

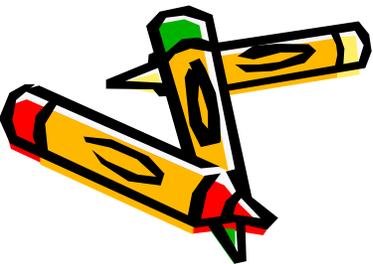
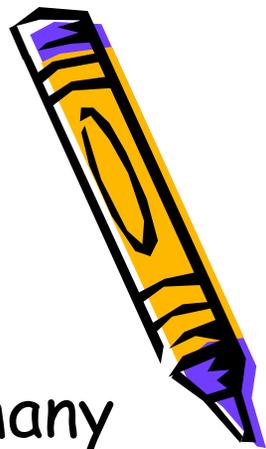
Dynamic Effects of Financial Openness On Economic Growth and Macroeconomic Uncertainty

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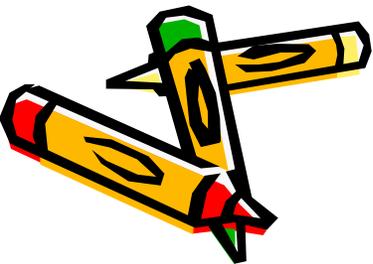
Introduction

- The past three decades have witnessed dramatic capital account liberalization in many countries, including **developing and emerging countries**.
- While **some** countries have **benefited** from financial liberalization, **others** have **not** enjoyed higher economic growth or have even experienced severe **financial crises** and recessions in the years following liberalization.

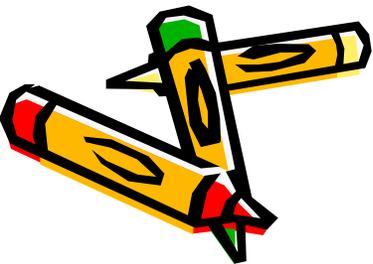


Financial Openness, Good or Bad?

- **Good:** Financial account openness stimulates capital accumulation, productivity growth and hence economic growth by relaxing financial constraints through greater access to external capital, by enhancing production specialization through improved risk-sharing, by promoting more disciplined macroeconomic policies under the international pressure, and increasing the functioning of domestic financial systems through the intensification of competition and the importation of financial services. (Quinn,1997; Edison *et al.* ,2002 and Henry ,2000a, 200b, 2003)

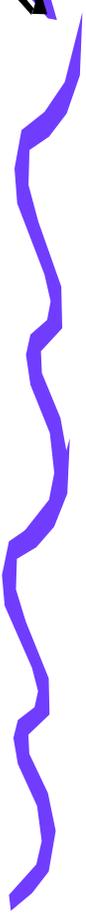
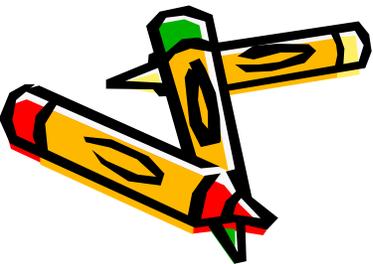
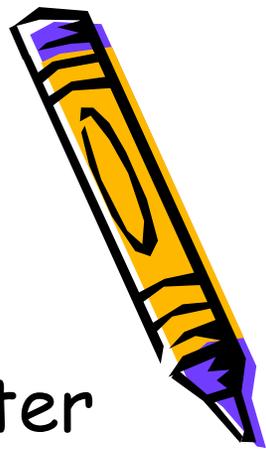


- **Bad:** financial openness can actually retard economic growth in the presence of weak institutions and policies. (Boyd and Smith, 1992; Stiglitz, 2000; Klein, 2005)
- financial globalization makes it easier for capital inflows to fuel excessive risk-taking on the part of financial institutions and allows financial shocks to be transmitted more readily across borders (Mishkin, 2006).



