



# **Crisis Management and Growth Strategies: Lessons from Chile and (well) beyond**

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and Role of Government Policies”**

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## ☐☐☐ Outline

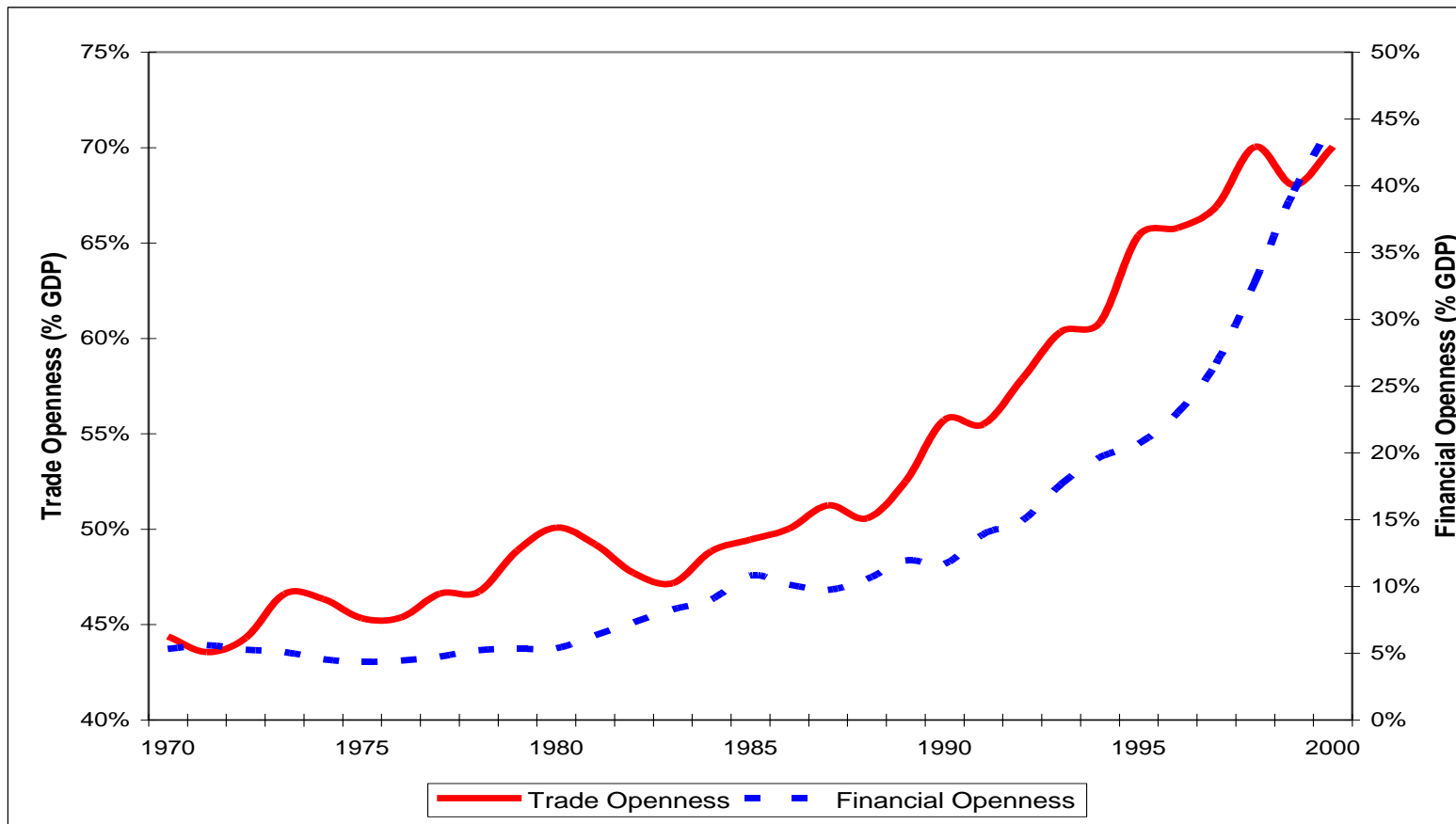
1. How does Globalization affect Growth and Growth Volatility?
2. How does Institutional Development affect Cyclicalities of Macroeconomic Policies?
3. How is Latin America coping with Foreign Shocks and Global Crises?
4. How is Chile managing the Crisis and redefining its Growth Strategy?
5. Ten Lessons on Crisis Management and Growth Strategies



# **1. How does Globalization affect Growth and Growth Volatility?**

# Globalization = exploding TO + FO

Figure 1  
Trends in Openness, 1970-2000



Note: Openness measures are defined as the ratio of real exports and imports to GDP (trade) and equity-based foreign liabilities to GDP (financial). World medians are calculated from data for 76 countries.

# ⋮ How does openness affect growth and growth volatility?

Calderón, Loayza, and Schmidt-Hebbel (2005, 2008):

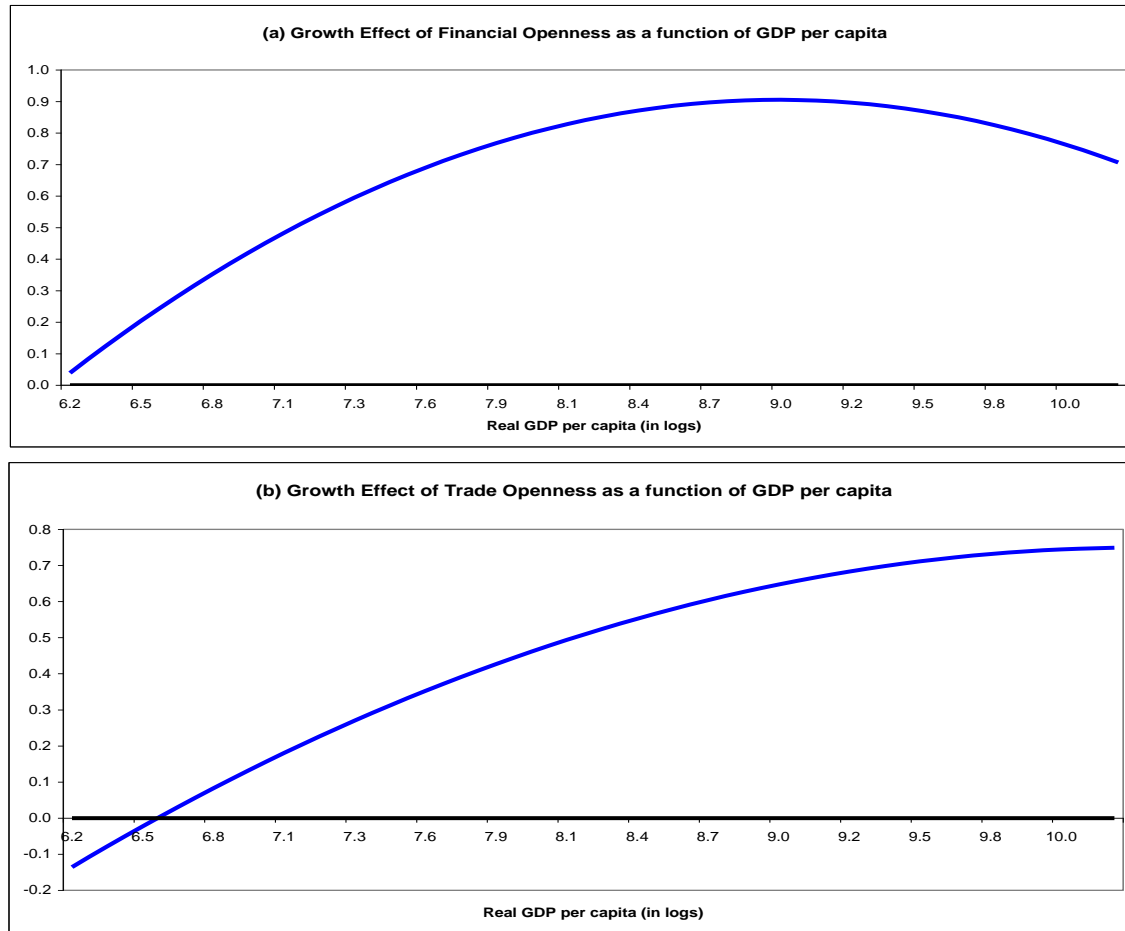
- Panel data estimation:
  - of direct effects of FO and TO
  - of indirect effects through per-capita income and foreign shocks
  - on growth level and growth volatility measures
- World panel of 76 countries, 1970-2005

