[3% 4%]
	2007	44%	19%	17%	[10% 17%]	[3% 6%]	[9% 15%]	[3% 5%]
Average	1990	27%	35%	7%	[11% 18%]	[4% 6%]	[3% 4%]	[1% 1%]
Average	1995	32%	35%	9%	[16% 27%]	[5% 9%]	[3% 5%]	[1% 2%]
Average	2000	36%	38%	9%	[19% 32%]	[6% 11%]	[4% 6%]	[1% 2%]
Average	2005	42%	33%	11%	[18% 30%]	[6% 10%]	[5% 9%]	[2% 3%]
Average	2007	46%	29%	11%	[18% 29%]	[6% 10%]	[6% 10%]	[2% 3%]

Evidencia VI: Comercio (cont)

Present discounted value of trade effect on GDP expressed as % of 2007 GDP, if effect ocurrs from year 21 onwards

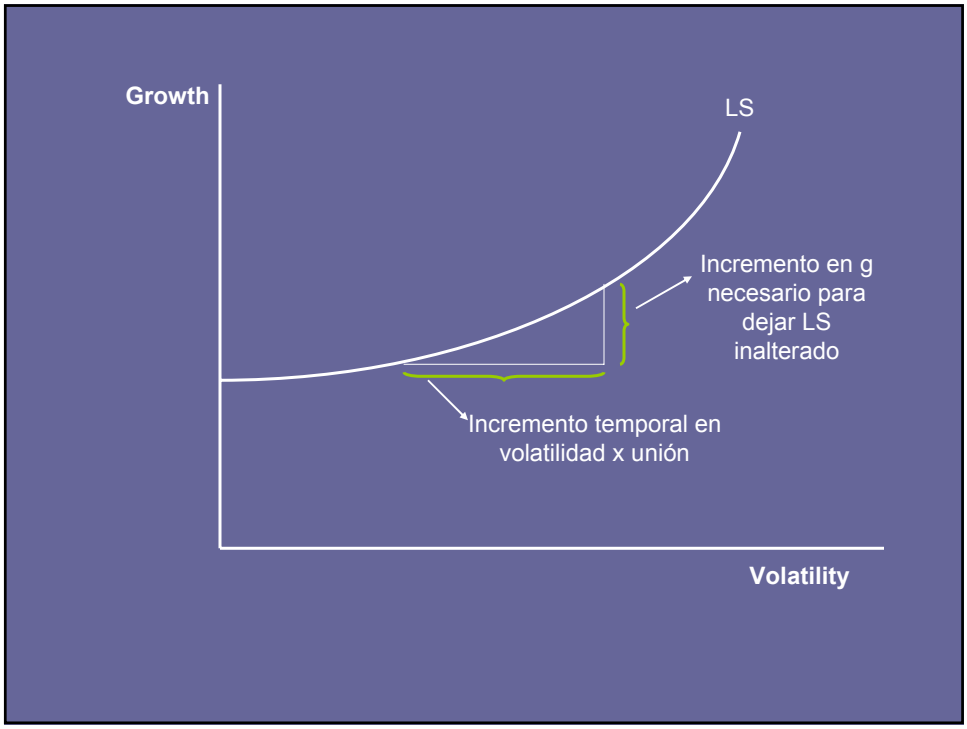
	LAMU								
	Baseline: r=5%, g=4%			Sensibility: x=mean(x), g=4%			Sensibility: x=mean(x), r=5%		
	x=mean(x)	x=Low(x)	x=high(x)	r=4.5%	r=5.5%	r=6.5%	g=2%	g=3%	g=4.5%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Brazil	68%	51%	85%	149%	42%	21%	15%	28%	150%
Chile	445%	334%	557%	975%	271%	136%	101%	184%	981%
Colombia	239%	179%	299%	523%	146%	73%	54%	98%	526%
Mexico	83%	63%	104%	183%	51%	25%	19%	34%	184%
Peru	341%	255%	426%	746%	207%	104%	77%	140%	750%
Average	235%	176%	294%	515%	143%	72%	53%	97%	518%
	Dollarization								
	Baseline: r=5%, g=4%			Sensibility: x=mean(x), g=4%			Sensibility: x=mean(x), r=5%		
	x=mean(x)	x=Low(x)	x=high(x)	r=4.5%	r=5.5%	r=6.5%	g=2%	g=3%	g=4.5%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Brazil	156%	117%	195%	341%	95%	48%	35%	64%	343%
Chile	443%	332%	553%	970%	270%	135%	100%	182%	975%
Colombia	517%	388%	647%	1133%	315%	158%	117%	213%	1139%
Mexico	1881%	1411%	2351%	4119%	1146%	575%	425%	775%	4140%
Peru	382%	286%	477%	836%	233%	117%	86%	157%	841%
Average	676%	507%	845%	1480%	412%	206%	153%	278%	1487%