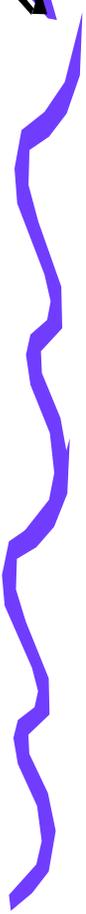
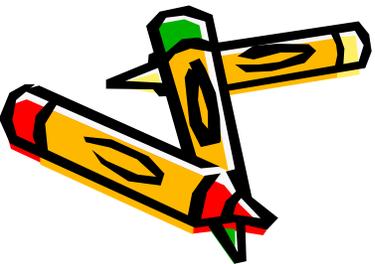
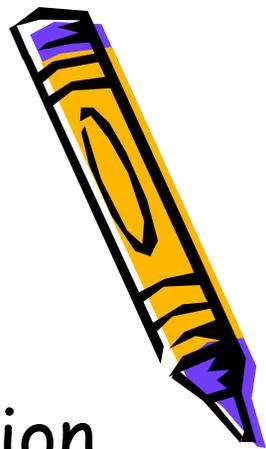
Financial Openness vs. Macroeconomic uncertainty

- Financial integration may contribute to more **output stability** by providing greater access to capital that can help capital-poor countries diversify their production base.
- **However**, rising financial integration may lead to increasing specification of production based on comparative advantage considerations, thereby **making economies more vulnerable to industry-specific shocks**. (Razin and Rose, 1994; Kalemli-Ozcan, Sorensen and Yosha, 2003)



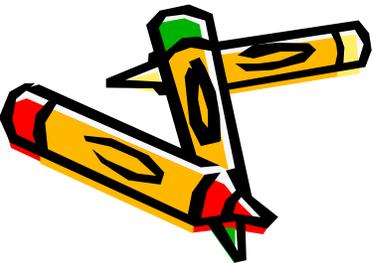
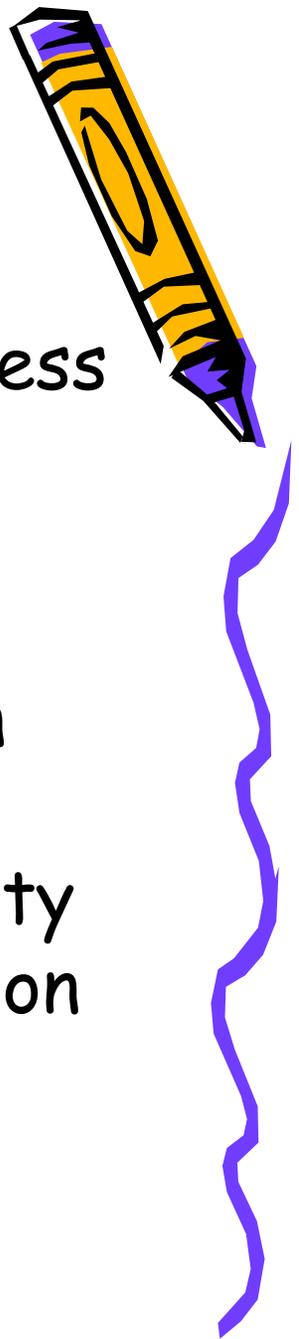
Financial Openness vs. Consumption Volatility

- **Theoretical** models based on complete markets suggest that financial integration should **reduce consumption volatility**.
- **Empirically**, some papers point to **strongly positive effects** of financial openness on consumption growth volatility (e.g. Kose, Prasad and Terrones, 2003), **others point to negative effects** (e.g. Bekaert, Harvey and Lundblad, 2006; Buch and Yener, 2009).



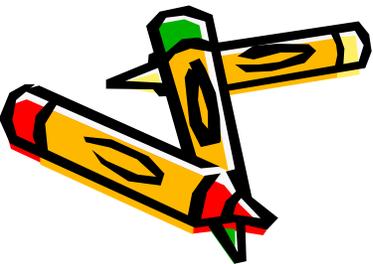
Long-run and Short-run effect

- These observations imply that the process of capital account liberalization is accompanied not only by financial deepening and institutional quality improving that have **long-run impacts** on economic growth and macroeconomic uncertainty, but also by financial fragility and crises that have **short-run effects** on business cycles