## ☐☐☐ Direct effects of openness and foreign shocks

			<b>Growth</b>	<b>Volatility</b>
<b>Openness</b>	Trade		+	+
	Financial		+	-
<b>Shocks</b>	Trade	ToT	+	+
		TP growth	+	+
	Financial	Cap flows	+	+

# ▣▣▣ Growth level effects of openness rise with per-capita GDP

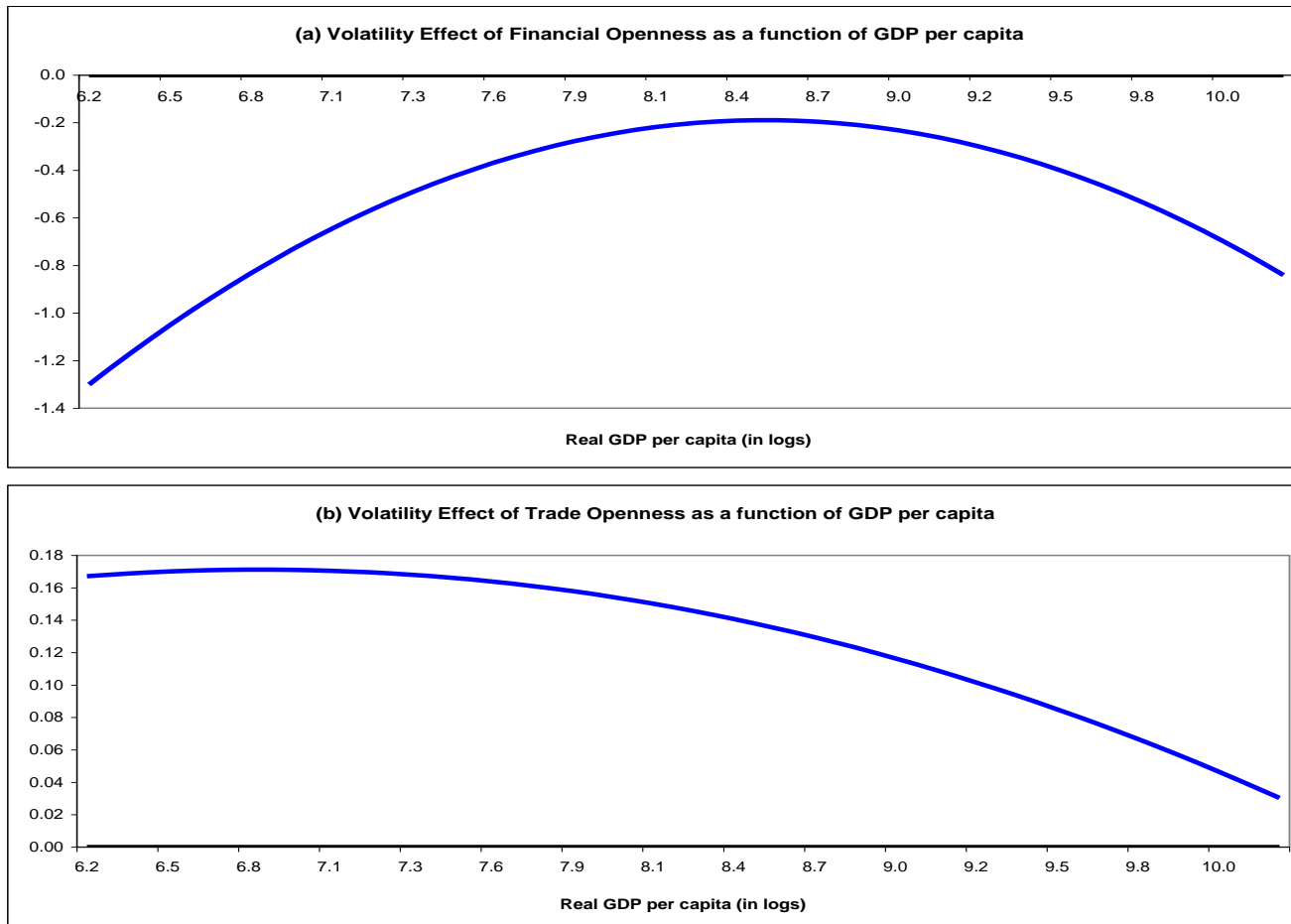
Figure 2  
Growth Effect of Openness as a function to GDP per capita 1/



1/ Growth effect of a one standard deviation increase in financial and trade openness. See Table A.3 for the computed standard deviations.

# ☐☐☐ Growth volatility effects of openness change with per-capita GDP

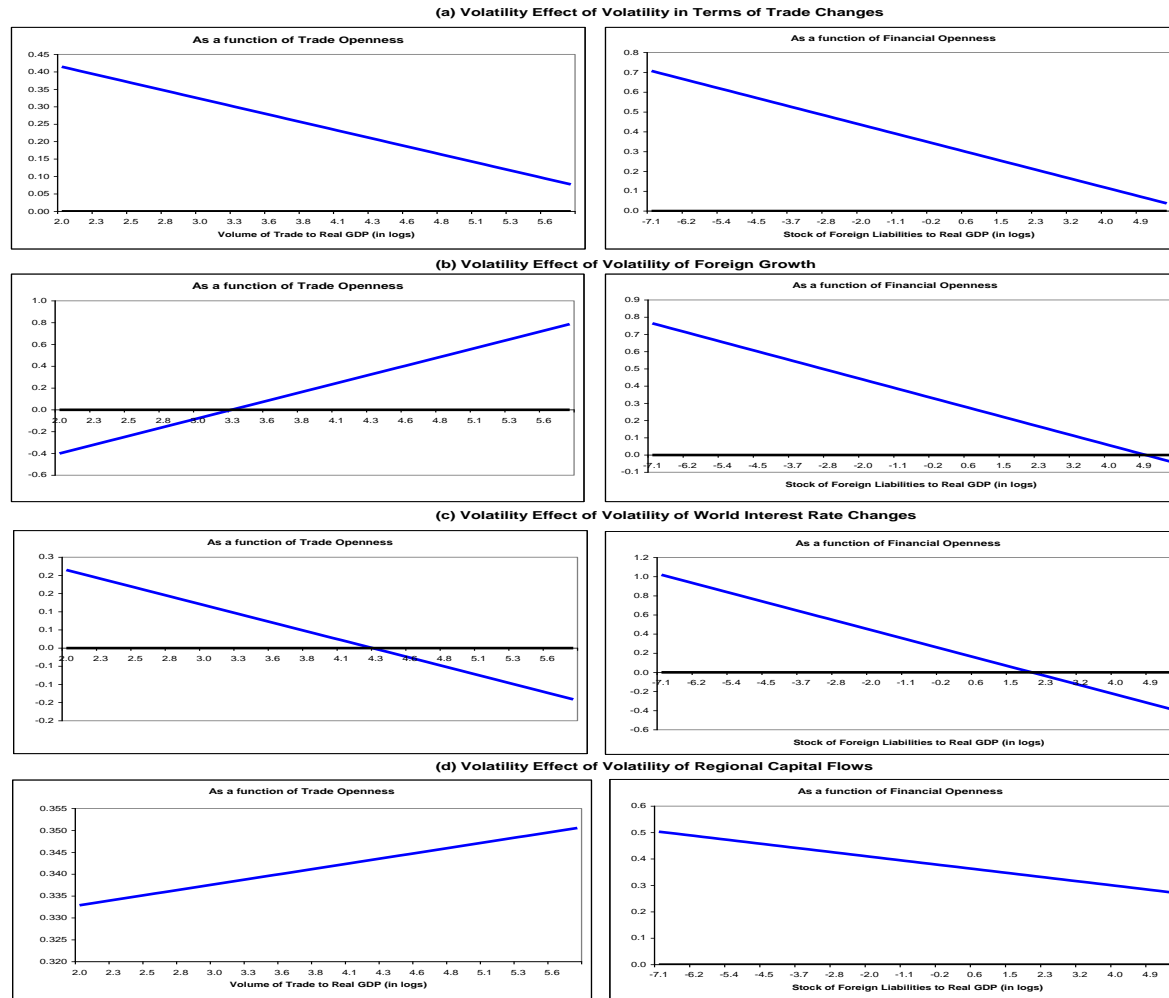
**Figure 4**  
**Volatility Effect of Openness as a function to GDP per capita 1/**