Evidencia VII:

Autonomía o LAMU? (o Comercio vs volatilidad)

- Cómo compararlos?

  → Usar Encuestas de Satisfacción de vida para construir curvas de indiferencia entre crecimiento y volatilidad



- "Primer mejor":
  - Estimar incremento en volatilidad por Unión
  - Con curva de indiferencia estimar incremento en g que deja LS igual.
  - En VPN, ver si ese g supera el efecto de comercio

- Pero como no sé cuánto sube la volatilidad
  - ¿Qué incremento en volatilidad (vía g) borraría los beneficios vía comercio?
  - Juicio de valor sobre los números encontrados.

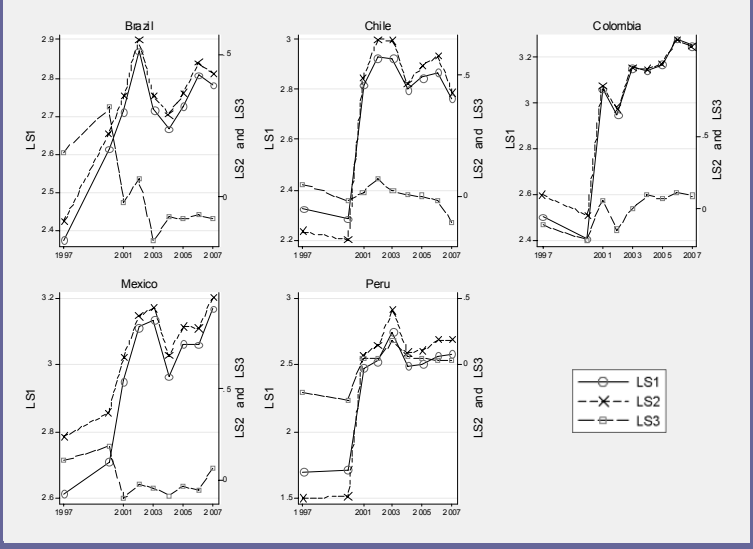
$$PDV(Y^{Tr}) = \sum_{t=0}^{19} \left(\frac{1}{1+r}\right)^t Y_0(1+g)^t + \sum_{t=20}^{\infty} \left(\frac{1}{1+r}\right)^t Y_0(1+g)^t(1+x)$$

VS

$$PDV(Y^{\sigma}) = \sum_{t=0}^{19} \left(\frac{1}{1+r}\right)^t Y_0(1+g+\varepsilon)^t + \sum_{t=20}^{\infty} \left(\frac{1}{1+r}\right)^t Y_0(1+g)^t$$

- Datos: Latinobarómetro.
  - Pregunta de interés: *En términos generales, ¿diría Ud que está satisfecho con su vida? ¿Diría Ud que está: Muy Satisfecho, Bastante satisfecho, No muy satisfecho, Para nada satisfecho?*
  - Años 97, 2000-2007, 52650 encuestados
- Tres medidas de LS
  - LS1: Promedio simple país-año, codificados de 1 a 4, (Di Tella et al, 01).
  - LS2: Ordered Probit (Wolfers, 03)
  - LS3: Error país-año (Di Tella)