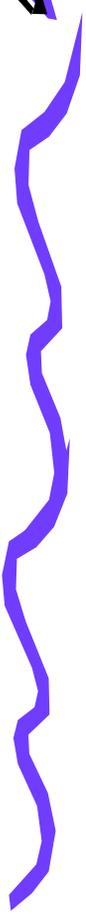
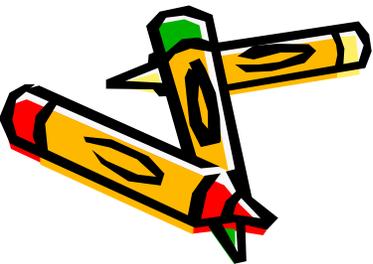
Long-run and Short-run effect

- In other words, there may be a potential intertemporal tradeoff between openness and growth or uncertainty. Accordingly, distinguishing the cyclical and trend components of financial openness in determining the effects of openness on growth or uncertainty in the short and long run has important **policy implications**: that **how to supplement financial openness with policies that would improve this intertemporal tradeoff.**

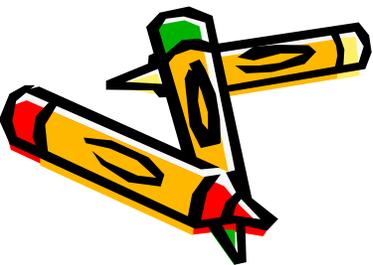
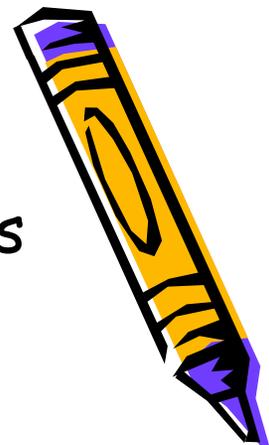


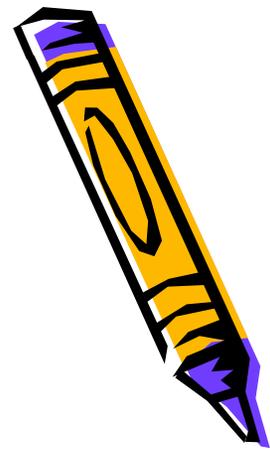
Methodology

- Autoregressive distributed lag (ARDL) model
- **Mean Group (MG)** estimator will provide consistent estimates of the average of parameters interested.
- Pesaran, Shin and Smith (1999) **Pooled mean group (PMG)** estimator which restricts the long-run parameters to be identical over the cross section, but allows the intercepts, short-run coefficients, and error variances to differ across groups on the cross section. **If the long-run homogeneity restrictions are valid, it is known that MG estimates will be inefficient.**
- **Dynamic fixed-effects (DFE)** method which allows the intercepts to differ across groups, but imposes homogeneity of all slope coefficients and error variances.



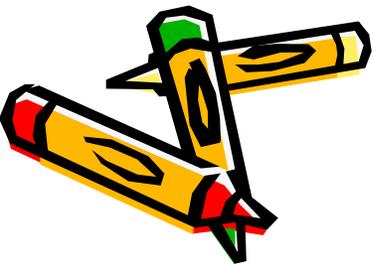
- Such a country-specific ARDL structure allows not only for accommodating cross-country **heterogeneity** in the degree of credit market imperfections and policy regimes, but also capturing certain interesting **time-series relations**.
- this methodology can be applied to the model **regardless of whether the underlying variables are stationary or non-stationary**.
- instead of averaging the data per country to isolate trend effects, **both long- and short-run relationships** are estimated using a panel of data pooling time-series and cross-sectional effects.





$$\text{growth}_i \text{ or } \text{uncertainty}_i = \alpha + \beta \text{openness}_i + \omega \text{controls}_i + \varepsilon_i \quad (1)$$

where $i=1, 2, \dots, N$ is the country indicator, *growth* is the economic growth indicators, *uncertainty* is macroeconomic uncertainty, *openness* is the financial openness index, *controls* is a set of control variables, and ε is the error term. To



Data Description

- period 1960-2007
- 70 countries
- World Development Indicators (WDI) of the World Bank
- The data on external financial stocks and FDI stocks are taken from the IMF's Balance of Payments Statistics and the UNCTAD homepage (<http://www.unctad.org>).