1/ Volatility effect of a one standard deviation increase in financial and trade openness. See Table A.4 for the computed standard deviations.

# ■ ■ ■ Growth level and volatility effects of foreign shocks depend on openness

**Figure 5**  
Volatility Effect of External Shocks as a Function of Openness 1/



1/ Volatility effect of a one standard deviation increase in the volatility of the external shock. See Table A.4 for the computed standard deviations of these shocks.

# ⋮ Growth level and volatility effects of foreign shocks depend on openness

	<b>Growth</b>		<b>Volatility</b>	
	<b>Trade Openness</b>	<b>Financial Openness</b>	<b>Trade Openness</b>	<b>Financial Openness</b>
<b>Terms of trade</b>	↓	↑	↓	↓
<b>Tr. Partn. growth</b>	↓	↑	↑	↓
<b>Capital flows</b>	↑	↓	...	↓
<b>World int. rate</b>	↑	↑	...	↓



## **2. How does Institutional Development affect Cyclicity of Macroeconomic Policies?**

# ⋮ Institutions and Macro Policy

## Cyclicalitv (1)

- Macroeconomic policies are geared, *inter alia*, toward stabilizing business cycles
- Counter-cyclical activism is often observed among industrial countries but less in emerging / developing economies
- Could the quality of institutions explain differences in cyclical behavior of macro policies?

# ⋮ Institutions and Macro Policy

## Cyclicalitv (2)

Calderón, Duncan and Schmidt-Hebbel (2010) address the latter question by:

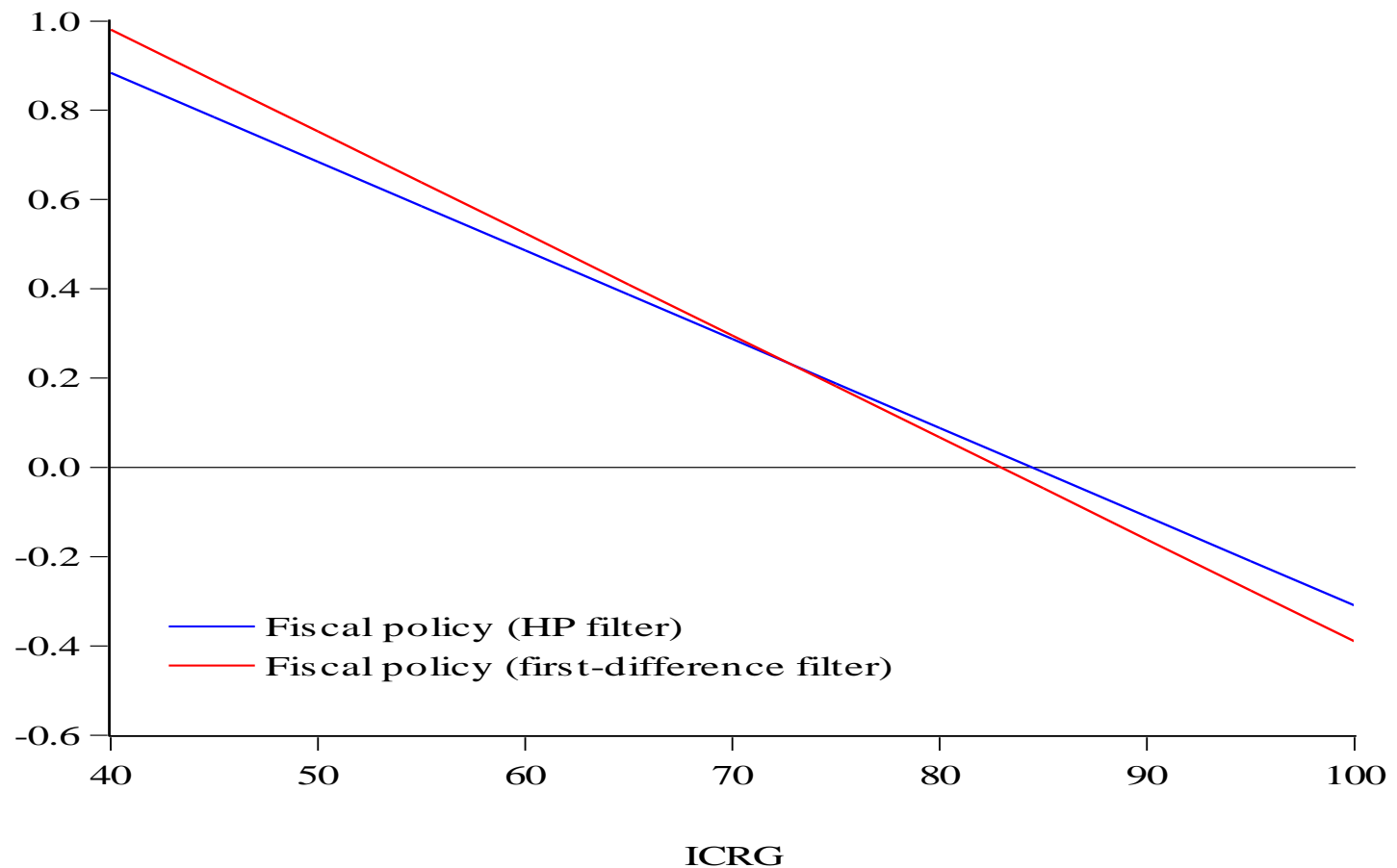
- (1) measuring monetary and fiscal policy cyclicalitv for large world sample: 112 countries, 1984-2008
- (2) estimating extended Taylor functions (monetary policy) and cyclical fiscal policy functions (for fiscal policy) to check for interactions between policy cyclicalitv and institutional quality

## ☐☐☐ Results

- Results robustly significant for main hypothesis: countries with low (high) institutional development are likely to follow pro- (counter) cyclical policy.
- Symmetric results for monetary and fiscal policy
- Institutional quality threshold level at which policy is a-cyclical: higher for fiscal policy than for monetary policy – central banks more likely than governments to pursue counter-cyclical stabilization