LS a través del tiempo

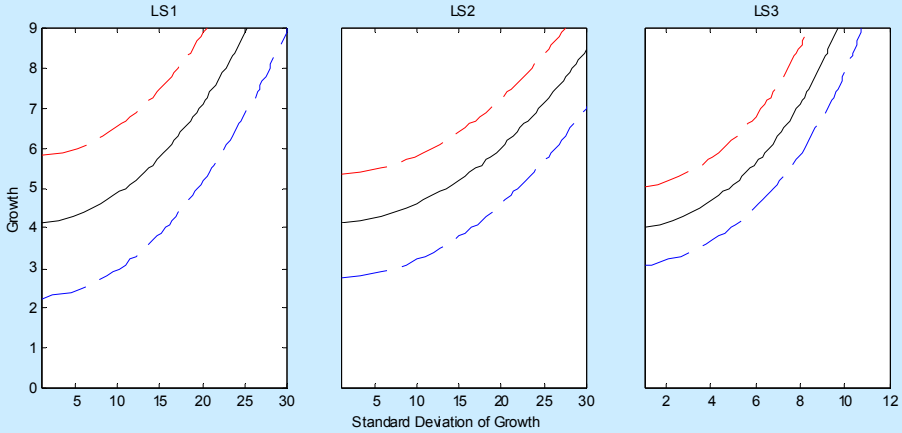


OLS Life Satisfactions and micro controls (Regression to build Ditella´s measure of Life Satisfaction)	
Age	-0.002***
Male	0.038***
Household Head (or "the House Boss")	-0.019**
Unoccupied	-0.175***
Education	
Middle School Incomplete	-0.049***
Middle School Complete	-0.021
High School Incomplete	-0.032*
High School Complete	-0.007
University Incomplete	0.046**
University Complete	0.049**
Superior Institute Education Incomplete	0.011
Superior Institute Education Complete	0.013
Marital Status	
Single	-0.033***
Divorced	-0.061***
Income Proxies	
Television	0.059***
Refigerator	0.053***
House	0.039***
Computer	0.070***
Washer	0.020**
Telephon	0.035***
Car	0.052***
Second House	0.067***
Drinkable Water	-0.015
Hot Water	0.060***
Sewerage	-0.008
Observations	50620
R-squared	0.149

LS vs g, g^2

	LS1	LS2	LS3
Inflation	-0.0458*	-0.0654*	-0.0391
	(0.0253)	(0.0358)	(0.0261)
Inflation Squared	0.00157	0.00224	0.00126
	(0.000997)	(0.00141)	(0.00103)
Growth	0.0359	0.0479	0.0548
	(0.0355)	(0.0493)	(0.0379)
Growth Squared	-0.000246	-0.000216	-0.00174
	(0.00354)	(0.00498)	(0.00373)
Constant	2.875***	0.586**	-0.048
	(0.172)	(0.247)	(0.188)
R-squared	0.931	0.926	0.306
Adj R-squared	0.892	0.884	-0.0904
# of obs	45	45	45
Joint Significance (p_values) of:			
Inflation related variables	0.1340	0.1296	0.1981
Growth related variables	0.0614	0.0814	0.0424

LS vs g, g^2, cont.



Incremento implícito en la volatilidad

	Baseline				
	ε (%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.4	388	502	123	338
Chile	2.4	1200	1524	408	1044
Colombia	1.4	573	737	184	498
Mexico	0.5	255	335	74	221
Peru	1.9	505	654	74	411
Average	1.3	584	750	173	502

Incremento implícito en la volatilidad

Baseline					
	ε(%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.4	388	502	123	338
Chile	2.4	1200	1524	408	1044
Colombia	1.4	573	737	184	498
Mexico	0.5	255	335	74	221
Peru	1.9	505	654	74	411
Average	1.3	584	750	173	502

x=low(x)					
	ε(%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.3	327	425	101	284
Chile	1.9	1047	1332	355	912
Colombia	1.0	491	633	155	426
Mexico	0.4	212	281	59	184
Peru	1.5	434	564	59	352
Average	1.0	502	647	146	432