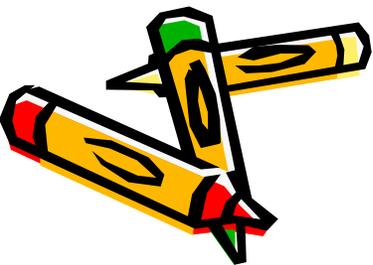


Table 2: Descriptive Statistics 1960-2007

Panel A: Summary Statistics

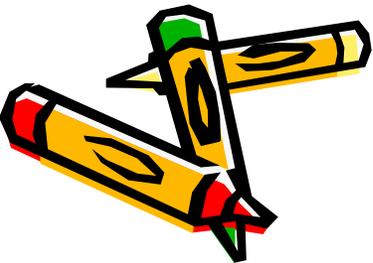
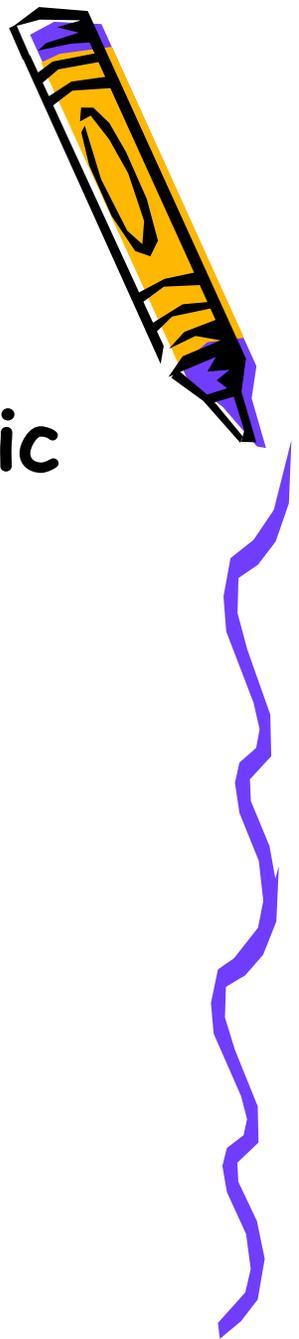
	<i>output growth</i>	<i>output uncertainty</i>	<i>consumption uncertainty</i>	<i>relative uncertainty</i>	<i>fopenness</i>	<i>FDI</i>	<i>income</i>	<i>inflation</i>	<i>financial development</i>
Mean	3.9483	2.2818	2.8350	0.6055	2.9229	-4.4248	7.3380	0.1199	3.2166
Std.	5.0797	1.3753	1.4737	1.3636	1.3871	3.8639	1.5291	0.2747	0.8722
Max.	-28.1000	-7.0131	-6.0277	-8.4398	-4.6235	-12.8646	4.2812	-0.1399	0.0447
Min.	39.4871	7.5559	7.4302	9.9713	6.8657	23.2443	10.5398	4.7749	5.7899

Panel B: Correlation Matrix

<i>output growth</i>	1.0000								
<i>output uncertainty</i>	-0.1013	1.0000							
<i>consumption uncertainty</i>	-0.0517	0.5475	1.0000						
<i>Relative uncertainty</i>	0.0463	-0.4168	0.5325	1.0000					
<i>fopenness</i>	0.0238	-0.2238	-0.3320	-0.1342	1.0000				
<i>FDI</i>	-0.0184	-0.1171	-0.2758	-0.1811	0.3880	1.0000			
<i>income</i>	-0.0219	-0.3474	-0.5291	-0.2234	0.4384	0.4224	1.0000		
<i>inflation</i>	-0.1461	0.1201	0.0398	-0.0782	-0.0121	0.2573	-0.0267	1.0000	
<i>Financial development</i>	0.0750	-0.3628	-0.4961	-0.1719	0.5258	0.3683	0.6774	-0.1001	1.0000

Empirical Results

- 1. Financial Openness and Economic Growth
- 2. Financial Openness and Macroeconomic Uncertainty



Financial Openness and Economic Growth

- we find evidence of **an intertemporal tradeoff** between financial openness and economic growth. Greater financial openness appears to have **short-run negative** but **long-run positive effects** on **output growth**.