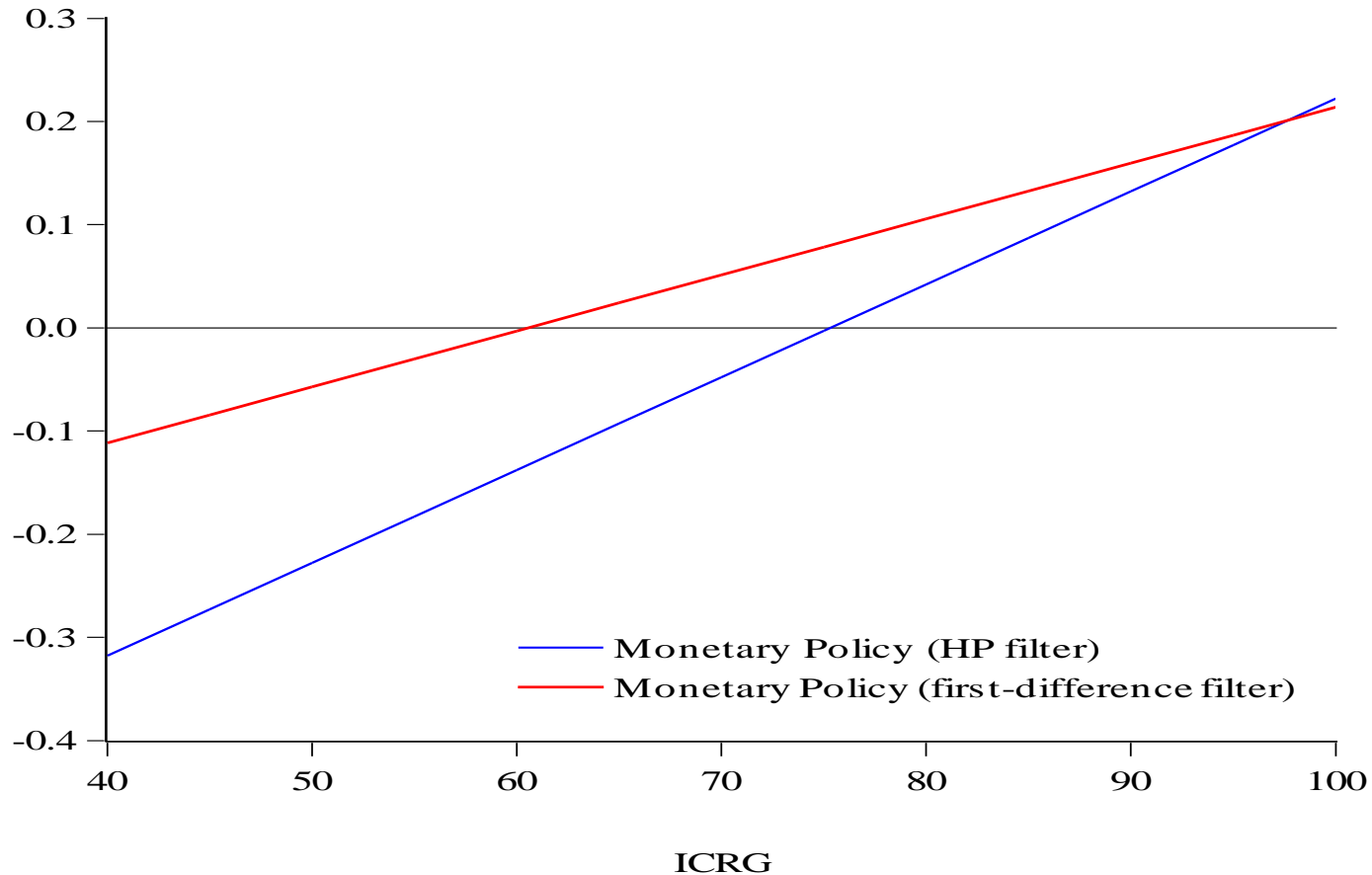
# World panel results: fiscal policy counter-cyclicality (gov. spending counter-cyclicality) rises with quality of institutions

Figure 4. Cyclical Behavior of Fiscal Policies



# World panel results: monetary policy counter-cyclicality (interest rate pro-cyclicality) rises with quality of institutions

Figure 3. Cyclical Behavior of Monetary Policies





### **3. How is Latin America coping with Foreign Shocks and Global Crises?**

## ☐☐☐ **How is Latin America coping? (1)**

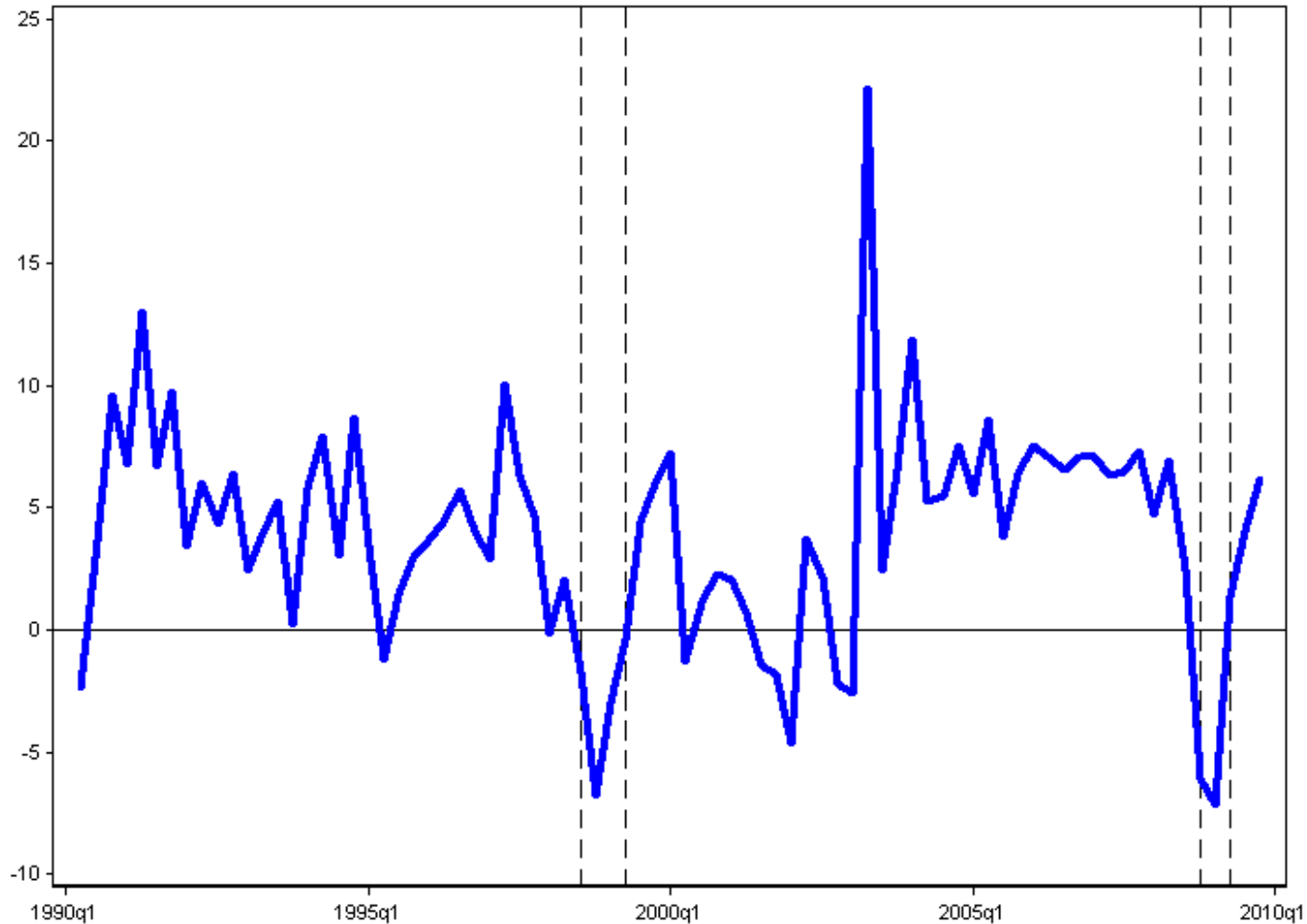
- LatAm was hit by both the 1998-1999 Asian Crisis and the 2008-2009 Global Crisis
- Yet significant structural and policy changes were implemented by many countries in LAC during the past decade
- Were the effects of the international crises and recessions on LatAm different this time?
- How is Latam coping now?