Volatility increase lasts 30 years					
	ε(%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.2	242	318	70	210
Chile	1.2	810	1033	270	704
Colombia	0.6	371	482	112	321
Mexico	0.2	154	207	40	133
Peru	0.9	326	428	40	265
Average	0.6	380	494	106	327

Dolarización o Autonomía

- Efecto de comercio – señoriaje
- Potencial mayor incremento de la volatilidad

Dolarización o Autonomía

Baseline	ε (%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.4	402	519	129	350
Chile	2.0	1077	1370	366	938
Colombia	2.4	779	996	257	677
Mexico	7.3	1167	1488	370	1009
Peru	1.5	445	578	127	383
Average	2.7	774	990	250	671

x=low(x)	ε (%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.2	251	330	73	218
Chile	1.4	897	1143	302	780
Colombia	1.7	656	841	214	570
Mexico	5.9	1049	1338	342	910
Peru	1.0	348	456	96	300
Average	2.1	640	821	205	556

Volatility increase lasts 30 years	ε (%)	Implied increase in volatility (%)			
		LS1	LS2	LS3	Average
Brazil	0.2	219	289	62	190
Chile	0.8	677	868	222	589
Colombia	1.0	487	629	153	423
Mexico	3.5	790	1009	264	688
Peru	0.6	261	345	68	225
Average	1.2	487	628	154	423

Dolarización o LAMU

- Efecto *neto* de comercio – señoriaje

Impact of common currency: Trade effects of dollarization - Trade effects of Lamu - Seignorage foregone under dollarization, with trade effects taking place from year 21 onwards. Effects reported are present discounted values (% of GDP in 2007)

	r=5%, g=4%, π=3%			x=mean(x), g=4%, π=3%			x=mean(x), r=5%, π=3%			x=mean(x), r=5%, g=4%			x=low(x), r=5%, g=4%		
	x=mean(x)	x=Low(x)	x=high(x)	r=4.5%	r=5.5%	r=6.5%	g=2%	g=3%	g=4.5%	π=2%	π=4%	π=5%	π=2%	π=4%	π=5%
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**	**(15)**
Brazil	4.2%	-18%	26%	36%	-6%	-13%	-8%	-6%	26%	15%	-7%	-17%	-7%	-28%	-39%
Chile	-91%	-90%	-92%	-170%	-64%	-43%	-30%	-45%	-182%	-79%	-102%	-114%	-79%	-102%	-113%
Colombia	201%	131%	271%	465%	114%	48%	37%	76%	458%	211%	191%	181%	141%	121%	111%
Mexico	1754%	1305%	2203%	3855%	1064%	528%	392%	719%	3870%	1760%	1748%	1743%	1310%	1299%	1293%
Peru	-73%	-83%	-62%	-122%	-56%	-42%	-29%	-40%	-137%	-58%	-87%	-102%	-68%	-98%	-112%
Average	359%	249%	469%	813%	210%	95%	72%	141%	807%	370%	349%	338%	259%	239%	228%

Dolarización o LAMU

- LAMU > Dolarización en Chile y Perú
- LAMU ≈ Dolarización en Brasil
- LAMU < Dolarización en Colombia y México

- Cambiaría la volatilidad los resultados?

  - México: NO
  - Brasil: cambio de signo en peor escenario de LAMU, requiere aumento de volatilidad del 38,1%.
  - Colombia: cambio de signo en caso base, requiere aumento de volatilidad del 131%.
  - Colombia: cambio de signo en mejor escenario de LAMU, requiere aumento de volatilidad del 30,8%.

Conclusiones

- Dolarización o LAMU > autonomía
- LAMU > Dolarización en Chile, Perú y Brasil
- Dolarización > LAMU en México
- Dolarización ≈ LAMU en Colombia

Convergence on regional monies is a no-brainer, Dornbusch (2001).

Discusión:

- Argentina y Brasil; Colombia y Venezuela
- Moneda = Identidad nacional
- Rol de Brasil
- Nación latinoamericana
- Reglas fiscales
- Movilidad/flexibilidad laboral
- Regulación/estabilidad financiera
- Prestamista de última instancia