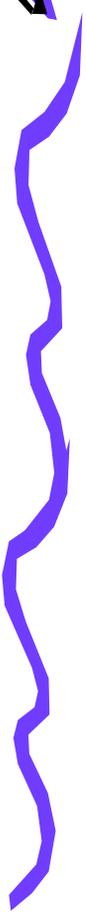
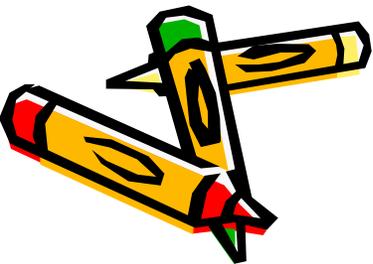
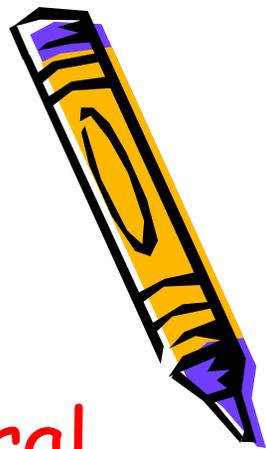


Table 3: The Effect of Total Stocks of Capital Flows on Economic Growth**Panel A: 1960-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	1.1243*** (0.2899)	-1.9894 (6.3155)	1.1692*** (0.4351)	0.2436 [0.6216]
Error Correction				
Phi	-0.5024*** (0.0991)	-1.0208** (0.5089)	-0.7149*** (0.1552)	
Short-Run Coefficients				
Δ Openness	-2.6488*** (0.6609)	-3.9977*** (0.9959)	-2.2848*** (0.4159)	
Constant	41.1815*** (7.5347)	91.7530*** (16.8264)		
Sample size ($N \times T$)	1901	1901	1901	N=70

Table 3: The Effect of Total Stocks of Capital Flows on Economic Growth**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	3.5976*** (0.8642)	3.2630 (2.7622)	3.1245 (2.3097)	0.0163 [0.8985]
Error Correction				
Phi	-0.5839*** (0.1135)	-1.5129 (0.8030)	-0.3597 (0.2308)	
Short-Run Coefficients				
Δ Openness	-3.6136*** (0.7448)	-4.5507*** (1.0491)	-2.6293*** (0.4852)	
Constant	25.6194*** (4.8036)	126.7754*** (26.1278)		
Sample size ($N \times T$)	1225	1225	1225	N=66

Table 4: The Effect of FDI stocks on Economic Growth**Panel A: 1960-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	0.6353*** (0.0975)	0.6827 (0.5571)	-0.0333 (0.0861)	0.0075 [0.9312]
Error Correction				
Phi	-0.9832*** (0.1955)	-1.7782*** (0.6145)	-0.7748*** (0.1764)	
Short-Run Coefficients				
Δ Openness	-6.5793*** (1.7710)	-5.1483*** (1.5961)	-1.7308*** (0.4806)	
Constant	23.5685*** (4.5722)	128.9476*** (15.3102)		
Sample size ($N \times T$)	1508	1508	1508	N=61

Table 4: The Effect of FDI stocks on Economic Growth**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	1.7600*** (0.3401)	2.0287 (3.1280)	0.1719 (0.1389)	0.0075 [0.9311]
Error Correction				
Phi	-0.2464** (0.1012)	-1.8684** (0.8388)	-0.6817*** (0.2123)	
Short-Run Coefficients				
Δ Openness	-5.7473*** (1.9634)	-7.2618*** (1.9679)	-2.7434*** (0.5790)	
Constant	12.9858** (1.6866)	132.7920*** (22.9375)		
Sample size ($N \times T$)	1230	1230	1230	N=60

Financial Openness and Macroeconomic Uncertainty

- The data also reveal that financial globalization has **no significant short-run effect** but **strongly negative long-run impacts** on **output growth uncertainty** and **consumption growth volatility**.