## ⋮⋮⋮ **How is Latin America coping (2)?**

Corbo and Schmidt-Hebbel (2010) address the latter questions by:

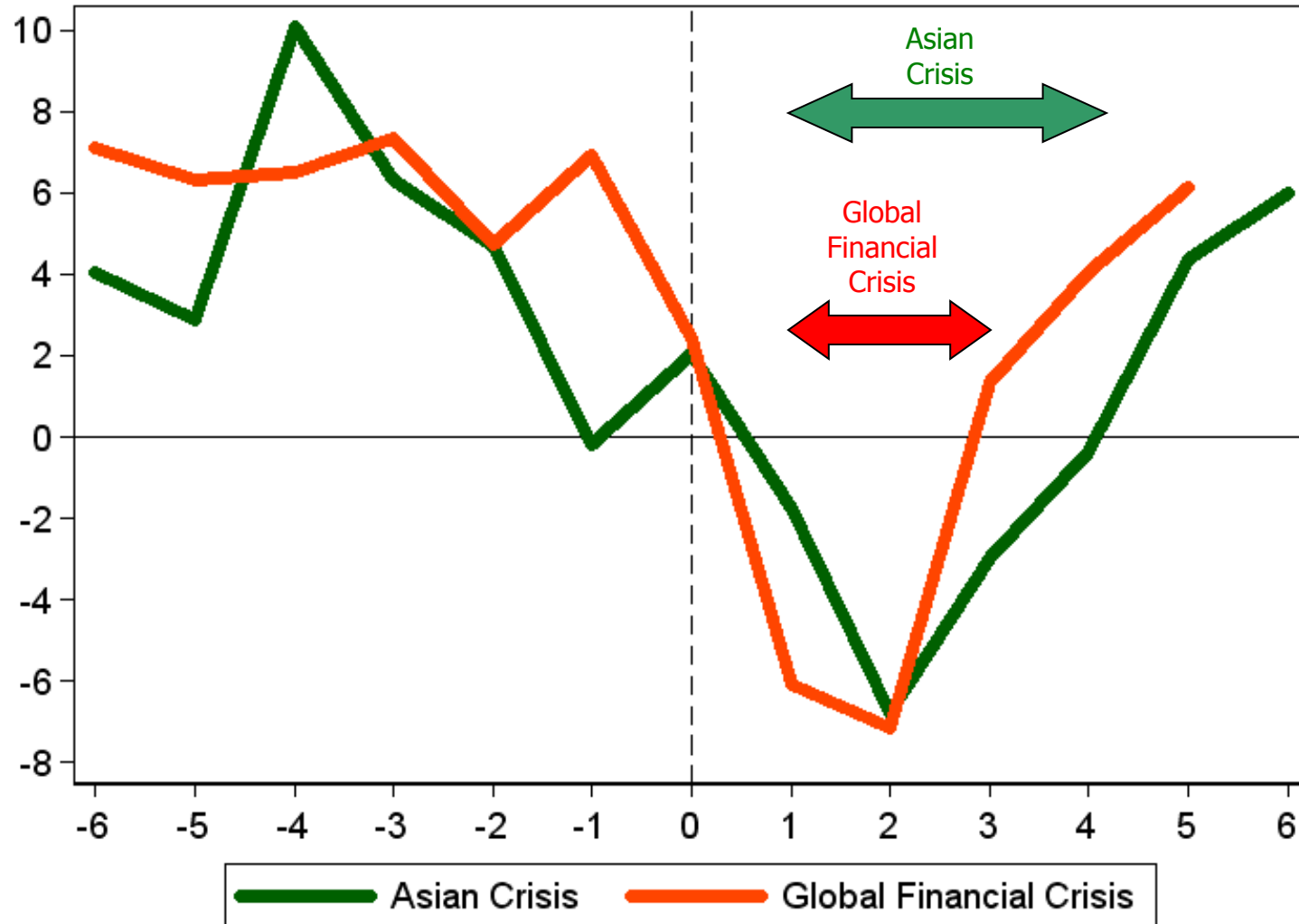
- (1) estimating GDP growth performance based on short and long-term growth factors
- (2) decomposing amplitude of both recessions and the role of individual growth determinants – international factors, structural conditions, and policy responses
- (3) deriving policy lessons

# Average GDP Growth in LatAm



Simple average of annualized quarterly GDP growth rates of seven major Latin American countries, based on official GDP series that are seasonally adjusted by national authorities.

# ⋮ Average GDP growth in LatAm around both crises



## ☐☐☐ Data, method, and model

- **Country sample**
  - 7 major LAC countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela (91% of LAC)
- **Time sample**
  - Quarterly data, 1990:1-2009:4
- **Estimation method:** multi-variate dynamic fixed-effects unbalanced panel-data estimator
- **Specification:** panel data regressions that nest long and short-term growth determinants and interaction effects

# Estimation results: significant growth determinants in LatAm

## (1) Long-term growth variables

- Private Credit, Secondary School Enrollment, Inflation Rate, Fiscal Balance, and Political Certainty

## (2) Structural variables

- Financial and Trade Openness, Net External Assets, International Foreign Reserves, and Exchange Rate Regime

## (3) Foreign cyclical variables

- Channels of transmission: Terms of Trade Growth, Growth of Trading Partners and of World Exports, Capital Inflows to LatAm, and Sovereign Spreads

## (4) Domestic policy variables

- Government Consumption and ex-ante Real Interest Rate

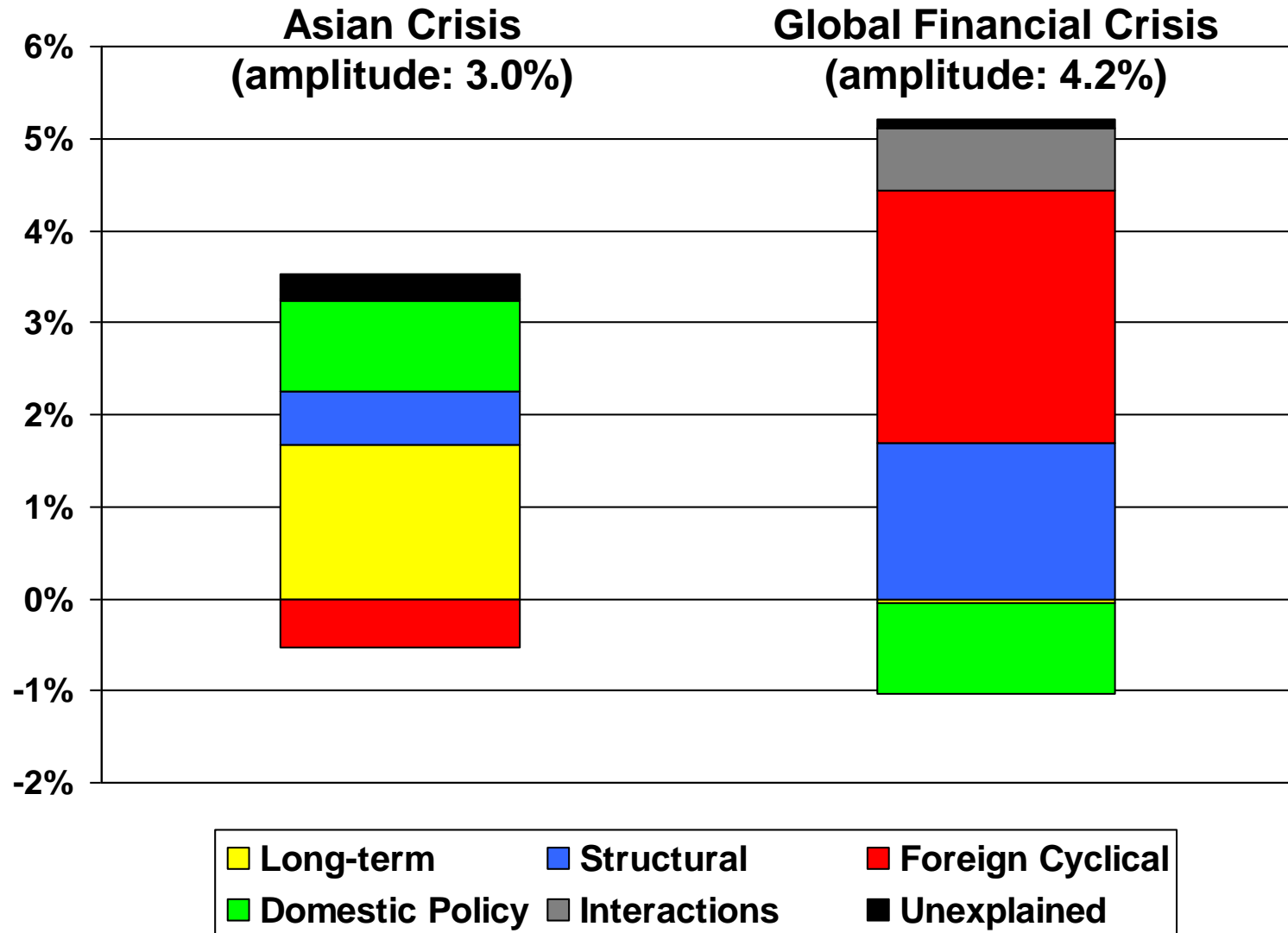
## (5) Interactions of structural and foreign cyclical variables