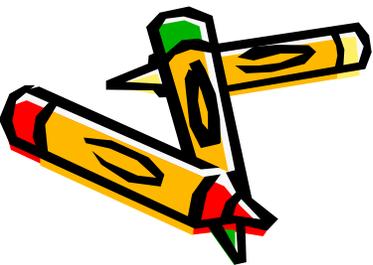
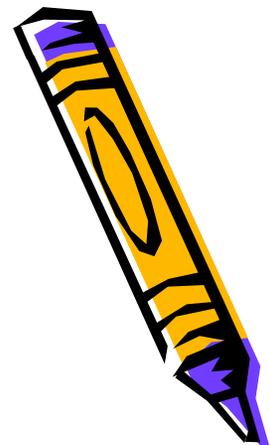


Table 5: The Effect of External Financial Stocks on Output Growth Uncertainty**Panel A: 1960-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0749** (0.0347)	-2.4807 (3.9167)	-0.5047*** (0.1002)	0.3773 [0.5390]
Error Correction				
Phi	-0.4683*** (0.0632)	-0.6214*** (0.0736)	-0.4844*** (0.0213)	
Short-Run Coefficients				
Δ Openness	-0.1224 (0.1093)	-0.0998 (0.1500)	0.1152 (0.0866)	
Constant	0.9570*** (0.1664)	0.7915 (3.3364)		
Sample size ($N \times T$)	1899	1899	1899	N=70

Table 5: The Effect of External Financial Stocks on Output Growth Uncertainty**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.1175*** (0.0323)	1.7182 (2.2175)	-0.2822** (0.1402)	0.6518 [0.4195]
Error Correction				
Phi	-0.4511*** (0.0630)	-0.6460*** (0.0774)	-0.5177*** (0.0283)	
Short-Run Coefficients				
Δ Openness	-0.1227 (0.1586)	-0.1257 (0.1788)	0.0672 (0.1086)	
Constant	1.8990 (0.2911)	0.2196 (5.1908)		
Sample size ($N \times T$)	1225	1225	1225	N=66

Table 6: The Effect of FDI Stocks on Output Growth Uncertainty**Panel A: 1960-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0273*** (0.0097)	-1.0167 (0.8831)	0.0245 (0.0304)	1.2555 [0.2625]
Error Correction				
Phi	-0.4719*** (0.0678)	-0.6273*** (0.0792)	-0.4444*** (0.0234)	
Short-Run Coefficients				
Δ Openness	-0.1920 (0.1221)	-0.1477 (0.1585)	-0.0498 (0.1008)	
Constant	1.6642*** (0.2707)	-0.9039 (4.1933)		
Sample size ($N \times T$)	1508	1508	1508	N=61

Table 6: The Effect of FDI Stocks on Output Growth Uncertainty**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0057** (0.0023)	-0.0981 (0.3527)	0.0421 (0.0429)	0.0686 [0.7934]
Error Correction				
Phi	-0.4725*** (0.0678)	-0.6324*** (0.0867)	-0.4657*** (0.0270)	
Short-Run Coefficients				
Δ Openness	-0.1984 (0.1834)	-0.0390 (0.2814)	-0.1950 (0.1258)	
Constant	2.1622*** (0.3468)	-3.8386 (5.0639)		
Sample size ($N \times T$)	1230	1230	1230	N=60

Table 7: The Effect of External Financial Stocks on Consumption Growth Uncertainty**Panel A: 1960-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0208*** (0.0056)	-0.5974 (0.4118)	-0.2576*** (0.0672)	1.9612 [0.1614]
Error Correction				
Phi	-0.4280*** (0.0560)	-0.6028*** (0.0585)	-0.5707*** (0.0227)	
Short-Run Coefficients				
Δ Openness	0.1352 (0.1056)	0.0670 (0.1305)	0.1338* (0.0757)	
Constant	0.5782*** (0.1412)	7.3978 (5.1963)		
Sample size ($N \times T$)	1710	1710	1710	N=58