## ☐☐☐ Recessions in LatAm

	Amplitude of GDP Growth Decline	
	Asian Crisis	Global Financial Crisis
	1998q3-1999q2	2008q4-2009q2
Argentina	-5,20%	-1,55%
Brazil	-1,03%	-3,99%
Chile	-3,88%	-4,40%
Colombia	-6,82%	-0,87%
Mexico	3,37%	-11,09%
Peru	1,15%	-3,64%
Venezuela	-8,51%	-3,59%
Simple Average	<b>-2,99%</b>	<b>-4,16%</b>
Weighted Average	<b>-1,15%</b>	<b>-5,24%</b>

Cumulative GDP growth rates during recessions

# Decomposing LatAm's recessions



## ⋮ Explaining LatAm's recessions: This time is different

- Average amplitude of this recession was larger now: a cumulative -3.0% in 1998-99 vs. -4.2% in 2008-09
- **1998-99 recession:** largely due to domestic factors, NOT to foreign cyclical variables
- **2008-09 recession:** in contrast to 1998-99, largely due to the world recession, i.e., foreign cyclical variables
  - Domestic policy variables dampened the recession

## ☐☐☐ **Policy implications**

### **After the Asian crisis most LatAm countries:**

(a) carried out macroeconomic reforms:

- strengthening fiscal policy: adjustment, rules
- adopting inflation targeting (6 major countries), leading to single-digit inflation
- shifting toward (mostly dirty) floating exchange rates
- building up international foreign liquidity

(b) strengthened financial sector

c) deepened international trade and financial integration

**Hence when this crisis hit, macro imbalances were smaller and policy regimes were more robust, allowing for expansionary domestic policies**

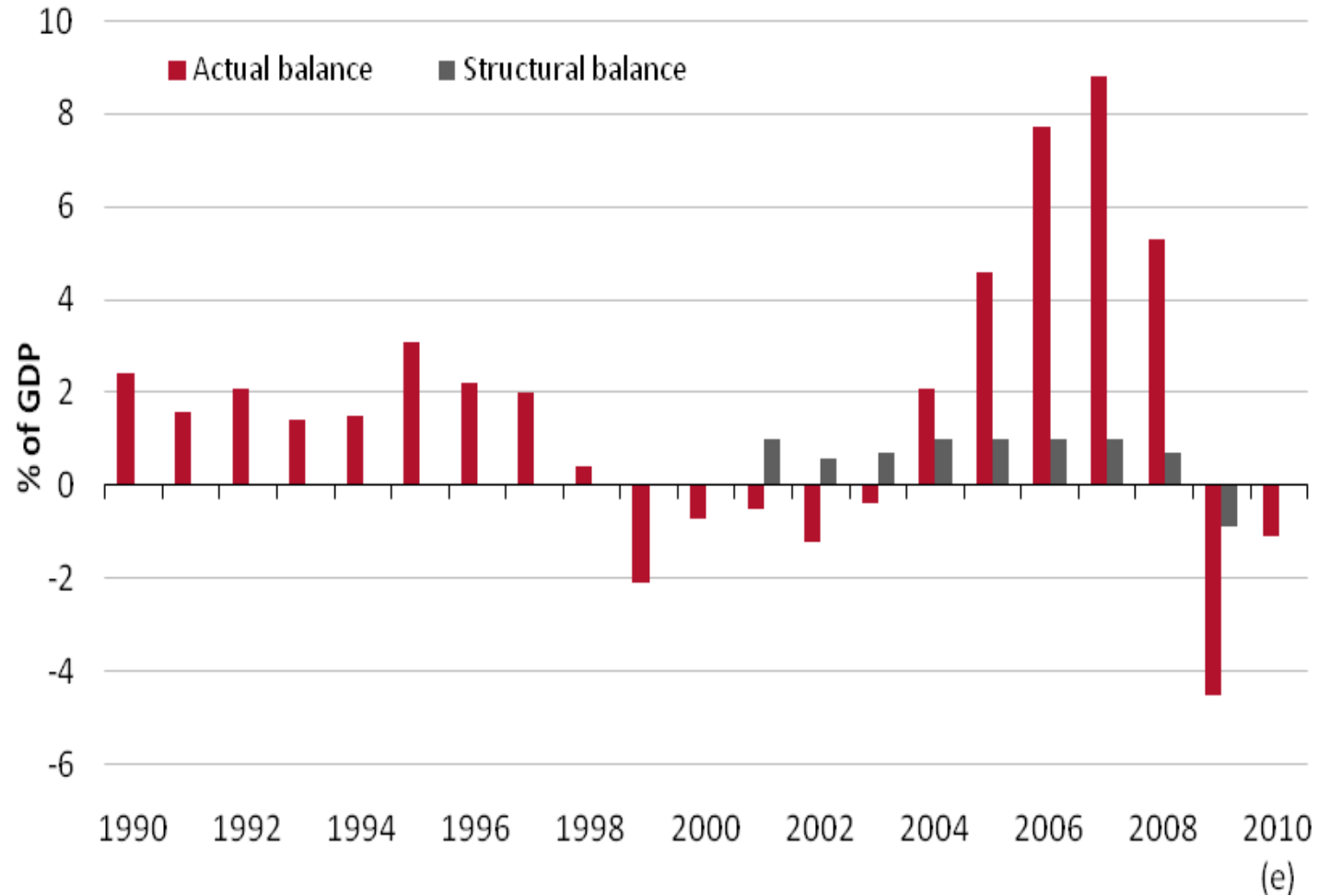


## **4. How is Chile managing the Crisis and redefining its Growth Strategy?**

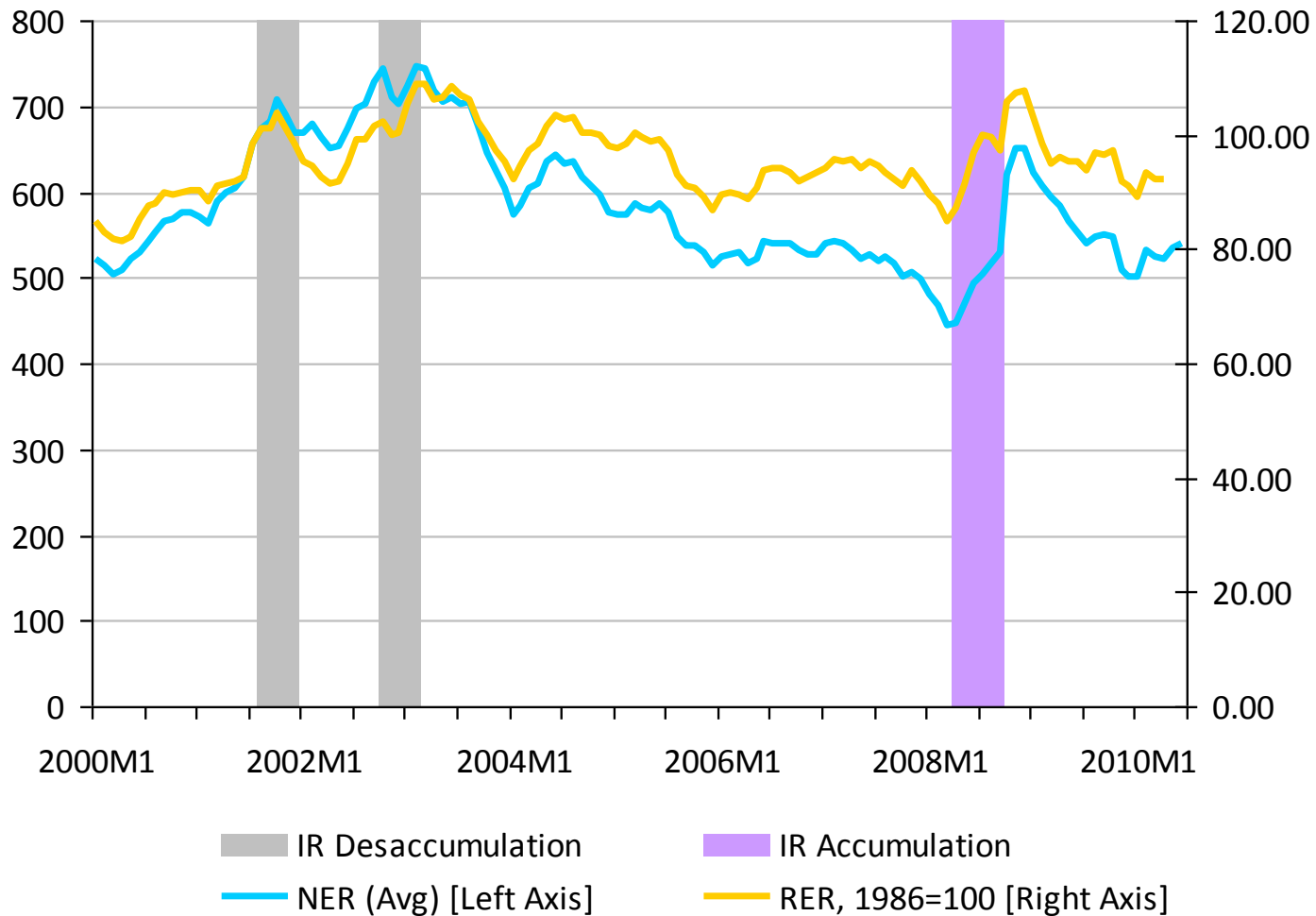
## ☐☐☐ **Chile's macro-financial policy frame**

- (1) Fiscal Regime:** structural balance rule determines government expenditure path based on government permanent income; savings invested in sovereign wealth funds
  - Rule suspended in 2009; new rule to be by Commission
- (2) Exchange-rate regime:** float with occasional pre-announced interventions
- (3) Monetary regime:** inflation targeting
- (4) Strong financial regulation and supervision**
- (5) Full financial integration and almost full trade integration into world markets**

# Actual and structural government balance, 1990-2010 (% of GDP)

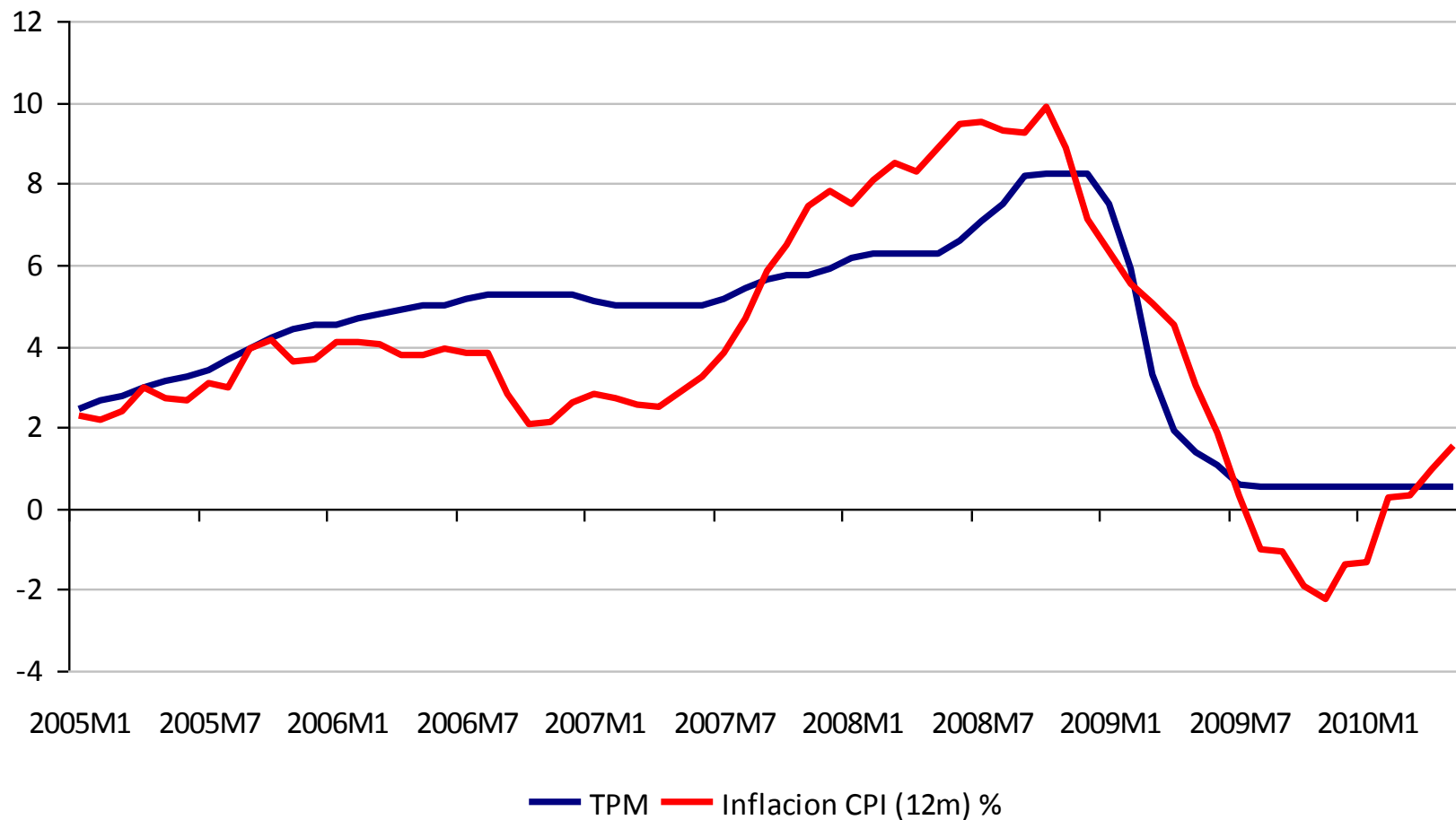


# Nominal and real exchange rate; ER intervention periods, 2000-2010



Source: Central Bank of Chile and Tapia and Tokman (2004).