Table 7: The Effect of External Financial Stocks on Consumption Growth Uncertainty**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	0.0876*** (0.0335)	-0.4463 (0.4154)	-0.0169 (0.1057)	1.6622 [0.1973]
Error Correction				
Phi	-0.4238*** (0.0513)	-0.6715*** (0.0556)	-0.6337*** (0.0327)	
Short-Run Coefficients				
Δ Openness	0.0207 (0.1155)	0.0775 (0.1986)	0.1035 (0.1005)	
Constant	3.5592*** (0.4534)	4.1668 (8.7116)		
Sample size ($N \times T$)	877	877	877	N=48

Table 8: The Effect of FDI Stocks on Consumption Growth Uncertainty**Panel A: 1960-2007**

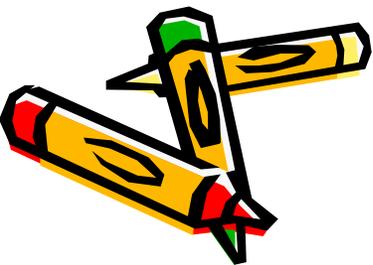
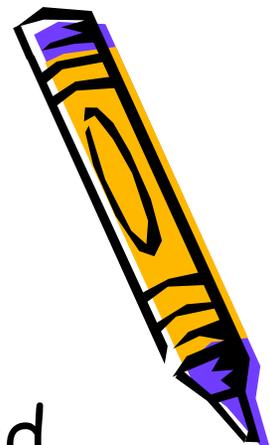
	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0614*** (0.0193)	-0.3018 (0.2542)	-0.0077 (0.0191)	0.8992 [0.3430]
Error Correction				
Phi	-0.4402*** (0.0534)	-0.7805*** (0.0544)	-0.5175*** (0.0243)	
Short-Run Coefficients				
Δ Openness	-0.0902 (0.0865)	0.2478 (0.1826)	0.0645 (0.0878)	
Constant	1.8061*** (0.2418)	9.4302* (5.6355)		
Sample size ($N \times T$)	1394	1394	1394	N=58

Table 8: The Effect of FDI Stocks on Consumption Growth Uncertainty**Panel B: 1987-2007**

	PMG	MG	DFE	Hausman test
Long-Run Coefficients				
Openness	-0.0061*** (0.0012)	0.2631 (0.2204)	-0.0670* (0.0402)	1.4918 [0.2219]
Error Correction				
Phi	-0.4328*** (0.0513)	-0.7720*** (0.0528)	-0.4928*** (0.0281)	
Short-Run Coefficients				
Δ Openness	0.0796 (0.1780)	-0.0073 (0.1978)	0.0731 (0.0616)	
Constant	1.1187*** (0.1623)	11.9488 (8.5906)		
Sample size ($N \times T$)	1020	1020	1020	N=58

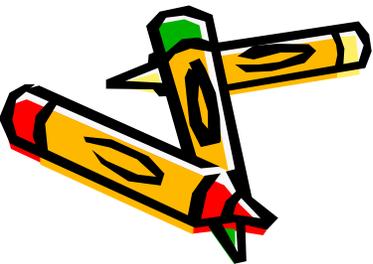
Conclusions

- Using the **PMG** estimation procedure and based on a panel of countries over the 1970-2007 period, we find coexistence of **short-run adverse** and **long-run beneficial effects** of financial globalization on economic growth, confirming that there is *short-run pains and long-run gains* in the process of financial globalization.



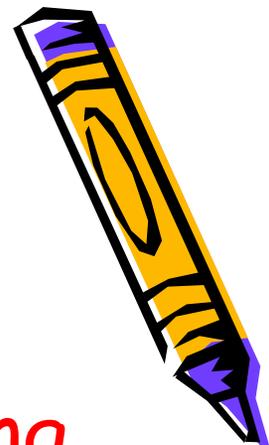
Conclusions (cont.)

- As an additional benefit of globalization, the data show that **output growth uncertainty decreases with financial account liberalization in the long run**, suggesting financial openness as one potential determinant contributing to the great moderation.



Conclusions (cont.)

- We also find evidence of **decreasing uncertainty of consumption growth with FDI**, indicating that *de-facto* financial integration allows countries to improve the degree of international consumption risk sharing by diversifying their income idiosyncratic risk.



End, and Thanks.