# Monetary Policy Rate and Inflation, 2005-2010 (%)



Source: Central Bank of Chile (IPoM, Marzo 2010)

# ☐☐☐ Chile's 2009-2010 crisis management

## **Chile was hard hit by:**

- (1) 2008-2009 global crisis and recession
- (2) Feb 2010 earthquake (5th worst in history)

## **Policy response and challenges:**

### **(1) Fiscal Policy:**

- Response: structural balance rule suspended to allow for massive fiscal expansion in 2009
- Challenges: new rule to be proposed by government commission; Sovereign Funds Investment Rules; Fiscal Council

### **(2) Monetary policy:**

- Response: massive interest-rate easing complemented by quantitative easing
- Challenges: macro-prudential regulation, price-level targeting

## ☐☐☐ **Chile's growth decline**

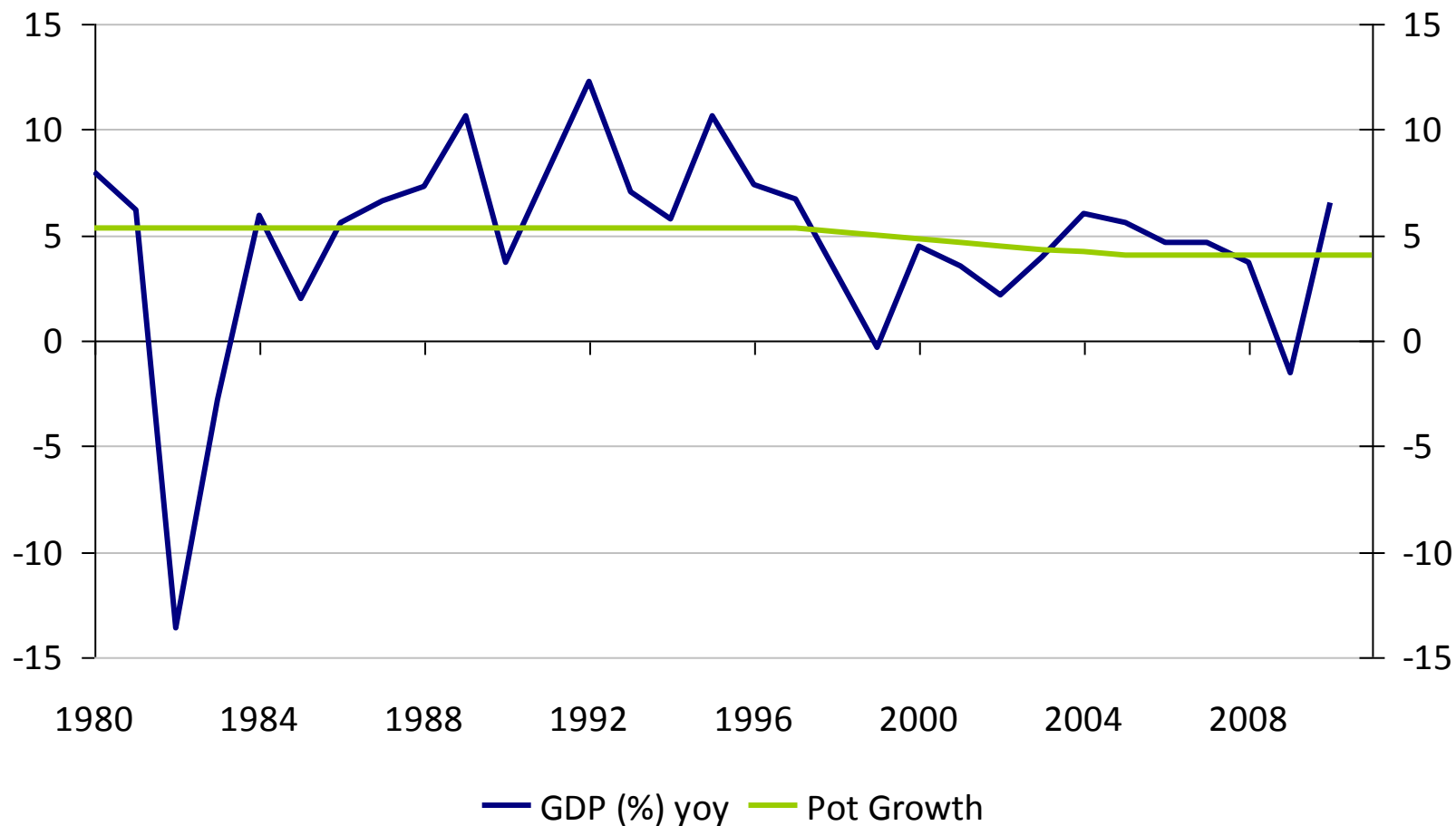
**Chile's trend GDP growth declined from 5.3% (1986-97) to 4.0% (since ca. 2005)**

**Productivity growth declined from 1-2% in 1986-1997 to nil in 1998-2010**

### **This is due to:**

- (1) Declining returns to reforms implemented in 1975-97
- (2) Lack of structural reforms since then
- (3) Major blunders in large public infrastructure projects (Santiago public transport, state railways)
- (4) Rising efficiency costs (work and saving disincentives) of redistribution / social protection programs
- (5) Lack of competition in major NT sectors of production
- (6) Rising crime.

# Actual and potential GDP Growth, 1980-2011 (%)



Source: Central Bank of Chile for actual GDP growth; author's estimate of potential growth.

# ☐☐☐ Chile's growth challenge

## Major policy reform needs:

- (1) Raise quality of education (very hard due to teachers' lobby)
- (2) Raise competition and ease to enter and exit product and service markets (at times hard due to private-sector lobbies)
- (3) Deregulate labor markets while extending efficient protection of unemployed (hard due to labor union lobby)
- (4) Reform government: smaller – leaner – stronger – more transparent – getting it out of supply of private goods
- (5) Reform social protection and transfer programs to reach the poor more effectively and reduce their disincentive effects
- (6) Fight crime through well-designed and implemented sticks and carrots applied to both crime prevention and repression.



# **5. Ten Lessons on Crisis Management and Growth Strategies**

# ☐☐☐ **A. Investing in macroeconomic stability and resilience to foreign shocks**

## **(1) Choose adequate ER regime: Float or CU**

- Intermediate ER regimes are out, two corners are in
- Yet clean floats are exceptional (New Zealand, Mexico)
- Intervene only exceptionally and transparently, exploiting communications/expectations channel if ER is strongly misaligned (Chile)

## **(2) Choose adequate monetary regime:**

- **flexible inflation targeting** (30 countries now)
- **price-level targeting** (future?)

# ☐☐☐ A. Investing in macroeconomic stability and resilience to foreign shocks

## (3) Choose adequate fiscal regime:

- **Fiscal rule:** long-term sustainability, short-term counter-cyclicality (Norway, Chile, **not** SGP)
- **Sovereign wealth funds**
- **Fiscal Council**

## (4) Choose adequate mix of foreign liquidity insurance:

- **External liquidity insurance: contingent credit facilities** (Mexico, Peru)
- **Self-insurance: international reserves** (China, LAC)

## ☐☐☐ **B. Investing in global integration**

### **(5) Full trade integration**

- **Unilateral**
- **Bilateral**
- **Multilateral**

### **(6) Full financial integration:**

- **Tear down all barriers to foreign capital inflows**  
– **FDI, loans, portfolio**
- **No Tobin taxes or “Chilean-style” controls on short-term capital inflows**

# ☐☐☐ **C. Investing in financial development AND financial stability**

## **(7) Develop private domestic financial markets**

- Overcome financial underdevelopment

## **(8) Adopt (still evolving) international best practice of financial regulation and supervision**

## **(9) Adopt macro-prudential regulation**

- For banks and, possibly, for other SIFIs, too
- Focusing on higher risk-weighted capital requirements and counter-cyclical prudential requirements (pro-cyclical capital or provisioning requirements)

## ☐☐☐ **D. Investing in institutions**

**(10) Invest in institutions:** (New Zealand, Norway, Singapore)

- lean – strong – efficient – transparent governments
- ... governed by predictable and binding rules, and strong accountability

### **to reap:**

- more macroeconomic stability (counter-cyclical fiscal and monetary policies) and stronger resilience to shocks
- higher growth
- less poverty and income inequality
- a fairer and more democratic society.



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